About us PCTronix

PCTronix, as a company with craftmanship which makes an efforts for the customer and is conscious of co-prosperity, based on honesty and reliability, with all its strength, has put its heart & soul into only one field of electronics industry since it was established in 1977. We produced Korea' sfirst silicon diode with technology licensed from Unizon of Japan, and are recognized to be the excellence at the aspects of technology, quality and price not only in the international market but also in the domestic market.

Looking into the future, even under the rapid change of circumstance and confusion of new millennium, we PCTronix, will exploit new market in order to occupy in advance new core technology, and develop various packages and the leading edge Device continuously with systematic management & differentiated process technology.

Therefore, aiming to be the world' s best one, we will continue to lead high-technology & high-quality with concentrated mind and also devote ourselves to social contribution for mutual benefits and great future challenge

Company Strategy

Systematic Digital Management

Substantial Expansion

Humanistic Knowledge Power

GREAT MIND

G : Great Grade Up
R : Realistic Renovation
E : Effective Efficiency
A : Advanced Approach
T : Top Technology

Always for CS & CRM!

Capapie Quality
Rapid Delivery
Merit Price

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Appendix

Zener Diodes

Product Series

ZENER

UZMS Series

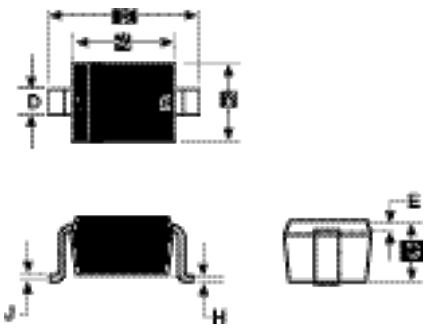
● Applications

Constant voltage control

● Features

Compact, 2-pin mini-mold type for high-density mounting.
Low Leakage product.
Silicon epitaxial planer.
Mini Molded Small Package : SOD-323, SC-76

● External dimensions (Units : mm)



SOD-323 / SC-76

NOTES :
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION:MILLIMETERS.

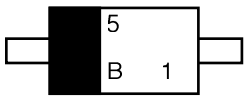
Dim	MILLIMETERS		INCHES	
	Min	Max	Min	Max
A	1.60	1.80	0.063	0.071
B	1.15	1.35	0.045	0.053
C	0.80	1.00	0.031	0.039
D	0.25	0.40	0.010	0.016
E	0.15 REF		0.006 REF	
H	0.00	0.10	0.000	0.004
J	0.089	0.177	0.0035	0.0070
K	2.30	2.70	0.091	0.106

● Absoulute Maximum Ratings (Ta = 25℃)

Parameter	Symbol	Limits	Unit
Power dissipation	P	200	mW
Junction temperature	T j	150	℃
Storage temperature	T stg	-55 ~ +150	℃
Operating temperature	T opr	-55 ~ +150	℃

● Markings

EX.)UZMS 5.1B



● Specifications (SOD-323 Series)

Part Number	Zener voltage (Vz)			Operating resistance		Operating resistance		Reverse current		Marking
	Min	Max	Measurement condition Iz (mA)	Max Zz (Ω)	Measurement condition Iz (mA)	Max Zzk (Ω)	Measurement condition Iz (mA)	Max IR (μA)	Measurement condition VR (V)	
*. VF=0.9 V MAX (1F=10mA)										
UZMS 3.6B	3.600	3.835	5	100	5	1000	1.0	10	1.0	3B6
UZMS 3.9B	3.890	4.150	5	100	5	1000	1.0	5	1.0	3B9
UZMS 4.3B	4.170	4.420	5	100	5	1000	1.0	5	1.0	4B3
UZMS 4.7B	4.550	4.740	5	100	5	800	0.5	0.5	1.0	4B7
UZMS 5.1B	4.990	5.190	5	80	5	500	0.5	0.35	1.5	5B1
UZMS 5.6B	5.510	5.710	5	60	5	200	0.5	0.35	2.5	5B6
UZMS 6.2B	6.070	6.320	5	60	5	100	0.5	0.35	3.0	6B2
UZMS 6.8B	6.680	6.920	5	40	5	60	0.5	0.5	3.5	6B8
UZMS 7.5B	7.290	7.590	5	30	5	60	0.5	0.5	4.0	7B5
UZMS 8.2B	8.030	8.350	5	30	5	60	0.5	0.5	5.0	8B2
UZMS 9.1B	8.860	9.220	5	30	5	60	0.5	0.5	6.0	9B1
UZMS 10B	9.780	10.200	5	30	5	60	0.5	0.1	7.0	B10
UZMS 11B	10.770	11.210	5	30	5	60	0.5	0.1	8.0	B11
UZMS 12B	11.760	12.220	5	30	5	80	0.5	0.1	9.0	B12
UZMS 13B	12.920	13.480	5	37	5	80	0.5	0.1	10.0	B13
UZMS 15B	14.350	14.970	5	42	5	80	0.5	0.1	11.0	B15
UZMS 16B	15.900	16.490	5	50	5	80	0.5	0.1	12.0	B16
UZMS 18B	17.570	18.340	5	65	5	80	0.5	0.1	13.0	B18
UZMS 20B	19.550	20.370	5	85	5	100	0.5	0.1	15.0	B20
UZMS 22B	21.550	22.460	5	100	5	100	0.5	0.1	17.0	B22
UZMS 24B	23.730	24.770	5	120	5	120	0.5	0.1	19.0	B24
UZMS 27B	26.200	27.520	5	150	5	150	0.5	0.1	21.0	B27
UZMS 30B	29.200	30.680	5	200	5	200	0.5	0.1	23.0	B30
UZMS 33B	32.160	33.780	5	250	5	250	0.5	0.1	25.0	B33
UZMS 36B	35.080	36.860	5	300	5	300	0.5	0.1	27.0	B36

NOTES) 1. The Zener voltage (Vz) is measured 40 ms after power is supplied.

2. The operating resistances (Zz, Zzk) are measured by superimposing a minute alternating current on the regulated current(Iz).

ZENER

- **Electrical characteristics (Ta = 25℃)**

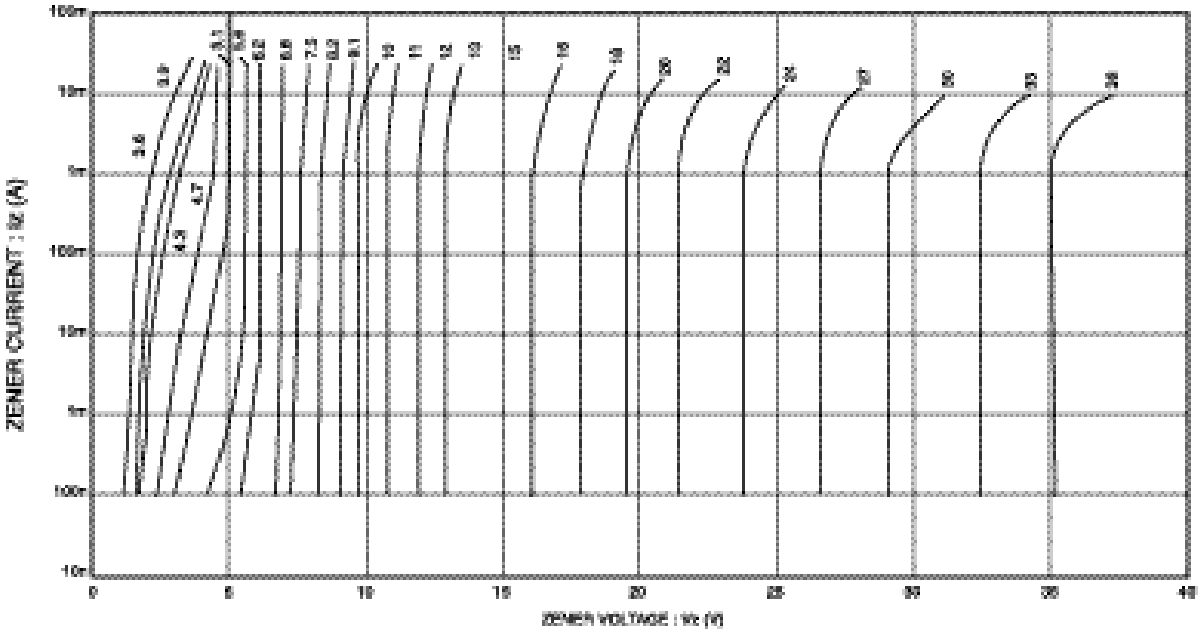


Fig.1 Zener voltage characteristics

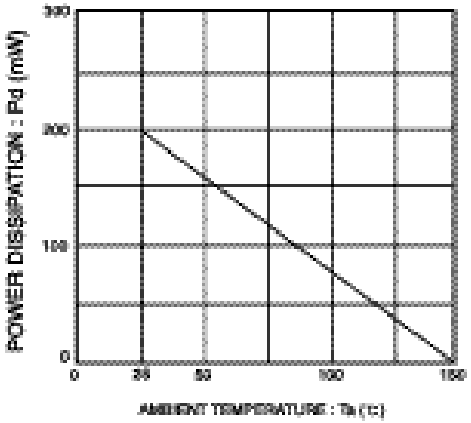


Fig.2 Derating curve

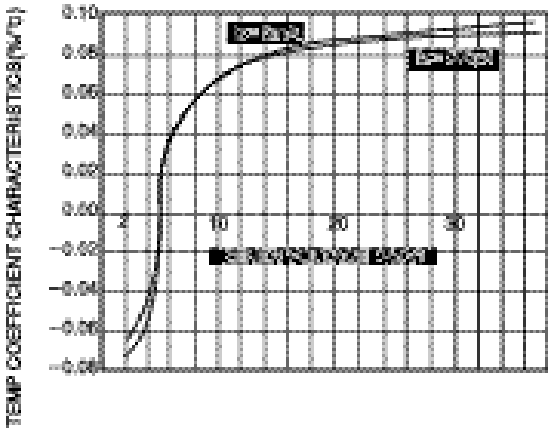


Fig.3 Zener voltage-temp. coefficient characteristics

BZX384C -Series General Purpose Zener Diode

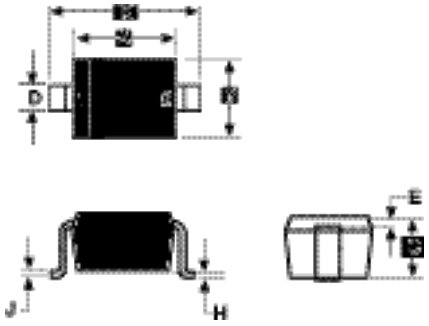
● Feature

Geneal Purpose Standard Zener Diode
Low Leakage Silicon Chip Device
: Ir = 10mA (Typ.)
Molded Small Package : SOD-323

● Maximum rating

Storage temperature :-55℃ ~ +125℃
Junction temperature :+125℃
Maximum power dissipation :200mW (Ta=25℃)

● External Dimensions(JEDEC) : SOD-323



SOD-323 / SC-76

● Specifications (BZX384C..Series)

Part Number	Zener voltage (Vz)			Dynamic resistance		Dynamic resistance		Reverse direction characteristic		Marking
	Min	Max	Measurement condition Iz (mA)	Max Rx (Ω)	Measurement condition Iz (mA)	Max Rx (Ω)	Measurement condition Iz (mA)	Max IR (μA)	Measurement condition VR (V)	
*. VF=0.9 V MAX (IF=10mA)										
BZX384C2V1	1.90	2.20	5	100	5	800	1.0	50	1.0	2Z1
BZX384C2V2	2.10	2.30	5	100	5	800	1.0	50	1.0	2Z2
BZX384C2V4	2.20	2.60	5	100	5	600	1.0	50	1.0	2Z4
BZX384C2V7	2.50	2.90	5	100	5	600	1.0	50	1.0	2Z7
BZX384C3V0	2.80	3.20	5	95	5	600	1.0	20	1.0	3Z0
BZX384C3V3	3.10	3.50	5	95	5	600	1.0	5	1.0	3Z3
BZX384C3V6	3.40	3.80	5	90	5	600	1.0	5	1.0	3Z6
BZX384C3V9	3.70	4.10	5	90	5	600	1.0	3	1.0	3Z9
BZX384C4V3	4.00	4.60	5	90	5	600	1.0	3	1.0	4Z3
BZX384C4V7	4.40	5.00	5	80	5	600	1.0	3	2.0	4Z7
BZX384C5V1	4.80	5.40	5	60	5	500	1.0	2	2.0	5Z1
BZX384C5V6	5.20	6.00	5	40	5	400	1.0	1	2.0	5Z6
BZX384C6V2	5.80	6.60	5	10	5	150	1.0	3	4.0	6Z2
BZX384C6V8	6.40	7.20	5	15	5	80	1.0	2	4.0	6Z8
BZX384C7V5	7.00	7.90	5	15	5	80	1.0	1	5.0	7Z5
BZX384C8V2	7.70	8.70	5	15	5	80	1.0	0.7	5.0	8Z2
BZX384C9V1	8.50	9.60	5	15	5	100	1.0	0.5	6.0	9Z1
BZX384C10	9.40	10.60	5	20	5	150	1.0	0.2	7.0	Z10
BZX384C11	10.40	11.60	5	20	5	150	1.0	0.1	8.0	Z11
BZX384C12	11.40	12.70	5	25	5	150	1.0	0.1	8.0	Z12
BZX384C13	12.40	14.10	5	30	5	170	1.0	0.1	8.0	Z13
BZX384C15	13.80	15.60	5	30	5	200	1.0	0.05	10.5	Z15
BZX384C16	15.30	17.10	5	40	5	200	1.0	0.05	11.2	Z16
BZX384C18	16.80	19.10	5	45	5	225	1.0	0.05	12.6	Z18
BZX384C20	18.80	21.20	5	55	5	225	1.0	0.05	14.0	Z20
BZX384C22	20.80	23.30	5	55	5	250	1.0	0.05	15.4	Z22
BZX384C24	22.80	25.60	5	70	5	250	1.0	0.05	16.8	Z24
BZX384C27	25.10	28.90	5	80	5	300	1.0	0.05	18.9	Z27
BZX384C30	28.00	32.00	5	80	5	300	1.0	0.05	21.0	Z30
BZX384C33	31.00	35.00	5	80	5	325	1.0	0.05	23.1	Z33
BZX384C36	34.00	38.00	5	90	5	350	1.0	0.05	25.2	Z36
BZX384C39	37.00	41.00	5	130	5	350	1.0	0.05	27.3	Z39
BZX384C43	40.00	46.00	5	150	5	375	1.0	0.05	30.1	Z43
BZX384C47	44.00	50.00	5	170	5	375	1.0	0.05	32.9	Z47

ZENER

- **Electrical characteristics (Ta = 25℃)**

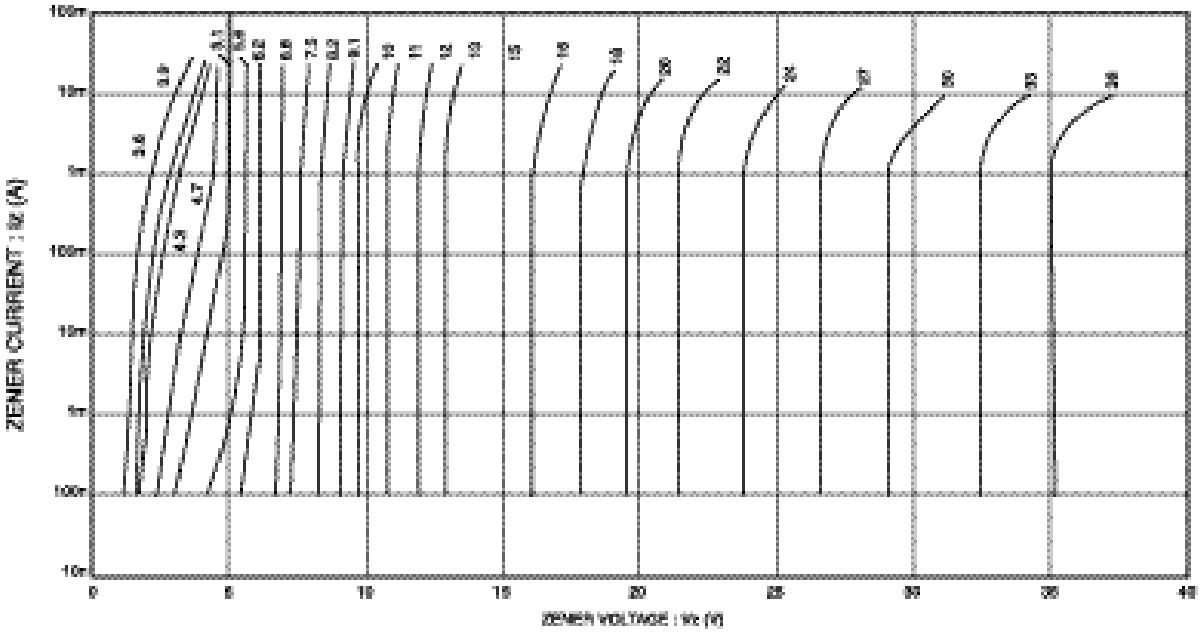


Fig.1 Zener voltage characteristics

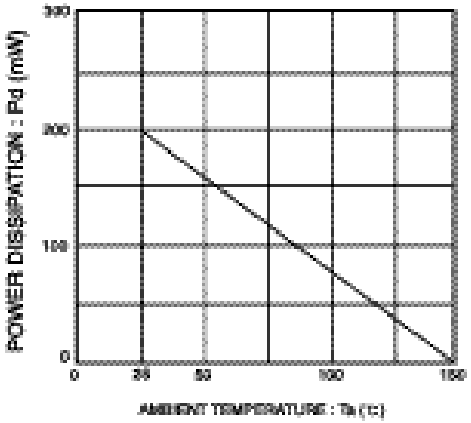


Fig.2 Derating curve

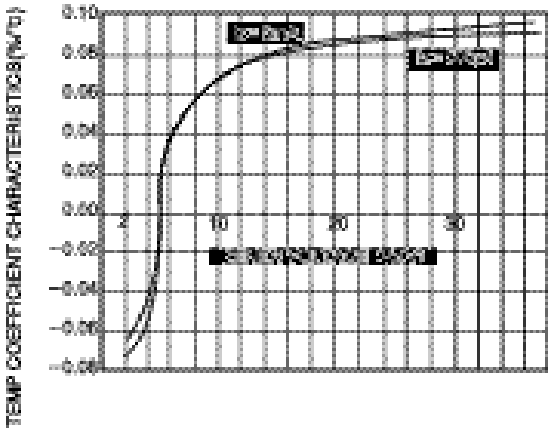


Fig.3 Zener voltage-temp. coefficient characteristics

ZENER

BZX84C -Series General Purpose Zener Diode

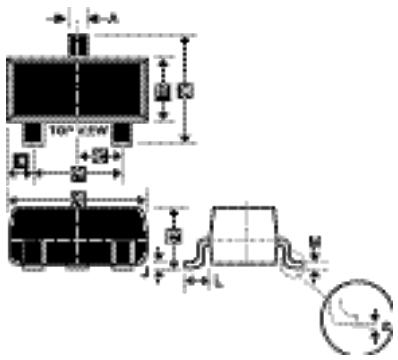
● Feature

Geneal Purpose Standard Zener Diode
Low Leakage Silicon Chip Device
: Ir = 10mA (Typ.)
Molded Small Package : SOT-23

● Maximum rating

Storage temperature :-55℃ ~ +125℃
Junction temperature :+125℃
Maximum power dissipation :350mW (Ta=25℃)

● External Dimensions(JEDEC) : SOT-23



	SOT-23	
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.018
α	0°	8°

● Specifications (BZX84C..Series)

Part Number	Zener voltage (Vz)			Dynamic resistance		Dynamic resistance		Reverse direction characteristic		Marking
	Min	Max	Measurement condition Iz (mA)	Max Rx (Ω)	Measurement condition Iz (mA)	Max Rx (Ω)	Measurement condition Iz (mA)	Max IR (μA)	Measurement condition VR (V)	
*. VF=0.9 V MAX (IF=10mA)										
BZX84C2V1	1.90	2.20	5	100	5	800	1.0	50	1.0	2Z1
BZX84C2V2	2.10	2.30	5	100	5	800	1.0	50	1.0	2Z2
BZX84C2V4	2.20	2.60	5	100	5	600	1.0	50	1.0	2Z4
BZX84C2V7	2.50	2.90	5	100	5	600	1.0	50	1.0	2Z7
BZX84C3V0	2.80	3.20	5	95	5	600	1.0	20	1.0	3Z0
BZX84C3V3	3.10	3.50	5	95	5	600	1.0	5	1.0	3Z3
BZX84C3V6	3.40	3.80	5	90	5	600	1.0	5	1.0	3Z6
BZX84C3V9	3.70	4.10	5	90	5	600	1.0	3	1.0	3Z9
BZX84C4V3	4.00	4.60	5	90	5	600	1.0	3	1.0	4Z3
BZX84C4V7	4.40	5.00	5	80	5	600	1.0	3	2.0	4Z7
BZX84C5V1	4.80	5.40	5	60	5	500	1.0	2	2.0	5Z1
BZX84C5V6	5.20	6.00	5	40	5	400	1.0	1	2.0	5Z6
BZX84C6V2	5.80	6.60	5	10	5	150	1.0	3	4.0	6Z2
BZX84C6V8	6.40	7.20	5	15	5	80	1.0	2	4.0	6Z8
BZX84C7V5	7.00	7.90	5	15	5	80	1.0	1	5.0	7Z5
BZX84C8V2	7.70	8.70	5	15	5	80	1.0	0.7	5.0	8Z2
BZX84C9V1	8.50	9.60	5	15	5	100	1.0	0.5	6.0	9Z1
BZX84C10	9.40	10.60	5	20	5	150	1.0	0.2	7.0	Z10
BZX84C11	10.40	11.60	5	20	5	150	1.0	0.1	8.0	Z11
BZX84C12	11.40	12.70	5	25	5	150	1.0	0.1	8.0	Z12
BZX84C13	12.40	14.10	5	30	5	170	1.0	0.1	8.0	Z13
BZX84C15	13.80	15.60	5	30	5	200	1.0	0.05	10.5	Z15
BZX84C16	15.30	17.10	5	40	5	200	1.0	0.05	11.2	Z16
BZX84C18	16.80	19.10	5	45	5	225	1.0	0.05	12.6	Z18
BZX84C20	18.80	21.20	5	55	5	225	1.0	0.05	14.0	Z20
BZX84C22	20.80	23.30	5	55	5	250	1.0	0.05	15.4	Z22
BZX84C24	22.80	25.60	5	70	5	250	1.0	0.05	16.8	Z24
BZX84C27	25.10	28.90	5	80	5	300	1.0	0.05	18.9	Z27
BZX84C30	28.00	32.00	5	80	5	300	1.0	0.05	21.0	Z30
BZX84C33	31.00	35.00	5	80	5	325	1.0	0.05	23.1	Z33
BZX84C36	34.00	38.00	5	90	5	350	1.0	0.05	25.2	Z36
BZX84C39	37.00	41.00	5	130	5	350	1.0	0.05	27.3	Z39
BZX84C43	40.00	46.00	5	150	5	375	1.0	0.05	30.1	Z43
BZX84C47	44.00	50.00	5	170	5	375	1.0	0.05	32.9	Z47

●MMBZ52~57 Series (SOT-23 Package)

Part Number	Cross-Reference	Nominal Zen. Vltg. @ Izt	Dynamic Imped. @ Izt	Test Current	Dynamic Imped. @Izk	Test Current	Reverse Current	Test Voltage
		Vz(V)	Zzt(Ω)	Izt(mA)	ZzK(Ω)	Izt(mA)	@Vr	Vr(V)
MMBZ5226B	TMPZ5226B	3.3	28.0		1600		25.0	1.0
MMBZ5227B	TMPZ5227B	3.6	24.0		1700		15.0	1.0
MMBZ5228B	TMPZ5228B	3.9	23.0		1900		10.0	1.0
MMBZ5229B	TMPZ5229B	4.3	22.0		2000		5.0	1.0
MMBZ5230B	TMPZ5230B	4.7	19.0		1900		5.0	2.0
MMBZ5231B	TMPZ5231B	5.1	17.0		1600		5.0	2.0
MMBZ5232B	TMPZ5232B	5.6	11.0		1600		5.0	3.0
MMBZ5233B	TMPZ5233B	6.0	7.0	20.0	1600		5.0	3.5
MMBZ5234B	TMPZ5234B	6.2	7.0		1000		5.0	4.0
MMBZ5235B	TMPZ5235B	6.8	5.0		750		3.0	5.0
MMBZ5236B	TMPZ5236B	7.5	6.0		500		3.0	6.0
MMBZ5237B	TMPZ5237B	8.2	8.0		500		3.0	6.5
MMBZ5238B	TMPZ5238B	8.7	8.0		600		3.0	6.5
MMBZ5239B	TMPZ5239B	9.1	10.0		600		3.0	7.0
MMBZ5240B	TMPZ5240B	10.0	17.0		600	0.25	3.0	8.0
MMBZ5241B	TMPZ5241B	11.0	22.0		600		2.0	8.4
MMBZ5242B	TMPZ5242B	12.0	30.0	20.0	600		1.0	9.1
MMBZ5243B	TMPZ5243B	13.0	13.0	9.5	600		0.5	9.9
MMBZ5244B	TMPZ5244B	14.0	15.0	9.0	600		0.1	10.0
MMBZ5245B	TMPZ5245B	15.0	16.0	8.5	600		0.1	11.0
MMBZ5246B	TMPZ5246B	16.0	17.0	7.8	600		0.1	12.0
MMBZ5247B	TMPZ5247B	17.0	19.0	7.4	600		0.1	13.0
MMBZ5248B	TMPZ5248B	18.0	21.0	7.0	600		0.1	14.0
MMBZ5249B	TMPZ5249B	19.0	23.0	6.6	600		0.1	14.0
MMBZ5250B	TMPZ5250B	20.0	25.0	6.2	600			15.0
MMBZ5251B	TMPZ5251B	22.0	29.0	5.6	600			17.0
MMBZ5252B	TMPZ5252B	24.0	33.0	5.2	600			18.0
MMBZ5253B	TMPZ5253B	25.0	35.0	5.0	600		0.1	19.0
MMBZ5254B	TMPZ5254B	27.0	41.0	4.6	600			21.0
MMBZ5255B	TMPZ5255B	28.0	44.0	4.5	600			21.0
MMBZ5256B	TMPZ5256B	30.0	49.0	4.2	600			23.0
MMBZ5257B	TMPZ5257B	33.0	58.0	3.8	700			25.0

Cases : SOT-23 Molded Plastic

SMM-323 Series Square Micro Melf Zener Diode

● Feature

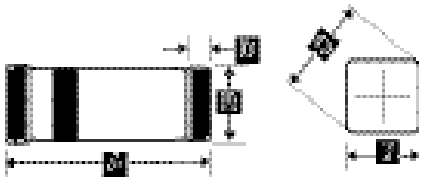
- Low Noise & Low reverse Current
- Saving Space & Matched SOD323 Package
- High reliability
- Glass Sealed
- High reliability

● Applications

- Constant Voltage Control

● External Dimensions

SMM-323



	SMM-323	
Dim	Min	Max
A	2.4	2.7
B	1.0	1.2
C	1.44 Typical	
D	0.40 Typical	

● Specifications (SMM-323 Series)

Part No.		Zener voltage			Dynamic resistance		Dynamic resistance		Reverse direction characteristic		Marking	Part No.		Zener voltage			Dynamic resistance		Dynamic resistance		Reverse direction characteristic		Marking
		Min	Max	Measurement condition Iz(mA)	Max Rx (Ω)	Measurement condition Iz(mA)	Max Rx (Ω)	Measurement condition Iz(mA)	Max Rx (μA)	Measurement condition VR(V)				Min	Max	Measurement condition Iz(mA)	Max Rx (Ω)	Measurement condition Iz(mA)	Max Rx (Ω)	Measurement condition Iz(mA)	Max Rx (μA)	Measurement condition VR(V)	
UZ-2.0SMM		1.88	2.20	5	100	5	1000	0.5	120	0.5	Z2.0	UZ-3.6SMM		3.47	4.14	5	120	5	1100	0.5	10	1.0	Z3.6
	A	1.88	2.10								Z2.0A		A	3.47	3.68								Z3.6A
	B	2.02	2.20								Z2.0B		B	3.62	3.83								Z3.6B
UZ-2.2SMM		2.12	2.41	5	100	5	1000	0.5	120	0.7	Z2.2	UZ-3.9SMM		3.77	4.14	5	120	5	1200	0.5	5	1.0	Z3.9
	A	2.12	2.30								Z2.2A		A	3.77	3.98								Z3.9A
	B	2.12	2.41								Z2.2B		B	3.92	4.14								Z3.9B
UZ-2.4SMM		2.33	2.63	5	100	5	1000	0.5	120	1.0	Z2.4	UZ-4.3SMM		4.05	4.53	5	120	5	1200	0.5	5	1.0	Z4.3
	A	2.33	2.52								Z2.4A		A	4.05	4.26								Z4.3A
	B	2.43	2.63								Z2.4B		B	4.20	4.40								Z4.3B
UZ-2.7SMM		2.54	2.91	5	110	5	1000	0.5	100	1.0	Z2.7		C	4.34	4.53								Z4.3C
	A	2.54	2.75								Z2.7A	UZ-4.7SMM		4.47	4.91	5	100	5	1200	0.5	5	1.0	Z4.7
	B	2.69	2.91								Z2.7B		A	4.47	4.65								Z4.7A
UZ-3.0SMM		2.85	3.22	5	120	5	1000	0.5	50	1.0	Z3.0		B	4.59	4.77								Z4.7B
	A	2.85	3.07								Z3.0A		C	4.71	4.91								Z4.7C
	B	3.01	3.22								Z3.0B	UZ-5.1SMM		4.85	5.35	5	70	5	1200	0.5	5	1.5	Z5.1
UZ-3.3SMM		3.16	3.53	5	120	5	1000	0.5	20	1.0	Z3.3		A	4.85	5.03								Z5.1A
	A	3.16	3.38								Z3.3A		B	4.97	5.18								Z5.1B
	B	3.32	3.53								Z3.3B		C	5.12	5.35								Z5.1C

NOTES) 1. The Zener voltage (Vz) is measured 40 ms after power is supplied.

2. The operating resistances (Zz, Zzk) are measured by superimposing a minute alternating current on the regulated current(Iz).

● **Specifications (SMM-323 Series)**

Measure with pulse Tp: 40 msec

Part No.		Zener voltage			Dynamic resistance		Dynamic resistance		Reverse direction characteristic		Marking
		Min	Max	Measurement condition Iz (mA)	Max Rx (Ω)	Measurement condition Iz (mA)	Max Rx (Ω)	Measurement condition Iz (mA)	Max Rx (μA)	Measurement condition VR (V)	
UZ-5.6SMM		5.29	5.88	5	40	5	900	0.5	5	2.5	Z5.6
	A	5.29	5.52								Z5.6A
	B	5.46	5.70								Z5.6B
	C	5.64	5.88								Z5.6C
UZ-6.2SMM		5.81	6.40	5	30	5	500	0.5	5	3.0	Z6.2
	A	5.81	6.06								Z6.2A
	B	5.99	6.24								Z6.2B
	C	6.16	6.40								Z6.2C
UZ-6.8SMM		6.32	6.97	5	25	5	150	0.5	2	3.5	Z6.8
	A	6.32	6.59								Z6.8A
	B	6.52	6.79								Z6.8B
	C	6.70	6.97								Z6.8C
UZ-7.5SMM		6.88	7.64	5	25	5	120	0.5	0.5	4.0	Z7.5
	A	6.88	7.19								Z7.5A
	B	7.11	7.41								Z7.5B
	C	7.33	7.64								Z7.5C
UZ-8.2SMM		7.56	8.41	5	20	5	120	0.5	0.5	5.0	Z8.2
	A	7.56	7.90								Z8.2A
	B	7.82	8.15								Z8.2B
	C	8.07	8.41								Z8.2C
UZ-9.1SMM		8.33	9.29	5	20	5	120	0.5	0.5	6.0	Z9.1
	A	8.33	8.70								Z9.1A
	B	8.61	8.99								Z9.1B
	C	8.89	9.29								Z9.1C
UZ-10SMM		9.19	10.30	5	20	5	120	0.5	0.2	7.0	Z10
	A	9.19	9.59								Z10A
	B	9.48	9.90								Z10B
	C	9.82	10.30								Z10C
UZ-11SMM		10.18	11.26	5	20	5	110	0.5	0.2	8	Z11
	A	10.18	10.63								Z11A
	B	10.50	10.95								Z11B
	C	10.82	11.26								Z11C
UZ-12SMM		11.13	12.30	5	25	5	110	0.5	0.2	9	Z12
	A	11.13	11.63								Z12A
	B	11.50	11.92								Z12B
	C	11.80	12.30								Z12C
UZ-13SMM		12.18	13.62	5	25	5	110	0.5	0.2	10	Z13
	A	12.18	12.71								Z13A
	B	12.59	13.16								Z13B
	C	13.03	13.62								Z13C
UZ-15SMM		13.48	15.02	5	25	5	110	0.5	0.2	11	Z15
	A	13.48	14.09								Z15A
	B	13.95	14.56								Z15B
	C	14.42	15.02								Z15C
UZ-16SMM		14.87	16.50	5	25	5	150	0.5	0.2	12	Z16
	A	14.87	15.50								Z16A
	B	15.33	15.96								Z16B
	C	15.79	16.50								Z16C

Part No.		Zener voltage			Dynamic resistance		Dynamic resistance		Reverse direction characteristic		Marking
		Min	Max	Measurement condition Iz (mA)	Max Rx (Ω)	Measurement condition Iz (mA)	Max Rx (Ω)	Measurement condition Iz (mA)	Max Rx (μA)	Measurement condition VR (V)	
UZ-18SMM		16.34	18.30	5	30	5	150	0.5	0.2	13	Z18
	A	16.34	17.06								Z18A
	B	16.90	17.67								Z18B
	C	17.51	18.30								Z18C
UZ-20SMM		18.14	20.45	5	30	5	200	0.5	0.2	15	Z20
	A	18.14	18.96								Z20A
	B	18.80	19.68								Z20B
	C	19.52	20.45								Z20C
UZ-22SMM		20.23	22.61	5	30	5	200	0.5	0.2	17	Z22
	A	20.23	21.08								Z22A
	B	20.76	21.65								Z22B
	C	21.22	22.09								Z22C
	D	21.68	22.61								Z22D
UZ-24SMM		22.26	24.81	5	35	5	200	0.5	0.2	19	Z24
	A	22.26	23.12								Z24A
	B	22.75	23.73								Z24B
	C	23.29	24.27								Z24C
	D	23.81	24.81								Z24D
UZ-27SMM		24.26	27.64	5	45	5	250	0.5	0.2	21	Z27
	A	24.26	25.52								Z27A
	B	24.97	26.26								Z27B
	C	25.63	26.95								Z27C
	D	26.29	27.64								Z27D
UZ-30SMM		26.99	30.51	5	55	5	250	0.5	0.2	23	Z30
	A	26.99	28.39								Z30A
	B	27.70	29.13								Z30B
	C	28.36	29.82								Z30C
	D	29.02	30.51								Z30D
UZ-33SMM		29.68	33.11	5	65	5	250	0.5	0.2	25	Z33
	A	29.68	31.22								Z33A
	B	30.32	31.88								Z33B
	C	30.90	32.50								Z33C
	D	31.49	33.11								Z33D
UZ-36SMM		32.14	35.77	5	75	5	250	0.5	0.2	27	Z36
	A	32.14	33.79								Z36A
	B	32.79	34.49								Z36B
	C	33.40	35.13								Z36C
	D	34.01	35.77								Z36D
UZ-39SMM		34.68	38.52	5	85	5	250	0.5	0.2	30	Z39
	A	34.68	36.47								Z39A
	B	35.36	37.19								Z39B
	C	36.00	37.85								Z39C
	D	36.63	38.52								Z39D
UZ-43SMM	B	40	45	5	90	5	-	0.5	0.2	33	Z43B
UZ-47SMM	B	44	49	5	90	5	-	0.5	0.2	36	Z47B
UZ-51SMM	B	48	54	5	110	5	-	0.5	0.2	39	Z51B

For specifications of diodes other the standard ones consult the nearest dealer.

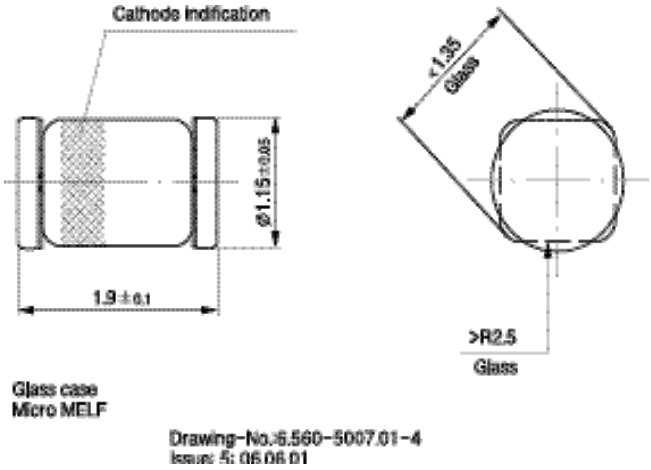
ZENER

UZM55..Series Micro Melf Zener Diodes

● Feature

- Saving space
- Hermetic sealed parts
- Electrical data identical with the devices UZT55..Series / UZM..Series
- Fits onto SOD 323 / footprints
- Very sharp reverse characteristic
- Low reverse current level
- Very high stability
- Low noise
- Available with tighter tolerances

● External Dimensions (mm)



● Applications

- Voltage stabilization

● Absolute Maximum Ratings

Tamb=25℃, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Power dissipation	$R_{thJA} \leq$ 300K/W	P_V	500	mW
Z-current		I_Z	Pv/Vz	mA
Junction temperature		T_j	175	℃
Storage temperature range		T_{stg}	-65 to + 175	℃

● Maximum Thermal Resistance

Tamb=25℃, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Junction ambient	mounted on epoxy-glass hard tissue, Fig. 1	R_{thJA}	500	K/W
Junction ambient	35㎛ copper clad, 0.9㎟ copper area per electrode	R_{thJL}	300	K/W

● Electrical Characteristics

Tamb=25℃, unless otherwise specified

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Forward voltage	I_F=200mA	V_F			1.5	V

ZENER

● Specifications (Micro Melf)

Measure with pulse Tp: 40 msec

Part No.	Zener Voltage Range 1)		Dynamic Resistance		Test Current	Temperature Coefficient of Zener Voltage		Test Current	Reverse Leakage Current		
	V_Z@ I_{ZT}		r_{zjT}@ I_{ZT}, f=1k Hz	r_{zjK}@ I_{ZK}, f=1k Hz	I_{ZT}	%/℃		I_{ZT}	I_R @T_{amb} =25℃	I_R @T_{amb} =150℃	@V_R
	V		Ω		mA	Min	Max	mA	μA		V
	min	max									
UZM55C2V4	2.28	2.56	< 85	< 600	5	-0.09	-0.06	1	< 50	< 100	1
UZM55C2V7	2.5	2.9	< 85	< 600	5	-0.09	-0.06	1	< 10	< 50	1
UZM55C3V0	2.8	3.2	< 90	< 600	5	-0.08	-0.05	1	< 4	< 40	1
UZM55C3V3	3.1	3.5	< 90	< 600	5	-0.08	-0.05	1	< 2	< 40	1
UZM55C3V6	3.4	3.8	< 90	< 600	5	-0.08	-0.05	1	< 2	< 40	1
UZM55C3V9	3.7	4.1	< 90	< 600	5	-0.08	-0.05	1	< 2	< 40	1
UZM55C4V3	4	4.6	< 90	< 600	5	-0.06	-0.03	1	< 1	< 20	1
UZM55C4V7	4.4	5	< 80	< 600	5	-0.05	0.02	1	< 0.5	< 10	1
UZM55C5V1	4.8	5.4	< 60	< 550	5	-0.02	0.02	1	< 0.1	< 2	1
UZM55C5V6	5.2	6	< 40	< 450	5	-0.05	0.05	1	< 0.1	< 2	1
UZM55C6V2	5.8	6.6	< 10	< 200	5	0.03	0.06	1	< 0.1	< 2	2
UZM55C6V8	6.4	7.2	< 8	< 150	5	0.03	0.07	1	< 0.1	< 2	3
UZM55C7V5	7	7.9	< 7	< 50	5	0.03	0.07	1	< 0.1	< 2	5
UZM55C8V2	7.7	8.7	< 7	< 50	5	0.03	0.08	1	< 0.1	< 2	6.2
UZM55C9V1*	8.5	9.6	< 10	< 50	5	0.03	0.09	1	< 0.1	< 2	6.8
UZM55C10*	9.4	0.6	< 15	< 70	5	0.03	0.1	1	< 0.1	< 2	7.5
UZM55C11*	10.4	11.6	< 20	< 70	5	0.03	0.11	1	< 0.1	< 2	8.2
UZM55C12*	11.4	12.7	< 20	< 90	5	0.03	0.11	1	< 0.1	< 2	9.1
UZM55C13*	12.4	14.1	< 26	< 110	5	0.03	0.11	1	< 0.1	< 2	10
UZM55C15*	13.8	15.6	< 30	< 110	5	0.03	0.11	1	< 0.1	< 2	11
UZM55C16*	15.3	17.1	< 40	< 170	5	0.03	0.11	1	< 0.1	< 2	12
UZM55C18*	16.8	19.1	< 50	< 170	5	0.03	0.11	1	< 0.1	< 2	13
UZM55C20*	18.8	21.2	< 55	< 220	5	0.03	0.11	1	< 0.1	< 2	15
UZM55C22*	20.8	23.3	< 55	< 220	5	0.04	0.12	1	< 0.1	< 2	16
UZM55C24*	22.8	25.6	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	18
UZM55C27*	25.1	28.9	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	20
UZM55C30*	28	32	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	22
UZM55C33*	31	35	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	24
UZM55C36*	34	38	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	27
UZM55C39*	37	41	< 90	< 500	2.5	0.04	0.12	0.5	< 0.1	< 5	30
UZM55C43*	40	46	< 90	< 600	2.5	0.04	0.12	0.5	< 0.1	< 5	33
UZM55C47*	44	50	110	< 700	2.5	0.04	0.12	0.5	< 0.1	< 5	36
UZM55C51*	48	54	125	< 700	2.5	0.04	0.12	0.5	< 0.1	< 10	39
UZM55C56*	52	60	135	< 1000	2.5	0.04	0.12	0.5	< 0.1	< 10	43
UZM55C62*	58	66	150	< 1000	2.5	0.04	0.12	0.5	< 0.1	< 10	47
UZM55C68*	64	72	200	< 1000	2.5	0.04	0.12	0.5	< 0.1	< 10	51
UZM55C75*	70	79	250	< 1500	2.5	0.04	0.12	0.5	< 0.1	< 10	56

1) $t_p \leq 10ms$, $T/t_p > 1000$.

*) Additionnal measurement of Voltage group 9V1 to 75 at 95% V_{zmin} 35 nA at T_j 25℃

● Specifications (Micro Melf)

Measure with pulse Tp: 40 msec

Part No.	Zener Voltage Range 1)		Dynamic Resistance		Test Current	Temperature Coefficient of Zener Voltage		Test Current	Reverse Leakage Current		
	V_Z@ I_{ZT}		r_{zjT}@ I_{ZT}, f=1k Hz	r_{zjK}@ I_{ZK}, f=1k Hz	I_{ZT}	%/℃		I_{ZT}	I_R @T_{amb} = 25℃	I_R @T_{amb} =150℃	@V_R
	V		Ω		mA	Min	Max	mA	μA		V
	Min	Max									
UZM55B2V4	2.35	2.45	< 85	< 600	5	-0.09	-0.06	1	< 50	< 100	1
UZM55B2V7	2.64	2.76	< 85	< 600	5	-0.09	-0.06	1	< 10	< 50	1
UZM55B3V0	2.94	3.06	< 90	< 600	5	-0.08	-0.05	1	< 4	< 40	1
UZM55B3V3	3.24	3.36	< 90	< 600	5	-0.08	-0.05	1	< 2	< 40	1
UZM55B3V6	3.52	3.68	< 90	< 600	5	-0.08	-0.05	1	< 2	< 40	1
UZM55B3V9	3.82	3.98	< 90	< 600	5	-0.08	-0.05	1	< 2	< 40	1
UZM55B4V3	4.22	4.38	< 90	< 600	5	-0.06	-0.03	1	< 1	< 20	1
UZM55B4V7	4.6	4.80	< 80	< 600	5	-0.05	0.02	1	< 0.5	< 10	1
UZM55B5V1	5	5.20	< 60	< 550	5	-0.02	0.02	1	< 0.1	< 2	1
UZM55B5V6	5.48	5.72	< 40	< 450	5	-0.05	0.05	1	< 0.1	< 2	1
UZM55B6V2	6.08	6.32	< 10	< 200	5	0.03	0.06	1	< 0.1	< 2	2
UZM55B6V8	6.66	6.94	< 8	< 150	5	0.03	0.07	1	< 0.1	< 2	3
UZM55B7V5	7.35	7.65	< 7	< 50	5	0.03	0.07	1	< 0.1	< 2	5
UZM55B8V2	8.04	8.36	< 7	< 50	5	0.03	0.08	1	< 0.1	< 2	6.2
UZM55B9V1*	8.92	9.28	< 10	< 50	5	0.03	0.09	1	< 0.1	< 2	6.8
UZM55B10*	9.8	10.20	< 15	< 70	5	0.03	0.1	1	< 0.1	< 2	7.5
UZM55B11*	10.78	11.22	< 20	< 70	5	0.03	0.11	1	< 0.1	< 2	8.2
UZM55B12*	11.76	12.24	< 20	< 90	5	0.03	0.11	1	< 0.1	< 2	9.1
UZM55B13*	12.74	13.26	< 26	< 110	5	0.03	0.11	1	< 0.1	< 2	10
UZM55B15*	14.7	15.30	< 30	< 110	5	0.03	0.11	1	< 0.1	< 2	11
UZM55B16*	15.7	16.30	< 40	< 170	5	0.03	0.11	1	< 0.1	< 2	12
UZM55B18*	17.64	18.36	< 50	< 170	5	0.03	0.11	1	< 0.1	< 2	13
UZM55B20*	19.6	20.40	< 55	< 220	5	0.03	0.11	1	< 0.1	< 2	15
UZM55B22*	21.55	22.45	< 55	< 220	5	0.04	0.12	1	< 0.1	< 2	16
UZM55B24*	23.5	24.5	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	18
UZM55B27*	26.4	27.6	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	20
UZM55B30*	29.4	30.6	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	22
UZM55B33*	32.4	33.6	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	24
UZM55B36*	35.3	36.7	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	27
UZM55B39*	38.2	39.8	< 90	< 500	2.5	0.04	0.12	0.5	< 0.1	< 5	30
UZM55B43*	42.1	43.9	< 90	< 600	2.5	0.04	0.12	0.5	< 0.1	< 5	33
UZM55B47*	46.1	47.9	< 110	< 700	2.5	0.04	0.12	0.5	< 0.1	< 5	36
UZM55B51*	50	52.0	< 125	< 700	2.5	0.04	0.12	0.5	< 0.1	< 10	39
UZM55B56*	54.9	57.1	< 135	< 1000	2.5	0.04	0.12	0.5	< 0.1	< 10	43
UZM55B62*	60.8	63.2	< 150	< 1000	2.5	0.04	0.12	0.5	< 0.1	< 10	47
UZM55B68*	66.6	69.4	< 200	< 1000	2.5	0.04	0.12	0.5	< 0.1	< 10	51
UZM55B75*	73.5	76.5	< 250	< 1500	2.5	0.04	0.12	0.5	< 0.1	< 10	56

1) $t_p \leq 10ms$, $T/t_p > 1000$.

*) Additionnal measurement of Voltage group 9V1 to 75 at 95% V_{zmin} 35 nA at T_j 25℃

● **Typical Characteristics** (T_{amp}=25℃ unless otherwise specified)

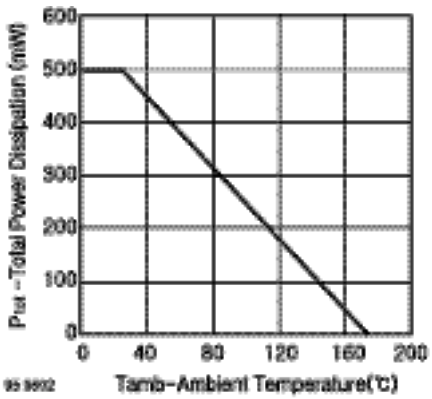


Figure 1. Total Power Dissipation vs. Ambient Temperature

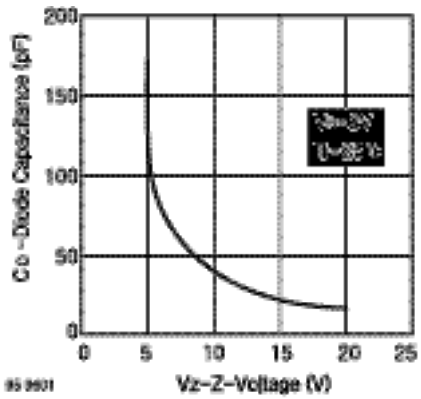


Figure 4. Diode Capacitance vs. Z-Voltage

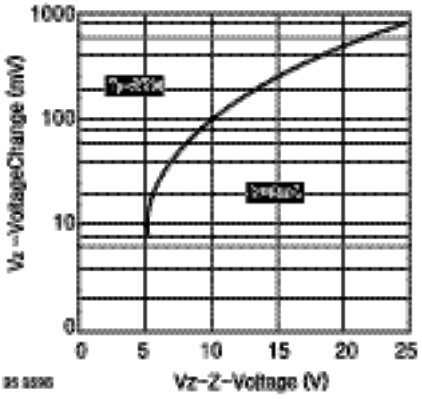


Figure 2. Typical Change of Working Voltage under Operating Conditions at T_{amb}=25℃

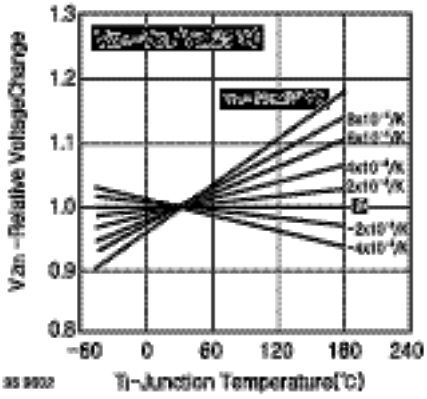


Figure 5. Typical Change of Working Voltage vs. Junction Temperature

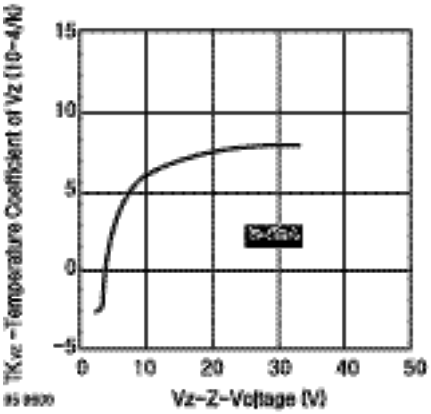


Figure 3. Temperature Coefficient of Vz vs. Z-Voltage

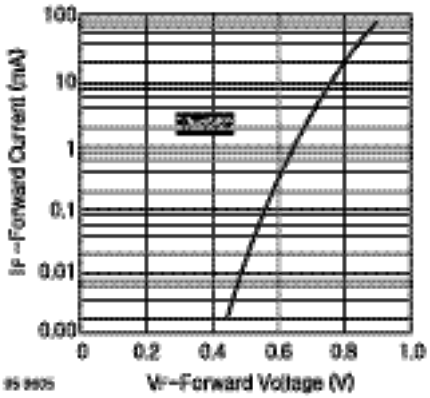


Figure 6. Forward Current vs.Forward Voltage

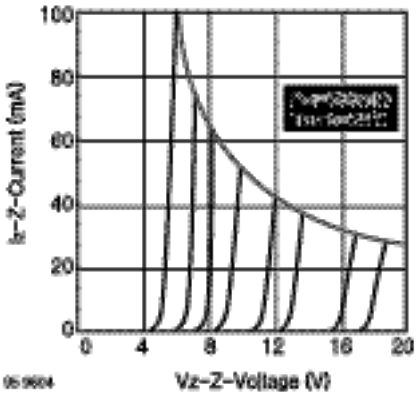


Figure 7. Z–Current vs. Z–Voltage

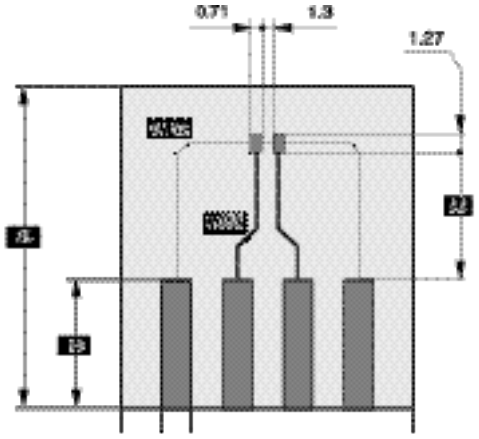


Figure 10. Board for R_{thJA} definition (in mm)

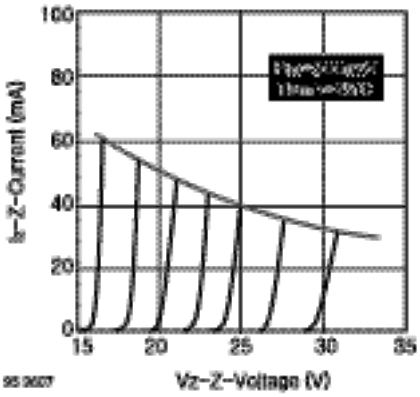


Figure 8. Z–Current vs. Z–Voltage

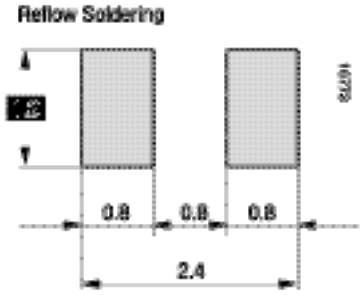


Figure 11. Recommended foot pads (in mm)

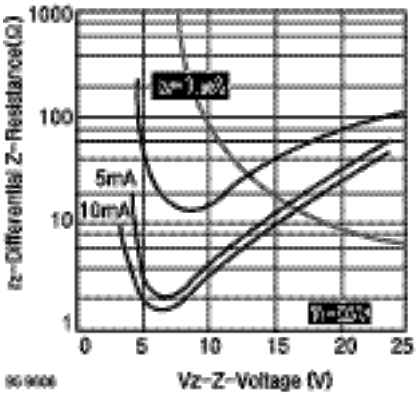


Figure 9. Differential Z–Resistance vs. Z–Voltage

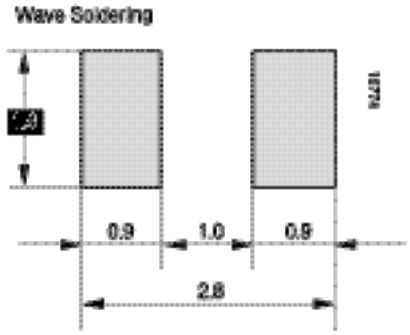


Figure 12. Recommended foot pads (in mm)

ZENER

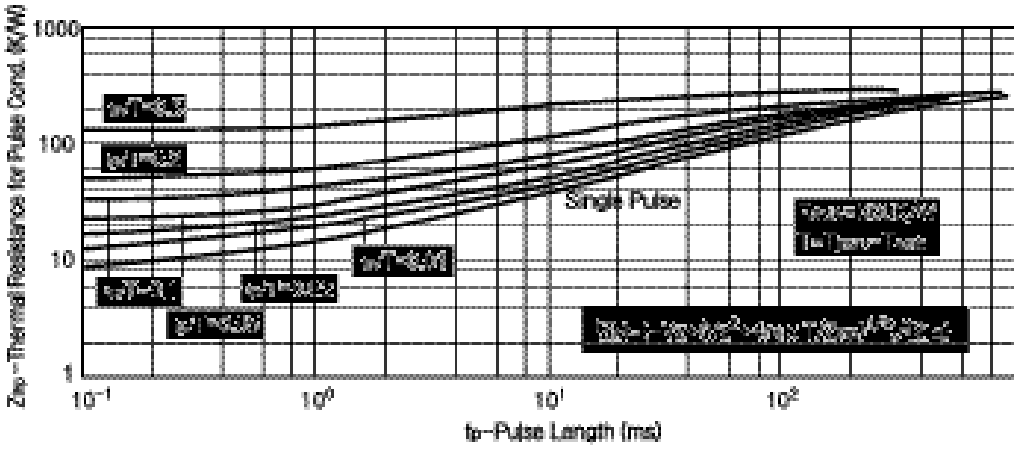
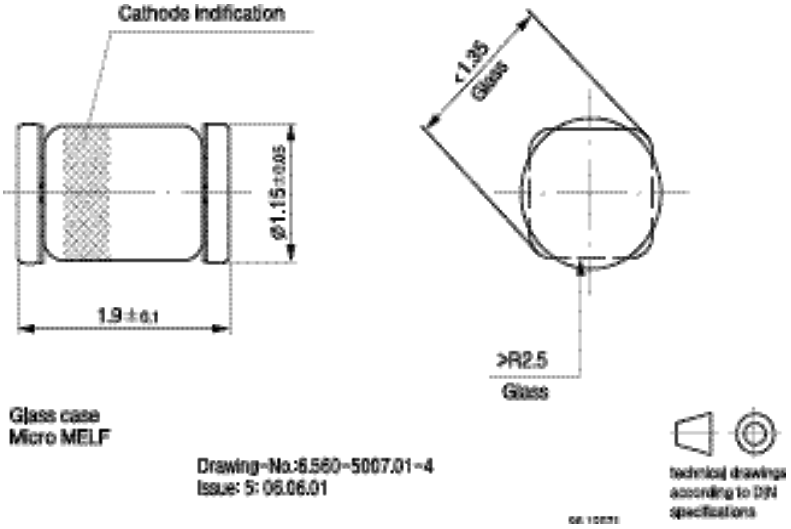


Figure 13. Thermal Response

● **Package Dimensions in mm**



UZT55..Series Quadro Melf Zener Diodes

● Feature

- Very sharp reverse characteristic
- Low reverse current level
- Very high stability
- Low noise
- Available with tighter tolerances

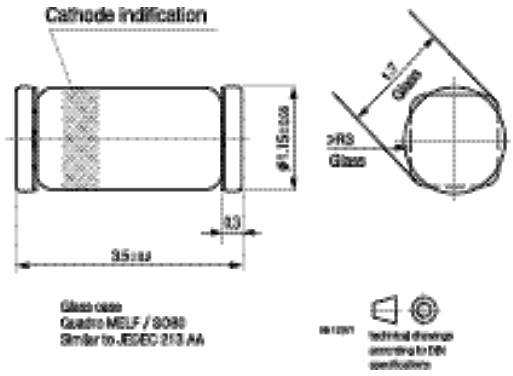
● Applications

- Voltage stabilization

● Mechanical Data

- **Case:** Quadro MELF/SOD-80

● External Dimensions (mm)



● Absolute Maximum Ratings

T_{amb}=25℃, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Power dissipation	$R_{thJA} \leq$ 300K/W	P_V	500	mW
Z-current		I_Z	Pv/Vz	mA
Junction temperature		T_j	175	℃
Storage temperature range		T_{stg}	-65 to + 175	℃

● Maximum Thermal Resistance

T_{amb}=25℃, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Junction ambient	on PC board 50mm×50mm×1.6mm	R_{thJA}	500	K/W

● Electrical Characteristics

Tamb=25℃, unless otherwise specified

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Forward voltage	I_F=200mA	V_F			1.5	V

● **Specifications (Quadro Melf)**

Measure with pulse Tp: 40 msec

Part No.	Zener Voltage Range 1)		Dynamic Resistance		Test Current	Temperature Coefficient of Zener Voltage		Test Current	Reverse Leakage Current		
	V_Z@ I_{ZT}		r_{zjT}@ I_{ZT}, f=1k Hz	r_{zjK}@ I_{ZK}, f=1k Hz	I_{ZT}	%/℃		I_{ZT}	I_R @T_{amb} =25℃	I_R @T_{amb} =150℃	@V_R
	V		Ω		mA	Min	Max	mA	μA		V
	Min	Max									
UZT55C2V4	2.28	2.56	< 85	< 600	5	-0.09	-0.06	1	< 50	< 100	1
UZT55C2V7	2.5	2.9	< 85	< 600	5	-0.09	-0.06	1	< 10	< 50	1
UZT55C3V0	2.8	3.2	< 90	< 600	5	-0.08	-0.05	1	< 4	< 40	1
UZT55C3V3	3.1	3.5	< 90	< 600	5	-0.08	-0.05	1	< 2	< 40	1
UZT55C3V6	3.4	3.8	< 90	< 600	5	-0.08	-0.05	1	< 2	< 40	1
UZT55C3V9	3.7	4.1	< 90	< 600	5	-0.08	-0.05	1	< 2	< 40	1
UZT55C4V3	4	4.6	< 90	< 600	5	-0.06	-0.03	1	< 1	< 20	1
UZT55C4V7	4.4	5	< 80	< 600	5	-0.05	0.02	1	< 0.5	< 10	1
UZT55C5V1	4.8	5.4	< 60	< 550	5	-0.02	0.02	1	< 0.1	< 2	1
UZT55C5V6	5.2	6	< 40	< 450	5	-0.05	0.05	1	< 0.1	< 2	1
UZT55C6V2	5.8	6.6	< 10	< 200	5	0.03	0.06	1	< 0.1	< 2	2
UZT55C6V8	6.4	7.2	< 8	< 150	5	0.03	0.07	1	< 0.1	< 2	3
UZT55C7V5	7	7.9	< 7	< 50	5	0.03	0.07	1	< 0.1	< 2	5
UZT55C8V2	7.7	8.7	< 7	< 50	5	0.03	0.08	1	< 0.1	< 2	6.2
UZT55C9V1*	8.5	9.6	< 10	< 50	5	0.03	0.09	1	< 0.1	< 2	6.8
UZT55C10*	9.4	0.6	< 15	< 70	5	0.03	0.1	1	< 0.1	< 2	7.5
UZT55C11*	10.4	11.6	< 20	< 70	5	0.03	0.11	1	< 0.1	< 2	8.2
UZT55C12*	11.4	12.7	< 20	< 90	5	0.03	0.11	1	< 0.1	< 2	9.1
UZT55C13*	12.4	14.1	< 26	< 110	5	0.03	0.11	1	< 0.1	< 2	10
UZT55C15*	13.8	15.6	< 30	< 110	5	0.03	0.11	1	< 0.1	< 2	11
UZT55C16*	15.3	17.1	< 40	< 170	5	0.03	0.11	1	< 0.1	< 2	12
UZT55C18*	16.8	19.1	< 50	< 170	5	0.03	0.11	1	< 0.1	< 2	13
UZT55C20*	18.8	21.2	< 55	< 220	5	0.03	0.11	1	< 0.1	< 2	15
UZT55C22*	20.8	23.3	< 55	< 220	5	0.04	0.12	1	< 0.1	< 2	16
UZT55C24*	22.8	25.6	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	18
UZT55C27*	25.1	28.9	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	20
UZT55C30*	28	32	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	22
UZT55C33*	31	35	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	24
UZT55C36*	34	38	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	27
UZT55C39*	37	41	< 90	< 500	2.5	0.04	0.12	0.5	< 0.1	< 5	30
UZT55C43*	40	46	< 90	< 600	2.5	0.04	0.12	0.5	< 0.1	< 5	33
UZT55C47*	44	50	110	< 700	2.5	0.04	0.12	0.5	< 0.1	< 5	36
UZT55C51*	48	54	125	< 700	2.5	0.04	0.12	0.5	< 0.1	< 10	39
UZT55C56*	52	60	135	< 1000	2.5	0.04	0.12	0.5	< 0.1	< 10	43
UZT55C62*	58	66	150	< 1000	2.5	0.04	0.12	0.5	< 0.1	< 10	47
UZT55C68*	64	72	200	< 1000	2.5	0.04	0.12	0.5	< 0.1	< 10	51
UZT55C75*	70	79	250	< 1500	2.5	0.04	0.12	0.5	< 0.1	< 10	56

1) $t_p \leq 10ms$, $T/t_p > 1000$.

*) Additionnal measurement of Voltage group 9V1 to 75 at 95% V_{zmin} 35 nA at T_j 25℃

● Specifications (Quadro Melf)

Measure with pulse Tp: 40 msec

Part No.	Zener Voltage Range 1)		Dynamic Resistance		Test Current	Temperature Coefficient of Zener Voltage		Test Current	Reverse Leakage Current		
	V_Z@ I_{ZT}		r_{zjT}@ I_{ZT}, f=1k Hz	r_{zjK}@ I_{ZK}, f=1k Hz	I_{ZT}	%/℃		I_{ZT}	I_R @T_{amb} =25℃	I_R @T_{amb} =150℃	@V_R
	V		Ω		mA	Min	Max	mA	μA		V
	Min	Max									
UZT55B2V4	2.35	2.45	< 85	< 600	5	-0.09	-0.06	1	< 50	< 100	1
UZT55B2V7	2.64	2.76	< 85	< 600	5	-0.09	-0.06	1	< 10	< 50	1
UZT55B3V0	2.94	3.06	< 90	< 600	5	-0.08	-0.05	1	< 4	< 40	1
UZT55B3V3	3.24	3.36	< 90	< 600	5	-0.08	-0.05	1	< 2	< 40	1
UZT55B3V6	3.52	3.68	< 90	< 600	5	-0.08	-0.05	1	< 2	< 40	1
UZT55B3V9	3.82	3.98	< 90	< 600	5	-0.08	-0.05	1	< 2	< 40	1
UZT55B4V3	4.22	4.38	< 90	< 600	5	-0.06	-0.03	1	< 1	< 20	1
UZT55B4V7	4.6	4.80	< 80	< 600	5	-0.05	0.02	1	< 0.5	< 10	1
UZT55B5V1	5	5.20	< 60	< 550	5	-0.02	0.02	1	< 0.1	< 2	1
UZT55B5V6	5.48	5.72	< 40	< 450	5	-0.05	0.05	1	< 0.1	< 2	1
UZT55B6V2	6.08	6.32	< 10	< 200	5	0.03	0.06	1	< 0.1	< 2	2
UZT55B6V8	6.66	6.94	< 8	< 150	5	0.03	0.07	1	< 0.1	< 2	3
UZT55B7V5	7.35	7.65	< 7	< 50	5	0.03	0.07	1	< 0.1	< 2	5
UZT55B8V2	8.04	8.36	< 7	< 50	5	0.03	0.08	1	< 0.1	< 2	6.2
UZT55B9V1*	8.92	9.28	< 10	< 50	5	0.03	0.09	1	< 0.1	< 2	6.8
UZT55B10*	9.8	10.20	< 15	< 70	5	0.03	0.1	1	< 0.1	< 2	7.5
UZT55B11*	10.78	11.22	< 20	< 70	5	0.03	0.11	1	< 0.1	< 2	8.2
UZT55B12*	11.76	12.24	< 20	< 90	5	0.03	0.11	1	< 0.1	< 2	9.1
UZT55B13*	12.74	13.26	< 26	< 110	5	0.03	0.11	1	< 0.1	< 2	10
UZT55B15*	14.7	15.30	< 30	< 110	5	0.03	0.11	1	< 0.1	< 2	11
UZT55B16*	15.7	16.30	< 40	< 170	5	0.03	0.11	1	< 0.1	< 2	12
UZT55B18*	17.64	18.36	< 50	< 170	5	0.03	0.11	1	< 0.1	< 2	13
UZT55B20*	19.6	20.40	< 55	< 220	5	0.03	0.11	1	< 0.1	< 2	15
UZT55B22*	21.55	22.45	< 55	< 220	5	0.04	0.12	1	< 0.1	< 2	16
UZT55B24*	23.5	24.5	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	18
UZT55B27*	26.4	27.6	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	20
UZT55B30*	29.4	30.6	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	22
UZT55B33*	32.4	33.6	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	24
UZT55B36*	35.3	36.7	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	27
UZT55B39*	38.2	39.8	< 90	< 500	2.5	0.04	0.12	0.5	< 0.1	< 5	30
UZT55B43*	42.1	43.9	< 90	< 600	2.5	0.04	0.12	0.5	< 0.1	< 5	33
UZT55B47*	46.1	47.9	< 110	< 700	2.5	0.04	0.12	0.5	< 0.1	< 5	36
UZT55B51*	50	52.0	< 125	< 700	2.5	0.04	0.12	0.5	< 0.1	< 10	39
UZT55B56*	54.9	57.1	< 135	< 1000	2.5	0.04	0.12	0.5	< 0.1	< 10	43
UZT55B62*	60.8	63.2	< 150	< 1000	2.5	0.04	0.12	0.5	< 0.1	< 10	47
UZT55B68*	66.6	69.4	< 200	< 1000	2.5	0.04	0.12	0.5	< 0.1	< 10	51
UZT55B75*	73.5	76.5	< 250	< 1500	2.5	0.04	0.12	0.5	< 0.1	< 10	56

1) $t_p \leq 10ms$, $T/t_p > 1000$.

*) Additionnal measurement of Voltage group 9V1 to 75 at 95% V_{zmin} 35 nA at T_j 25℃

●Typical Characteristics (T_j=25℃ unless otherwise specified)

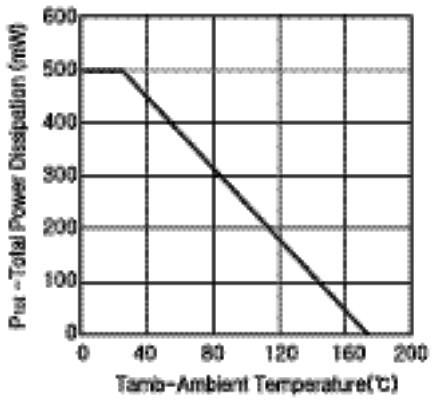


Figure 1. Total Power Dissipation vs. Ambient Temperature

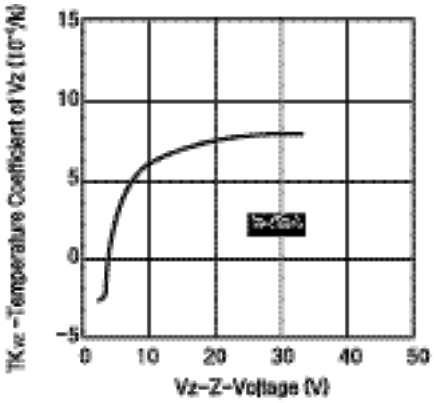


Figure 4. Temperature Coefficient of Vz vs. Z-Voltage

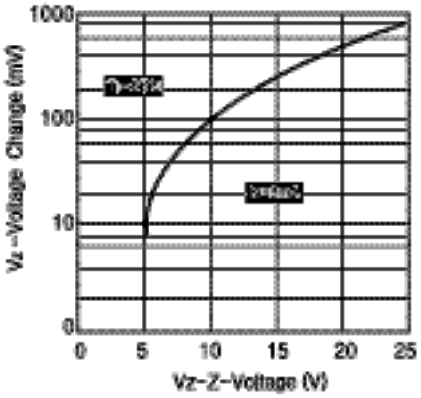


Figure 2. Typical Change of Working Voltage under Operating Conditions at Tamb=25℃

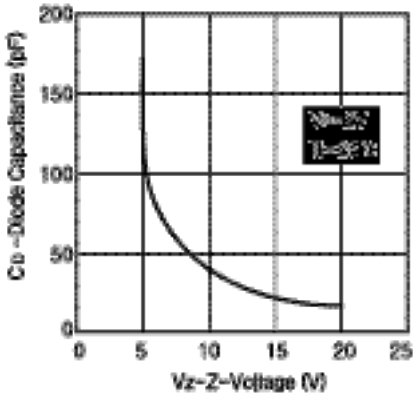


Figure 5. Diode Capacitance vs. Z-Voltage

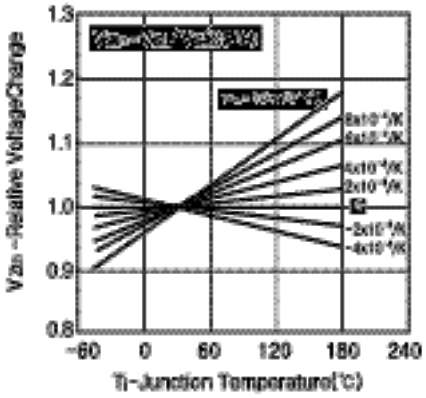


Figure 3. Typical Change of Working Voltage vs. Junction Temperature

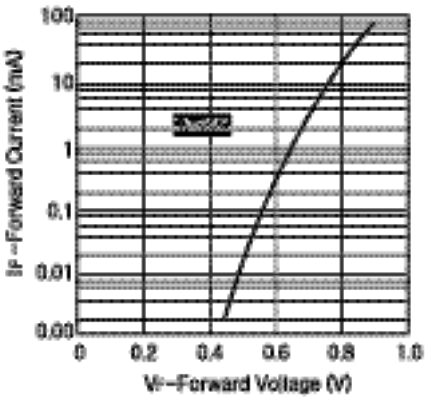


Figure 6. Forward Current vs. Forward Voltage

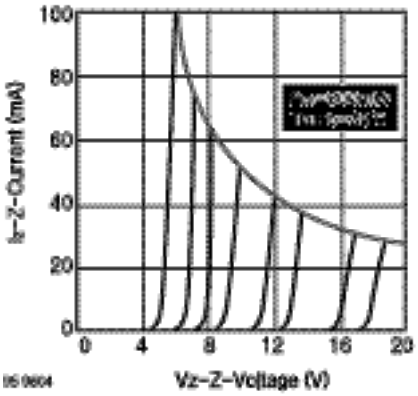


Figure 7. Z–Current vs. Z–Voltage

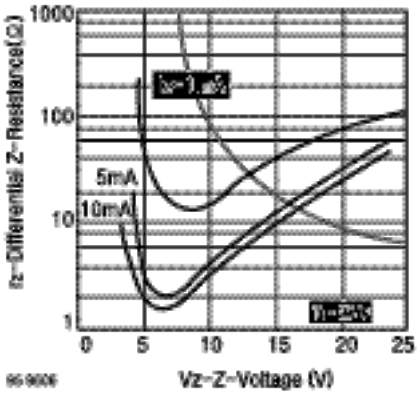


Figure 9. Differential Z–Resistance vs. Z–Voltage

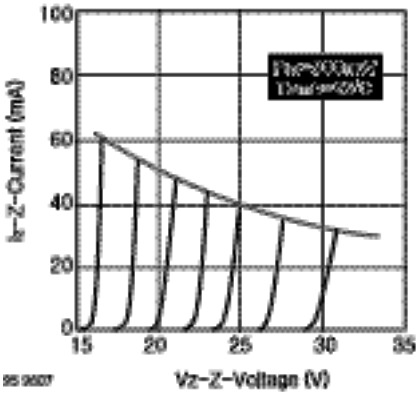


Figure 8. Z–Current vs. Z–Voltage

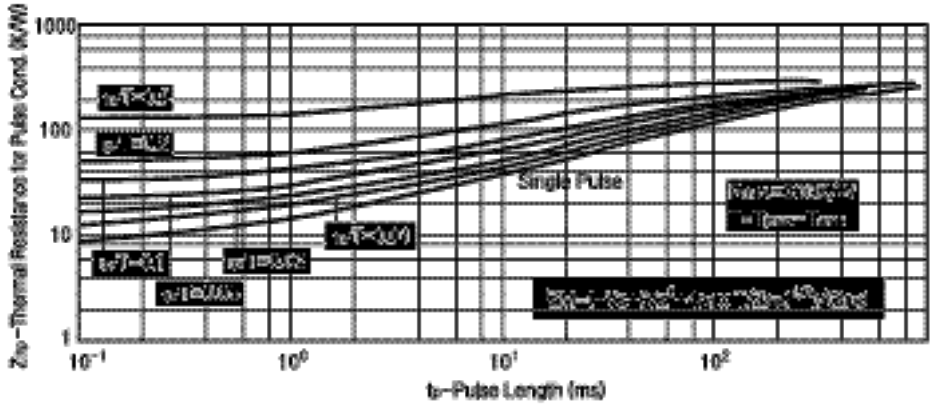


Figure 10. Thermal Response

ZENER

UZQ5221B...UZQ5267B Series Quadro Melf Zener Diodes

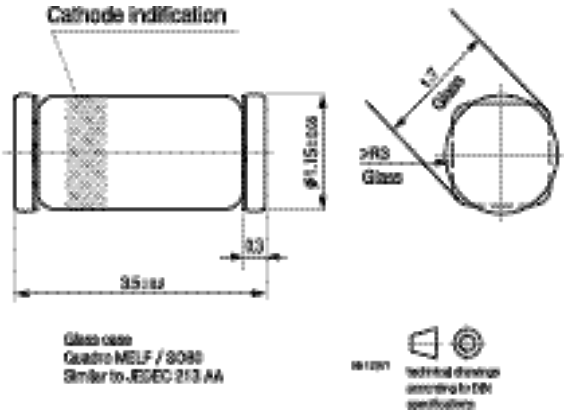
● Feature

- Very sharp reverse characteristic
- Low reverse current level
- Very high stability
- Low noise
- Available with tighter tolerances

● Applications

- Voltage stabilization

● External Dimensions (mm)



● Absolute Maximum Ratings

T_j = 25℃

Parameter	Test Condition	Symbol	Value	Unit
Power dissipation	R_{thJA} ≤ 300K/W	P_V	500	mW
Z-current		I_Z	Pv/Vz	mA
Junction temperature		T_j	175	℃
Storage temperature range		T_{stg}	-65 to + 175	℃

● Maximum Thermal Resistance

T_j = 25℃

Parameter	Test Condition	Symbol	Value	Unit
Junction ambient	on PC board 50mm×50mm×1.6mm	R_{thJA}	500	K/W

● Electrical Characteristics

T_j = 25℃

Parameter	Test Condition	Symbol	Min	Typ.	Max	Unit
Forward voltage	I_F=200mA	V_F			1.5	V

● Specifications (Quadro Melf)

Measure with pulse Tp: 40 msec

Type No.	V_{Znom} 1)	I_{ZT} for r_{ziT}		r_{zik} at I_{ZK}		I_R at V_R		TK_{VZ}
	V	mA	Ω	Ω	mA	μA	V	%/℃
UZQ5221B	2.4	20	< 30	< 1200	0.25	< 100	1.0	< -0.085
UZQ5222B	2.5	20	< 30	< 1250	0.25	< 100	1.0	< -0.085
UZQ5223B	2.7	20	< 30	< 1300	0.25	< 75	1.0	< -0.080
UZQ5224B	2.8	20	< 30	< 1400	0.25	< 75	1.0	< -0.080
UZQ5225B	3.0	20	< 29	< 1600	0.25	< 50	1.0	< -0.075
UZQ5226B	3.3	20	< 28	< 1600	0.25	< 25	1.0	< -0.070
UZQ5227B	3.6	20	< 24	< 1700	0.25	< 15	1.0	< -0.065
UZQ5228B	3.9	20	< 23	< 1900	0.25	< 10	1.0	< -0.060
UZQ5229B	4.3	20	< 22	< 2000	0.25	< 5	1.0	<±0.055
UZQ5230B	4.7	20	< 19	< 1900	0.25	< 5	2.0	<±0.030
UZQ5231B	5.1	20	< 17	< 1600	0.25	< 5	2.0	<±0.030
UZQ5232B	5.6	20	< 11	< 1600	0.25	< 5	3.0	<+0.038
UZQ5233B	6.0	20	< 7	< 1600	0.25	< 5	3.5	<+0.038
UZQ5234B	6.2	20	< 7	< 1000	0.25	< 5	4.0	<+0.045
UZQ5235B	6.8	20	< 5	< 750	0.25	< 3	5.0	<+0.050
UZQ5236B	7.5	20	< 6	< 500	0.25	< 3	6.0	<+0.058
UZQ5237B	8.2	20	< 8	< 500	0.25	< 3	6.5	<+0.062
UZQ5238B	8.7	20	< 8	< 600	0.25	< 3	6.5	<+0.065
UZQ5239B	9.1	20	< 10	< 600	0.25	< 3	7.0	<+0.068
UZQ5240B	10	20	< 17	< 600	0.25	< 3	8.0	<+0.075
UZQ5241B	11	20	< 22	< 600	0.25	< 2	8.4	<+0.076
UZQ5242B	12	20	< 30	< 600	0.25	< 1	9.1	<+0.077
UZQ5243B	13	9.5	< 13	< 600	0.25	0.5	9.9	<+0.079
UZQ5244B	14	9.0	< 15	< 600	0.25	0.1	10	<+0.082
UZQ5245B	15	8.5	< 16	< 600	0.25	0.1	11	<+0.082
UZQ5246B	16	7.8	< 17	< 600	0.25	0.1	12	<+0.083
UZQ5247B	17	7.4	< 19	< 600	0.25	0.1	13	<+0.084
UZQ5248B	18	7.0	< 21	< 600	0.25	0.1	14	<+0.085
UZQ5249B	19	6.6	< 23	< 600	0.25	0.1	14	<+0.086
UZQ5250B	20	6.2	< 25	< 600	0.25	0.1	15	<+0.086
UZQ5251B	22	5.6	< 29	< 600	0.25	0.1	17	<+0.087
UZQ5252B	24	5.2	< 33	< 600	0.25	0.1	18	<+0.088
UZQ5253B	25	5.0	< 35	< 600	0.25	0.1	19	<+0.089
UZQ5254B	27	4.6	< 41	< 600	0.25	0.1	21	<+0.090
UZQ5255B	28	4.5	< 44	< 600	0.25	0.1	21	<+0.091
UZQ5256B	30	4.2	< 49	< 600	0.25	0.1	23	<+0.091
UZQ5257B	33	3.8	< 58	< 700	0.25	0.1	25	<+0.092
UZQ5258B	36	3.4	< 70	< 700	0.25	0.1	27	<+0.093
UZQ5259B	39	3.2	< 80	< 800	0.25	0.1	30	<+0.094
UZQ5260B	43	3.0	< 93	< 900	0.25	0.1	33	<+0.095
UZQ5261B	47	2.7	< 105	< 1000	0.25	0.1	36	<+0.095
UZQ5262B	51	2.5	< 125	< 1100	0.25	0.1	39	<+0.096
UZQ5263B	56	2.2	< 150	< 1300	0.25	0.1	43	<+0.096
UZQ5264B	60	2.1	< 170	< 1400	0.25	0.1	46	<+0.097
UZQ5265B	62	2.0	< 185	< 1400	0.25	0.1	47	<+0.097
UZQ5266B	68	1.8	< 230	< 1600	0.25	0.1	52	<+0.097
UZQ5267B	75	1.7	< 270	< 1700	0.25	0.1	56	<+0.098

1.) Bansed on dc measurement at theramal equilibrium; case temperature maintained at 30℃ ± 2℃

● **Typical Characteristics** (T_j=25℃ unless otherwise specified)

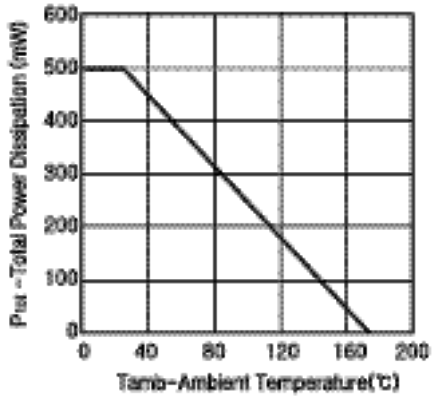


Figure 1. Total Power Dissipation vs. Ambient Temperature

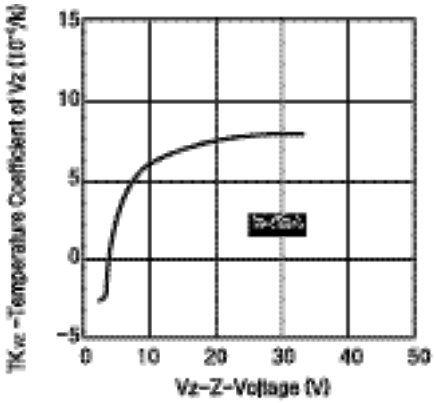


Figure 4. Temperature Coefficient of Vz vs. Z-Voltage

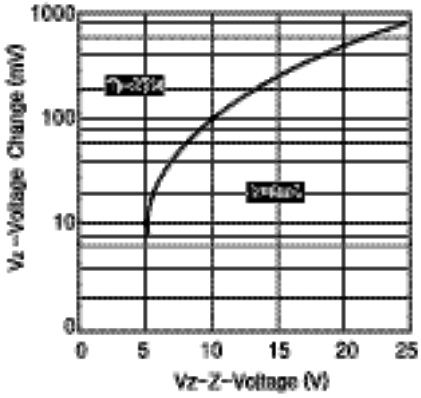


Figure 2. Typical Change of Working Voltage under Operating Conditions at Tamb=25℃

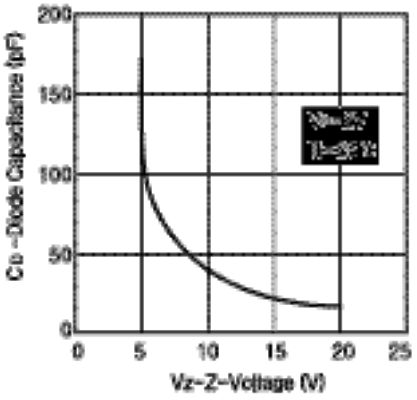


Figure 5. Diode Capacitance vs. Z-Voltage

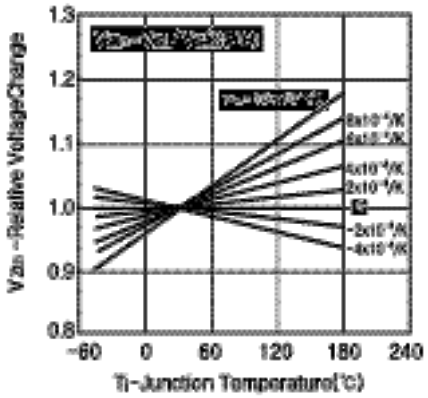


Figure 3. Typical Change of Working Voltage vs. Junction Temperature

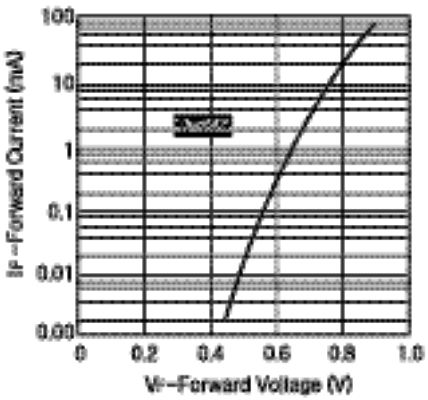


Figure 6. Forward Current vs. Forward Voltage

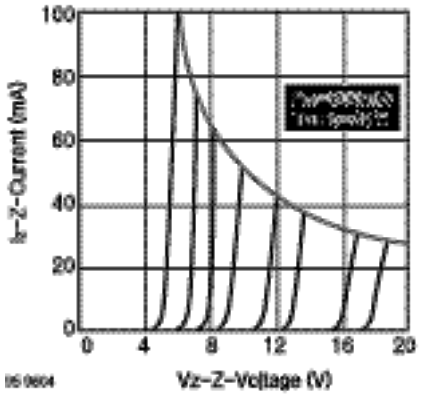


Figure 7. Z–Current vs. Z–Voltage

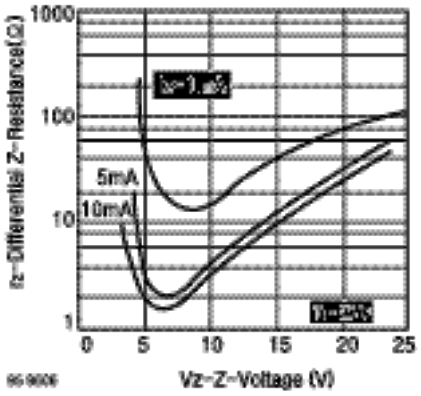


Figure 9. Differential Z–Resistance vs. Z–Voltage

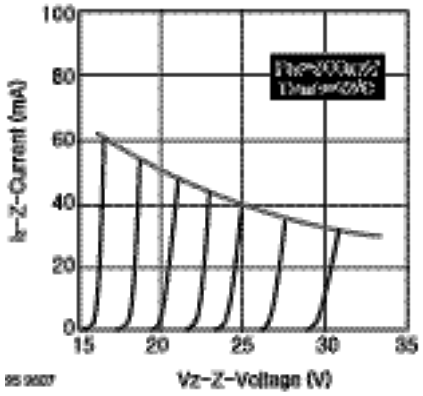


Figure 8. Z–Current vs. Z–Voltage

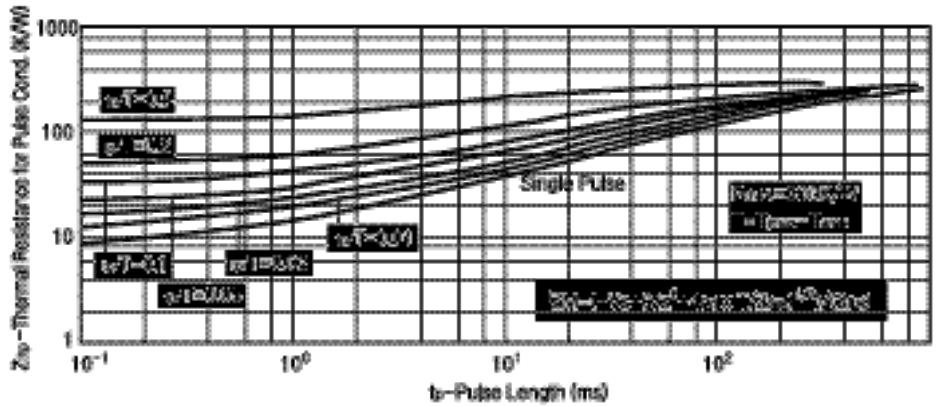


Figure 10. Thermal Response

ZENER

UZS4678.....UZS4717 Series Quadro Melf Zener Diodes

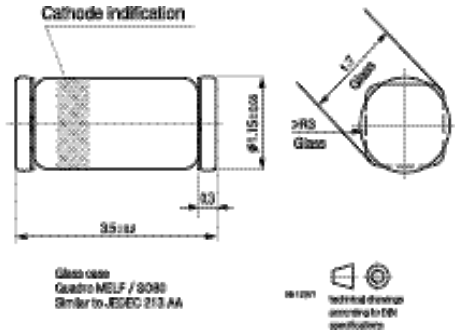
● Feature

- Zener voltage specified at 50㎂
- Maximum delta Vz given from 10㎂ to 100㎂
- Very high stability
- Low noise

● Applications

- Voltage stabilization

● External Dimensions (mm)



● Absolute Maximum Ratings

T_j = 25℃

Parameter	Test condition	Symbol	Value	Unit
Power dissipation	R_{thJA} ≤ 300K/W	P_V	500	mW
Z-current		I_Z	Pv/Vz	mA
Junction temperature		T_j	175	℃
Storage temperature range		T_{stg}	-65 to + 175	℃

● Maximum Thermal Resistance

T_j = 25℃

Parameter	Test condition	Symbol	Value	Unit
Junction ambient	on PC board 50mm×50mm×1.6mm	R_{thJA}	500	K/W

● Electrical Characteristics

T_j = 25℃

Parameter	Test condition	Type	Symbol	Min	Typ.	Max	Unit
Forward voltage	I_F=100mA		V_F			1.5	V

● Specifications (Quadro Melf)

Measure with pulse Tp: 40 msec

Type [1]	Zener Voltage Vz @ Iz=50μA			Max. Reverse Current	Test Voltage	Max. Zener Current	Max. Voltage Change
	Typ. [1]	Min.	Max.	IR [3]	VR [3]	IZM [2]	⊿Vz [4]
	V	V	V	μA	V	mA	V
UZS4678	1.8	1.710	1.890	7.5	1.0	120	0.70
UZS4679	2.0	1.900	2.100	5.0	1.0	110	0.70
UZS4680	2.2	2.090	2.310	4.0	1.0	100	0.75
UZS4681	2.4	2.280	2.520	2.0	1.0	95	0.80
UZS4682	2.7	2.565	2.835	1.0	1.0	90	0.85
UZS4683	3.0	2.850	3.150	0.8	1.0	85	0.90
UZS4684	3.3	3.135	3.465	7.5	1.5	80	0.95
UZS4685	3.6	3.420	3.780	7.5	2.0	75	0.95
UZS4686	3.9	3.705	4.095	5.0	2.0	70	0.97
UZS4687	4.3	4.085	4.515	4.0	2.0	65	0.99
UZS4688	4.7	4.465	4.935	10	3.0	60	0.99
UZS4689	5.1	4.845	5.355	10	3.0	55	0.97
UZS4690	5.6	5.320	5.880	10	4.0	50	0.96
UZS4691	6.2	5.890	6.510	10	5.0	45	0.95
UZS4692	6.8	6.460	7.140	10	5.1	35	0.90
UZS4693	7.5	7.125	7.875	10	5.7	31.8	0.75
UZS4694	8.2	7.790	8.610	1.0	6.2	29.0	0.50
UZS4695	8.7	8.265	9.135	1.0	6.6	27.4	0.10
UZS4696	9.1	8.645	9.555	1.0	6.9	26.2	0.08
UZS4697	10	9.500	10.50	1.0	7.6	24.8	0.10
UZS4698	11	10.45	11.55	0.05	8.4	21.6	0.11
UZS4699	12	11.40	12.60	0.05	9.1	20.4	0.12
UZS4700	13	12.35	13.65	0.05	9.8	19.0	0.13
UZS4701	14	13.30	14.70	0.05	10.6	17.5	0.14
UZS4702	15	14.25	15.75	0.05	11.4	16.3	0.15
UZS4703	16	15.20	16.80	0.05	12.1	15.4	0.16
UZS4704	17	16.15	17.85	0.05	12.9	14.5	0.17
UZS4705	18	17.10	18.90	0.05	13.6	13.2	0.18
UZS4706	19	18.05	19.95	0.05	14.4	12.5	0.19
UZS4707	20	19.00	21.00	0.01	15.2	11.9	0.20
UZS4708	22	20.90	23.10	0.01	16.7	10.8	0.22
UZS4709	24	22.80	25.20	0.01	18.2	9.9	0.24
UZS4710	25	23.75	26.25	0.01	19.0	9.5	0.25
UZS4711	27	25.65	28.35	0.01	20.4	8.8	0.27
UZS4712	28	26.60	29.40	0.01	21.2	8.5	0.28
UZS4713	30	28.50	31.50	0.01	22.8	7.9	0.30
UZS4714	33	31.35	34.65	0.01	25.0	7.2	0.33
UZS4715	36	34.20	37.80	0.01	27.3	6.6	0.36
UZS4716	39	37.05	40.95	0.01	29.6	6.1	0.39
UZS4717	43	40.85	45.15	0.01	32.6	5.5	0.43

1.) Toleranzing and voltage designation (Vz).
The type numbers shown have a standard tolerance of ±5% on the nominal zener voltage.
2.) Maximum zener current ratings(I_{ZM}).
Maximum zener current ratings are based on mazimum zener voltage of the indicidual nuits.
3.) Reverse leakage current (I_R).
Reverse leakage current are guaranteed and measured at VR as shown on the table.
4.) Maximum voltage change (⊿vz.)
Voltage change is equal to the difference between Vz at 100μA and Vz at 10μA.

● Cha**racteristics** (T_j=25℃ unless otherwise specified)

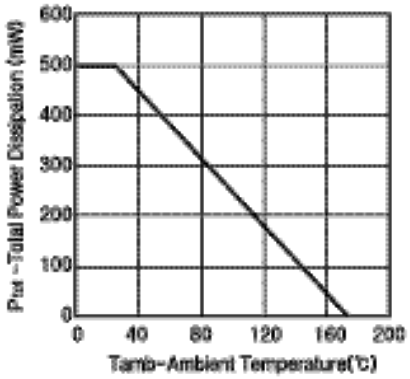


Figure 1. Total Power Dissipation vs. Ambient Temperature

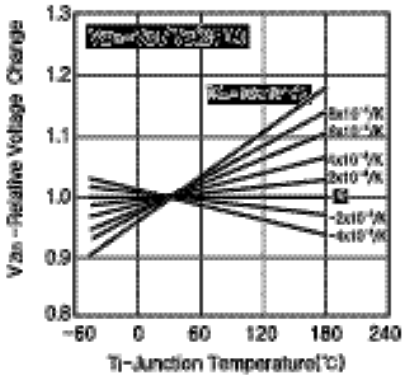


Figure 3. Typical Change of Working Voltage vs. Junction Temperature

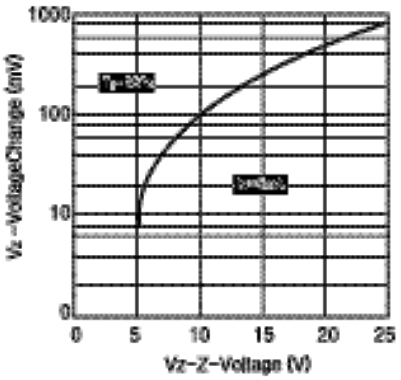


Figure 2. Typical Change of Working Voltage under Operating Conditions at Tamb=25℃

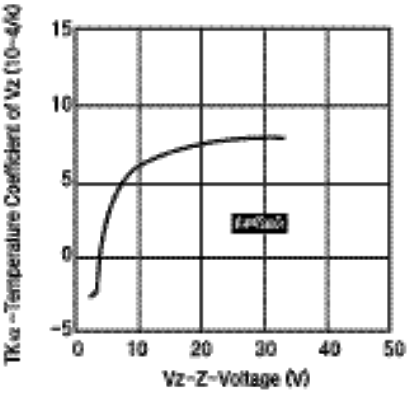


Figure 4. Temperature Coefficient of Vz vs. Z-Voltage

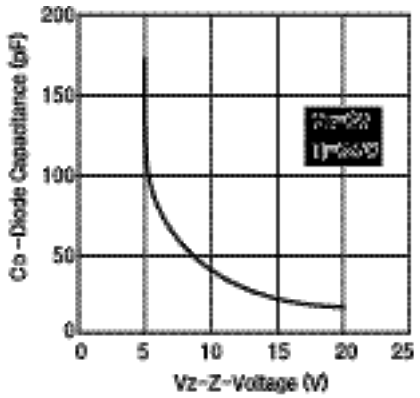


Figure 5. Diode Capacitance vs. Z-Voltage

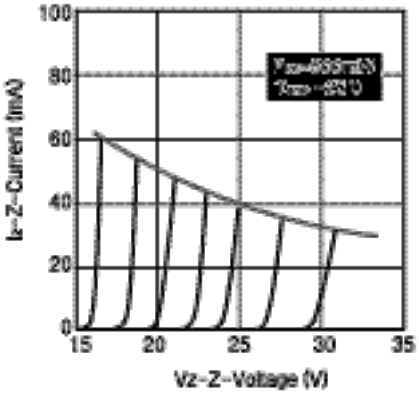


Figure 8. Z-Current vs. Z-Voltage

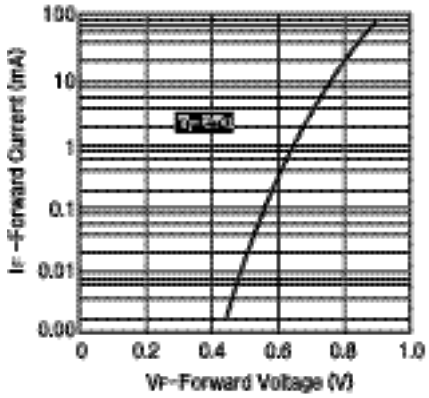


Figure 6. Forward Current vs. Forward Voltage

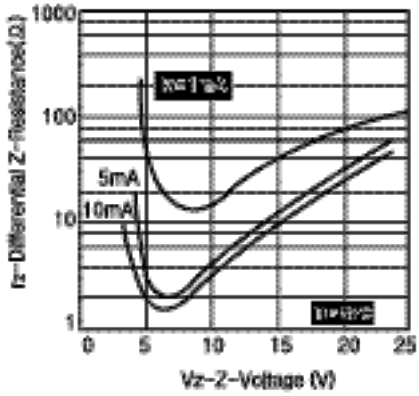


Figure 9. Differential Z-Resistance vs. Z-Voltage

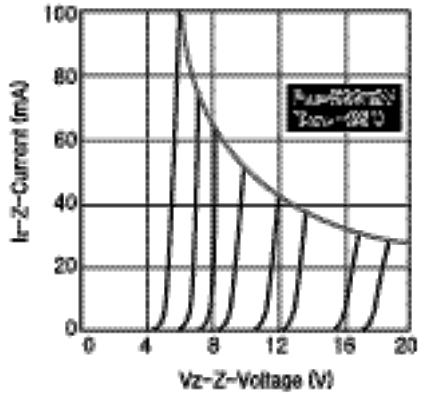


Figure 7. Z-Current vs. Z-Voltage

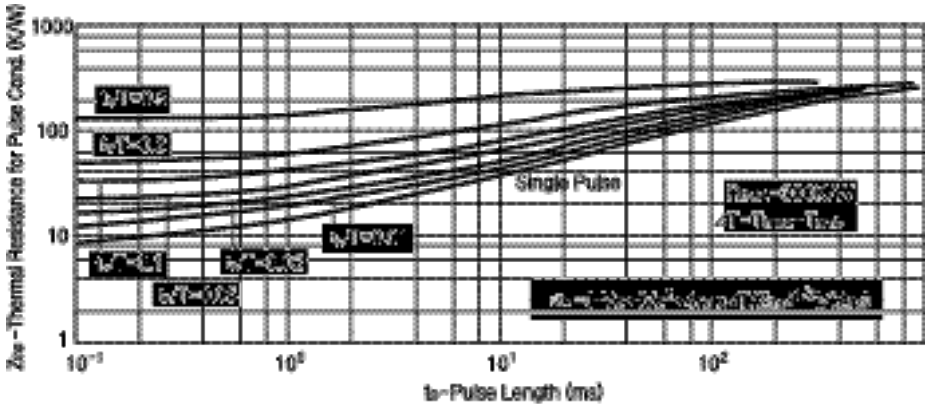
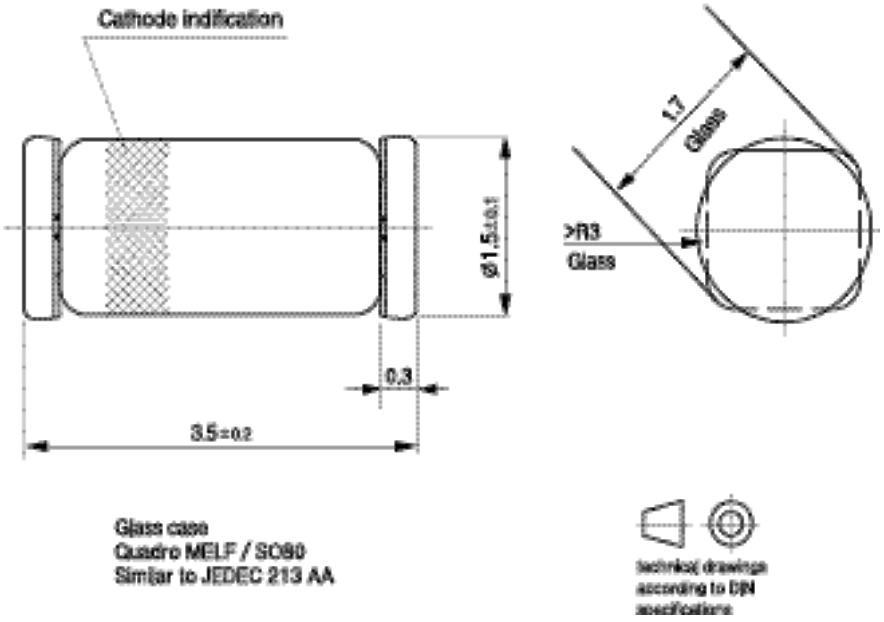


Figure 10. Thermal Response

● **Dimensions in mm**



ZMM5225...ZMM5262 Series Mini Melf Zener Diodes

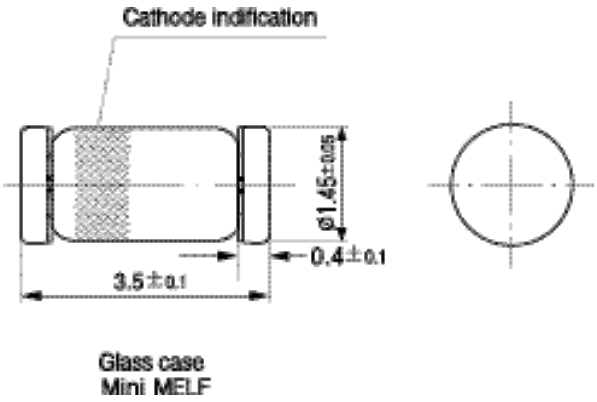
● Feature

- Very sharp reverse characteristic
- Low reverse current level
- Very high stability
- Low noise
- Available with tighter tolerances

● Applications

- Voltage stabilization

● External Dimensions (mm)



Glass case
Mini MELF

● Absolute Maximum Ratings

T_j = 25℃

Parameter	Test Condition	Symbol	Value	Unit
Power dissipation	R_{thJA} ≤ 300K/W	P_V	500	mW
Z-current		I_Z	Pv/Vz	mA
Junction temperature		T_j	175	℃
Storage temperature range		T_{stg}	-65 to + 175	℃

● Maximum Thermal Resistance

T_j = 25℃

Parameter	Test Condition	Symbol	Value	Unit
Junction ambient	on PC board 50mm×50mm×1.6mm	R_{thJA}	500	K/W

● Electrical Characteristics

T_j = 25℃

Parameter	Test Condition	Symbol	Min	Typ.	Max	Unit
Forward voltage	I_F=200mA	V_F			1.5	V

● Voltage Tolerance

Standard Zener Voltage Tolerance is ± 20%. Add Suffix "A" for ± 10% tolerance.
Add Suffix "B" for ± 5% tolerance. Other tolerance non standard and Higer Zener Voltages upon request.
These Diodes are also Available in DO-35 Case with the type designation 1N5225..1N5262.

ZENER

● **Specifications (LL-34)**

Measure with pulse Tp: 40 msec

Type No.	V_{Znom} 1)	I_{ZT} for r_{ziT}		r_{zik} at I_{ZK}		I_R at V_R		TK_{VZ}
	V	mA	Ω	Ω	mA	μA	V	%/℃
ZMM5225	3.0	20	< 29	< 1600	0.25	< 50	1.0	< -0.075
ZMM5226	3.3	20	< 28	< 1600	0.25	< 25	1.0	< -0.070
ZMM5227	3.6	20	< 24	< 1700	0.25	< 15	1.0	< -0.065
ZMM5228	3.9	20	< 23	< 1900	0.25	< 10	1.0	< -0.060
ZMM5229	4.3	20	< 22	< 2000	0.25	< 5	1.0	<±0.055
ZMM5230	4.7	20	< 19	< 1900	0.25	< 5	2.0	<±0.030
ZMM5231	5.1	20	< 17	< 1600	0.25	< 5	2.0	<±0.030
ZMM5232	5.6	20	< 11	< 1600	0.25	< 5	3.0	<+0.038
ZMM5233	6.0	20	< 7	< 1600	0.25	< 5	3.5	<+0.038
ZMM5234	6.2	20	< 7	< 1000	0.25	< 5	4.0	<+0.045
ZMM5235	6.8	20	< 5	< 750	0.25	< 3	5.0	<+0.050
ZMM5236	7.5	20	< 6	< 500	0.25	< 3	6.0	<+0.058
ZMM5237	8.2	20	< 8	< 500	0.25	< 3	6.5	<+0.062
ZMM5238	8.7	20	< 8	< 600	0.25	< 3	6.5	<+0.065
ZMM5239	9.1	20	< 10	< 600	0.25	< 3	7.0	<+0.068
ZMM5240	10	20	< 17	< 600	0.25	< 3	8.0	<+0.075
ZMM5241	11	20	< 22	< 600	0.25	< 2	8.4	<+0.076
ZMM5242	12	20	< 30	< 600	0.25	< 1	9.1	<+0.077
ZMM5243	13	9.5	< 13	< 600	0.25	0.5	9.9	<+0.079
ZMM5244	14	9.0	< 15	< 600	0.25	0.1	10	<+0.082
ZMM5245	15	8.5	< 16	< 600	0.25	0.1	11	<+0.082
ZMM5246	16	7.8	< 17	< 600	0.25	0.1	12	<+0.083
ZMM5247	17	7.4	< 19	< 600	0.25	0.1	13	<+0.084
ZMM5248	18	7.0	< 21	< 600	0.25	0.1	14	<+0.085
ZMM5249	19	6.6	< 23	< 600	0.25	0.1	14	<+0.086
ZMM5250	20	6.2	< 25	< 600	0.25	0.1	15	<+0.086
ZMM5251	22	5.6	< 29	< 600	0.25	0.1	17	<+0.087
ZMM5252	24	5.2	< 33	< 600	0.25	0.1	18	<+0.088
ZMM5253	25	5.0	< 35	< 600	0.25	0.1	19	<+0.089
ZMM5254	27	4.6	< 41	< 600	0.25	0.1	21	<+0.090
ZMM5255	28	4.5	< 44	< 600	0.25	0.1	21	<+0.091
ZMM5256	30	4.2	< 49	< 600	0.25	0.1	23	<+0.091
ZMM5257	33	3.8	< 58	< 700	0.25	0.1	25	<+0.092
ZMM5258	36	3.4	< 70	< 700	0.25	0.1	27	<+0.093
ZMM5259	39	3.2	< 80	< 800	0.25	0.1	30	<+0.094
ZMM5260	43	3.0	< 93	< 900	0.25	0.1	33	<+0.095
ZMM5261	47	2.7	< 105	< 1000	0.25	0.1	36	<+0.095
ZMM5262	51	2.5	< 125	< 1100	0.25	0.1	39	<+0.096

1.) Bansed on dc measurement at theramal equilibrium; case temperature maintained at 30 ℃ ± 2℃

2.) Standard Voltage Tolerance is 5% and :

Suffix “A” for ±2%

Suffix “B” for ±5%

Suffix “C” for ±10%

Suffix “D” for ±20%

ULZ Series Mini Melf Zener Diodes

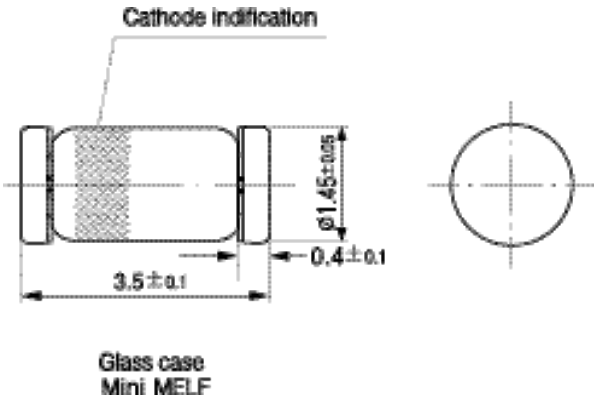
● Feature

- Very sharp reverse characteristic
- Low reverse current level
- Very high stability
- Low noise
- Available with tighter tolerances

● Applications

- Voltage stabilization

● External Dimensions (mm)



Glass case
Mini MELF

● Absolute Maximum Ratings

T_j = 25℃

Parameter	Test Condition	Symbol	Value	Unit
Power dissipation	$R_{thJA} \leq$ 300K/W	P_V	500	mW
Z-current		I_Z	Pv/Vz	mA
Junction temperature		T_j	175	℃
Storage temperature range		T_{stg}	-65 to + 175	℃

● Maximum Thermal Resistance

T_j = 25℃

Parameter	Test Condition	Symbol	Value	Unit
Junction ambient	on PC board 50mm×50mm×1.6mm	R_{thJA}	500	K/W

● Electrical Characteristics

T_j = 25℃

Parameter	Test Condition	Symbol	Min	Typ.	Max	Unit
Forward voltage	I_F=200mA	V_F			1.5	V

ZENER

● Specifications (SOD-323 Series)

Part Number	Zener voltage (Vz)			Operating resistance		Operating resistance		Reverse current		Marking
	Min	Max	Measurement condition Iz (mA)	Max Zz (Ω)	Measurement condition Iz (mA)	Max Zzk (Ω)	Measurement condition Iz (mA)	Max IR (μA)	Measurement condition VR (V)	
*. VF=0.9 V MAX (1F=10mA)										
ULZ 3.6B	3.600	3.835	5	100	5	1000	1.0	10	1.0	3B6
ULZ 3.9B	3.890	4.150	5	100	5	1000	1.0	5	1.0	3B9
ULZ 4.3B	4.170	4.420	5	100	5	1000	1.0	5	1.0	4B3
ULZ 4.7B	4.550	4.740	5	100	5	800	0.5	0.5	1.0	4B7
ULZ 5.1B	4.990	5.190	5	80	5	500	0.5	0.35	1.5	5B1
ULZ 5.6B	5.510	5.710	5	60	5	200	0.5	0.35	2.5	5B6
ULZ 6.2B	6.070	6.320	5	60	5	100	0.5	0.35	3.0	6B2
ULZ 6.8B	6.680	6.920	5	40	5	60	0.5	0.5	3.5	6B8
ULZ 7.5B	7.290	7.590	5	30	5	60	0.5	0.5	4.0	7B5
ULZ 8.2B	8.030	8.350	5	30	5	60	0.5	0.5	5.0	8B2
ULZ 9.1B	8.860	9.220	5	30	5	60	0.5	0.5	6.0	9B1
ULZ 10B	9.780	10.200	5	30	5	60	0.5	0.1	7.0	B10
ULZ 11B	10.770	11.210	5	30	5	60	0.5	0.1	8.0	B11
ULZ 12B	11.760	12.220	5	30	5	80	0.5	0.1	9.0	B12
ULZ 13B	12.920	13.480	5	37	5	80	0.5	0.1	10.0	B13
ULZ 15B	14.350	14.970	5	42	5	80	0.5	0.1	11.0	B15
ULZ 16B	15.900	16.490	5	50	5	80	0.5	0.1	12.0	B16
ULZ 18B	17.570	18.340	5	65	5	80	0.5	0.1	13.0	B18
ULZ 20B	19.550	20.370	5	85	5	100	0.5	0.1	15.0	B20
ULZ 22B	21.550	22.460	5	100	5	100	0.5	0.1	17.0	B22
ULZ 24B	23.730	24.770	5	120	5	120	0.5	0.1	19.0	B24
ULZ 27B	26.200	27.520	5	150	5	150	0.5	0.1	21.0	B27
ULZ 30B	29.200	30.680	5	200	5	200	0.5	0.1	23.0	B30
ULZ 33B	32.160	33.780	5	250	5	250	0.5	0.1	25.0	B33
ULZ 36B	35.080	36.860	5	300	5	300	0.5	0.1	27.0	B36

NOTES) 1. The Zener voltage (Vz) is measured 40 ms after power is supplied.

2. The operating resistances (Zz, Zzk) are measured by superimposing a minute alternating current on the regulated current(Iz).

ZM4728..ZM4764 Series Quadro Melf Zener Diodes

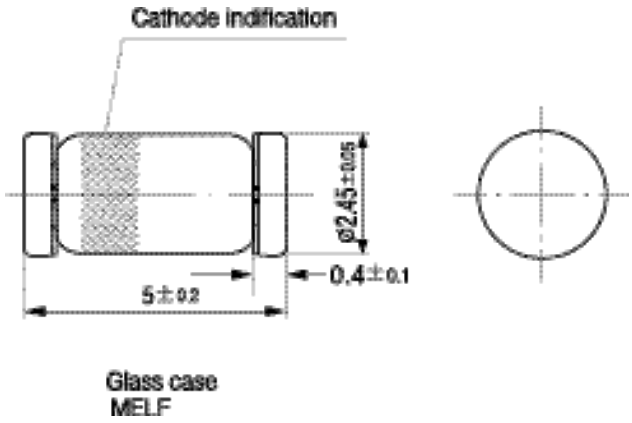
● Feature

- Very sharp reverse characteristic
- Low reverse current level
- Very high stability
- Low noise
- Available with tighter tolerances

● Applications

- Voltage stabilization

● External Dimensions (mm)



● Absolute Maximum Ratings

T_j = 25℃

Parameter	Test Condition	Symbol	Value	Unit
Power dissipation	R_{thJA} ≤ 1000K/W	P_V	1000	mW
Z-current		I_Z	Pv/Vz	mA
Junction temperature		T_j	175	℃
Storage temperature range		T_{stg}	-65 to + 175	℃

● Maximum Thermal Resistance

T_j = 25℃

Parameter	Test Condition	Symbol	Value	Unit
Junction ambient	on PC board 50mm×50mm×1.6mm	R_{thJA}	170	K/W

● Electrical Characteristics

T_j = 25℃

Parameter	Test Condition	Symbol	Min	Typ.	Max	Unit
Forward voltage	I_F=200mA	V_F			1.2	V

● Voltage Tolerance

Standard Zener Voltage Tolerance is ± 10%. Add Suffix "A" for ± 5% tolerance.

Add Suffix "B" for ± 5% tolerance. Other tolerance non standard and Higer Zener Voltages upon request.

These Diodes are also Available in DO-41 Case with the type designation 1N4728..1N4764.

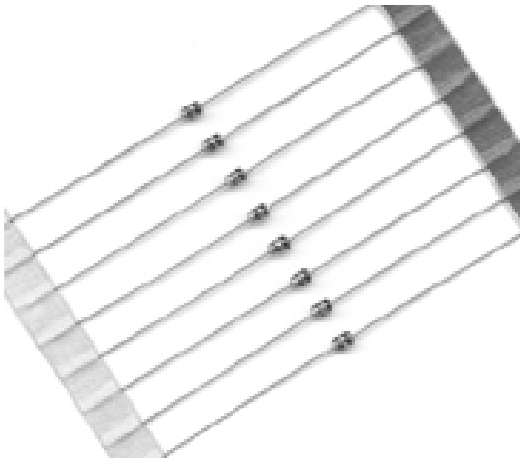
● **Specifications (LL-41)**

Measure with pulse Tp: 40 msec

Type No.	V_{Znom} 1)	I_{ZT} for r_{ziT}		r_{zik} at I_{ZK}		I_R at V_R		TK_{VZ}
	V	mA	Ω	Ω	mA	μA	V	%/℃
ZM4728	3.3	76	< 10	< 400	1.0	< 150	1.0	< -0.075
ZM4729	3.6	69	< 10	< 400	1.0	< 100	1.0	< -0.070
ZM4730	3.9	64	< 9	< 400	1.0	< 100	1.0	< -0.065
ZM4731	4.3	58	< 9	< 400	1.0	< 50	1.0	< -0.060
ZM4732	4.7	53	< 8	< 500	1.0	< 10	1.0	<±0.055
ZM4733	5.1	49	< 7	< 550	1.0	< 10	1.0	<±0.030
ZM4734	5.6	45	< 5	< 600	1.0	< 10	2.0	<±0.030
ZM4735	6.2	41	< 2	< 700	1.0	< 10	3.0	<+0.038
ZM4736	6.8	37	< 3.5	< 700	1.0	< 10	4.0	<+0.038
ZM4737	7.5	34	< 4.0	< 700	0.5	< 10	5.0	<+0.045
ZM4738	8.2	31	< 4.5	< 700	0.5	< 10	6.0	<+0.050
ZM4739	9.1	28	< 5.0	< 700	0.5	< 10	7.0	<+0.058
ZM4740	10	25	< 7	< 700	0.25	< 10	7.6	<+0.062
ZM4741	11	23	< 8	< 700	0.25	< 5	8.4	<+0.065
ZM4742	12	21	< 9	< 700	0.25	< 5	9.1	<+0.068
ZM4743	13	19	< 10	< 700	0.25	< 5	9.9	<+0.075
ZM4744	15	17	< 14	< 700	0.25	< 5	11.4	<+0.076
ZM4745	16	15.5	< 16	< 700	0.25	< 5	12.2	<+0.077
ZM4746	18	14	< 20	< 750	0.25	< 5	13.7	<+0.079
ZM4747	20	12.5	< 22	< 750	0.25	< 5	15.2	<+0.082
ZM4748	22	11.5	< 23	< 750	0.25	< 5	16.7	<+0.082
ZM4749	24	10.5	< 25	< 750	0.25	< 5	18.2	<+0.083
ZM4750	27	9.5	< 35	< 750	0.25	< 5	20.6	<+0.084
ZM4751	30	8.5	< 40	< 1000	0.25	< 5	22.8	<+0.085
ZM4752	33	7.5	< 45	< 1000	0.25	< 5	25.1	<+0.086
ZM4753	36	7.0	< 50	< 1000	0.25	< 5	27.4	<+0.086
ZM4754	39	6.5	< 60	< 1000	0.25	< 5	29.7	<+0.087
ZM4755	43	6.0	< 70	< 1500	0.25	< 5	32.7	<+0.088
ZM4756	47	5.5	< 80	< 1500	0.25	< 5	35.8	<+0.089
ZM4757	51	5.0	< 95	< 1500	0.25	< 5	38.8	<+0.090
ZM4758	56	4.5	< 110	< 2000	0.25	< 5	42.6	<+0.091
ZM4759	62	4.0	< 125	< 2000	0.25	< 5	47.1	<+0.091
ZM4760	68	3.7	< 150	< 2000	0.25	< 5	51.7	<+0.092
ZM4761	75	3.3	< 175	< 2000	0.25	< 5	56.0	<+0.093
ZM4762	82	3.	< 200	< 3000	0.25	< 5	62.2	<+0.094
ZM4763	91	2.8	< 250	< 3000	0.25	< 5	69.2	<+0.095
ZM4764	100	2.5	< 350	< 3000	0.25	< 5	76.0	<+0.095

1.) Bansed on dc measurement at theramal equilibrium; case temperature maintained at 30 ℃ ± 2℃

BSS-Series Glass Sealed Miniature Zener Diodes



● Feature

Small,light,high-quality diode with

DHD (glass-sealed) structure.

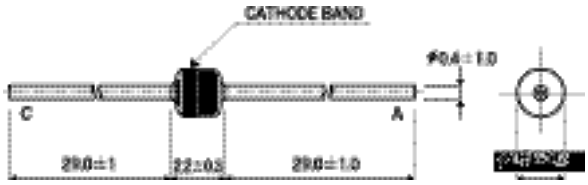
● Maximum rating

Storage temperature :-65℃ ~ +175℃

Junction temperature :+175℃

Maximum power dissipation :500mW (Ta=25℃)

◈ Dimension(mm) : Mini DO-34



● Specifications (BSS-Series)

Type No.		Zener voltage			Dynamic resistance		Dynamic resistance		Reverse direction characteristic		Marking	Type No.		Zener voltage			Dynamic resistance		Dynamic resistance		Reverse direction characteristic		Marking
		Min	Max	Measurement condition Iz(mA)	Max Rz (Ω)	Measurement condition Iz(mA)	Max Rz (Ω)	Measurement condition Iz(mA)	Max Rz (μA)	Measurement condition VR(V)				Min	Max	Measurement condition Iz(mA)	Max Rz (Ω)	Measurement condition Iz(mA)	Max Rz (Ω)	Measurement condition Iz(mA)	Max Rz (μA)	Measurement condition VR(V)	
UZ-2.0BSS		1.88	2.20	5	100	5	1000	0.5	120	0.5	Z2.0	UZ-3.6BSS		3.47	4.14	5	120	5	1100	0.5	10	1.0	Z3.6
	A	1.88	2.10								Z2.0A		A	3.47	3.68								Z3.6A
	B	2.02	2.20								Z2.0B		B	3.62	3.83								Z3.6B
UZ-2.2BSS		2.12	2.41	5	100	5	1000	0.5	120	0.7	Z2.2	UZ-3.9BSS		3.77	4.14	5	120	5	1200	0.5	5	1.0	Z3.9
	A	2.12	2.30								Z2.2A		A	3.77	3.98								Z3.9A
	B	2.12	2.41								Z2.2B		B	3.92	4.14								Z3.9B
UZ-2.4BSS		2.33	2.63	5	100	5	1000	0.5	120	1.0	Z2.4	UZ-4.3BSS		4.05	4.53	5	120	5	1200	0.5	5	1.0	Z4.3
	A	2.33	2.52								Z2.4A		A	4.05	4.26								Z4.3A
	B	2.43	2.63								Z2.4B		B	4.20	4.40								Z4.3B
UZ-2.7BSS		2.54	2.91	5	110	5	1000	0.5	100	1.0	Z2.7		C	4.34	4.53								Z4.3C
	A	2.54	2.75								Z2.7A	UZ-4.7BSS		4.47	4.91	5	100	5	1200	0.5	5	1.0	Z4.7
	B	2.69	2.91								Z2.7B		A	4.47	4.65								Z4.7A
UZ-3.0BSS		2.85	3.22	5	120	5	1000	0.5	50	1.0	Z3.0		B	4.59	4.77								Z4.7B
	A	2.85	3.07								Z3.0A		C	4.71	4.91								Z4.7C
	B	3.01	3.22								Z3.0B	UZ-5.1BSS		4.85	5.35	5	70	5	1200	0.5	5	1.5	Z5.1
UZ-3.3BSS		3.16	3.53	5	120	5	1000	0.5	20	1.0	Z3.3		A	4.85	5.03								Z5.1A
	A	3.16	3.38								Z3.3A		B	4.97	5.18								Z5.1B
	B	3.32	3.53								Z3.3B		C	5.12	5.35								Z5.1C

NOTES) 1. The Zener voltage (Vz) is measured 40 ms after power is supplied.

2. The operating resistances (Zz, Zzk) are measured by superimposing a minute alternating current on the regulated current(Iz).

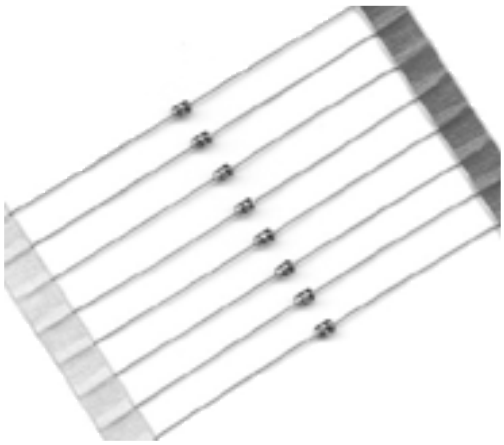
● Specifications (BSS-Series)

Type No.		Zener voltage			Dynamic resistance		Dynamic resistance		Reverse direction characteristic		Marking
		Min	Max	Measurement condition Iz(mA)	Max Rz (Ω)	Measurement condition Iz(mA)	Max Rz (Ω)	Measurement condition Iz(mA)	Max Rz (μA)	Measurement condition VR(V)	
UZ-5.6BSS		5.29	5.88	5	40	5	900	0.5	5	2.5	Z5.6
	A	5.29	5.52								Z5.6A
	B	5.46	5.70								Z5.6B
	C	5.64	5.88								Z5.6C
UZ-6.2BSS		5.81	6.40	5	30	5	500	0.5	5	3.0	Z6.2
	A	5.81	6.06								Z6.2A
	B	5.99	6.24								Z6.2B
	C	6.16	6.40								Z6.2C
UZ-6.8BSS		6.32	6.97	5	25	5	150	0.5	2	3.5	Z6.8
	A	6.32	6.59								Z6.8A
	B	6.52	6.79								Z6.8B
	C	6.70	6.97								Z6.8C
UZ-7.5BSS		6.88	7.64	5	25	5	120	0.5	0.5	4.0	Z7.5
	A	6.88	7.19								Z7.5A
	B	7.11	7.41								Z7.5B
	C	7.33	7.64								Z7.5C
UZ-8.2BSS		7.56	8.41	5	20	5	120	0.5	0.5	5.0	Z8.2
	A	7.56	7.90								Z8.2A
	B	7.82	8.15								Z8.2B
	C	8.07	8.41								Z8.2C
UZ-9.1BSS		8.33	9.29	5	20	5	120	0.5	0.5	6.0	Z9.1
	A	8.33	8.70								Z9.1A
	B	8.61	8.99								Z9.1B
	C	8.89	9.29								Z9.1C
UZ-10BSS		9.19	10.30	5	20	5	120	0.5	0.2	7.0	Z10
	A	9.19	9.59								Z10A
	B	9.48	9.90								Z10B
	C	9.82	10.30								Z10C
UZ-11BSS		10.18	11.26	5	20	5	110	0.5	0.2	8	Z11
	A	10.18	10.63								Z11A
	B	10.50	10.95								Z11B
	C	10.82	11.26								Z11C
UZ-12BSS		11.13	12.30	5	25	5	110	0.5	0.2	9	Z12
	A	11.13	11.63								Z12A
	B	11.50	11.92								Z12B
	C	11.80	12.30								Z12C
UZ-13BSS		12.18	13.62	5	25	5	110	0.5	0.2	10	Z13
	A	12.18	12.71								Z13A
	B	12.59	13.16								Z13B
	C	13.03	13.62								Z13C
UZ-15BSS		13.48	15.02	5	25	5	110	0.5	0.2	11	Z15
	A	13.48	14.09								Z15A
	B	13.95	14.56								Z15B
	C	14.42	15.02								Z15C
UZ-16BSS		14.87	16.50	5	25	5	150	0.5	0.2	12	Z16
	A	14.87	15.50								Z16A
	B	15.33	15.96								Z16B
	C	15.79	16.50								Z16C

Type No.		Zener voltage			Dynamic resistance		Dynamic resistance		Reverse direction characteristic		Marking
		Min	Max	Measurement condition Iz(mA)	Max Rz (Ω)	Measurement condition Iz(mA)	Max Rz (Ω)	Measurement condition Iz(mA)	Max Rz (μA)	Measurement condition VR(V)	
UZ-18BSS		16.34	18.30	5	30	5	150	0.5	0.2	13	Z18
	A	16.34	17.06								Z18A
	B	16.90	17.67								Z18B
	C	17.51	18.30								Z18C
UZ-20BSS		18.14	20.45	5	30	5	200	0.5	0.2	15	Z20
	A	18.14	18.96								Z20A
	B	18.80	19.68								Z20B
	C	19.52	20.45								Z20C
UZ-22BSS		20.23	22.61	5	30	5	200	0.5	0.2	17	Z22
	A	20.23	21.08								Z22A
	B	20.76	21.65								Z22B
	C	21.22	22.09								Z22C
	D	21.68	22.61								Z22D
UZ-24BSS		22.26	24.81	5	35	5	200	0.5	0.2	19	Z24
	A	22.26	23.12								Z24A
	B	22.75	23.73								Z24B
	C	23.29	24.27								Z24C
	D	23.81	24.81								Z24D
UZ-27BSS		24.26	27.64	5	45	5	250	0.5	0.2	21	Z27
	A	24.26	25.52								Z27A
	B	24.97	26.26								Z27B
	C	25.63	26.95								Z27C
	D	26.29	27.64								Z27D
UZ-30BSS		26.99	30.51	5	55	5	250	0.5	0.2	23	Z30
	A	26.99	28.39								Z30A
	B	27.70	29.13								Z30B
	C	28.36	29.82								Z30C
	D	29.02	30.51								Z30D
UZ-33BSS		29.68	33.11	5	65	5	250	0.5	0.2	25	Z33
	A	29.68	31.22								Z33A
	B	30.32	31.88								Z33B
	C	30.90	32.50								Z33C
	D	31.49	33.11								Z33D
UZ-36BSS		32.14	35.77	5	75	5	250	0.5	0.2	27	Z36
	A	32.14	33.79								Z36A
	B	32.79	34.49								Z36B
	C	33.40	35.13								Z36C
	D	34.01	35.77								Z36D
UZ-39BSS		34.68	38.52	5	85	5	250	0.5	0.2	30	Z39
	A	34.68	36.47								Z39A
	B	35.36	37.19								Z39B
	C	36.00	37.85								Z39C
	D	36.63	38.52								Z39D
UZ-43BSS	B	40	45	5	90	5	-	0.5	0.2	33	Z43B
UZ-47BSS	B	44	49	5	90	5	-	0.5	0.2	36	Z47B
UZ-51BSS	B	48	54	5	110	5	-	0.5	0.2	39	Z51B

For specifications of diodes other the standard ones consult the nearest dealer.

BS Series Glass Sealed Miniature Zener Diodes



● Feature

Small,light,high-quality diode with

DHD (glass-sealed) structure.

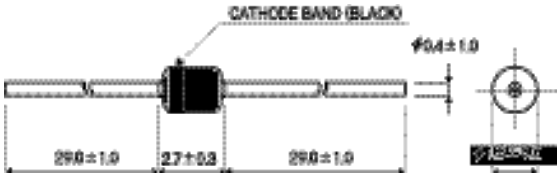
● Maximum rating

Storage temperature :-65℃ ~ +175℃

Junction temperature :+175℃

Maximum power dissipation :500mW (Ta=25℃)

● Dimension(mm) : DO-34



● Specifications (BS Series)

Type No.		Zener voltage			Dynamic resistance		Dynamic resistance		Reverse direction characteristic		Marking	Type No.		Zener voltage			Dynamic resistance		Dynamic resistance		Reverse direction characteristic		Marking
		Min	Max	Measurement condition Iz(mA)	Max Rx (Ω)	Measurement condition Iz(mA)	Max Rx (Ω)	Measurement condition Iz(mA)	Max IR (μA)	Measurement condition VR(V)				Min	Max	Measurement condition Iz(mA)	Max Rx (Ω)	Measurement condition Iz(mA)	Max Rx (Ω)	Measurement condition Iz(mA)	Max IR (μA)	Measurement condition VR(V)	
UZ-2.0BS		1.88	2.20	5	100	5	1000	0.5	120	0.5	Z2.0	UZ-3.6BS		3.47	4.14	5	120	5	1100	0.5	10	1.0	Z3.6
	A	1.88	2.10								Z2.0A		A	3.47	3.68								Z3.6A
	B	2.02	2.20								Z2.0B		B	3.62	3.83								Z3.6B
UZ-2.2BS		2.12	2.41	5	100	5	1000	0.5	120	0.7	Z2.2	UZ-3.9BS		3.77	4.14	5	120	5	1200	0.5	5	1.0	Z3.9
	A	2.12	2.30								Z2.2A		A	3.77	3.98								Z3.9A
	B	2.12	2.41								Z2.2B		B	3.92	4.14								Z3.9B
UZ-2.4BS		2.33	2.63	5	100	5	1000	0.5	120	1.0	Z2.4	UZ-4.3BS		4.05	4.53	5	120	5	1200	0.5	5	1.0	Z4.3
	A	2.33	2.52								Z2.4A		A	4.05	4.26								Z4.3A
	B	2.43	2.63								Z2.4B		B	4.20	4.40								Z4.3B
UZ-2.7BS		2.54	2.91	5	110	5	1000	0.5	100	1.0	Z2.7		C	4.34	4.53								Z4.3C
	A	2.54	2.75								Z2.7A	UZ-4.7BS		4.47	4.91	5	100	5	1200	0.5	5	1.0	Z4.7
	B	2.69	2.91								Z2.7B		A	4.47	4.65								Z4.7A
UZ-3.0BS		2.85	3.22	5	120	5	1000	0.5	50	1.0	Z3.0		B	4.59	4.77								Z4.7B
	A	2.85	3.07								Z3.0A		C	4.71	4.91								Z4.7C
	B	3.01	3.22								Z3.0B	UZ-5.1BS		4.85	5.35	5	70	5	1200	0.5	5	1.5	Z5.1
UZ-3.3BS		3.16	3.53	5	120	5	1000	0.5	20	1.0	Z3.3		A	4.85	5.03								Z5.1A
	A	3.16	3.38								Z3.3A		B	4.97	5.18								Z5.1B
	B	3.32	3.53								Z3.3B		C	5.12	5.35								Z5.1C

NOTES) 1. The Zener voltage (Vz) is measured 40 ms after power is supplied.

2. The operating resistances (Zz, Zzk) are measured by superimposing a minute alternating current on the regulated current(Iz).

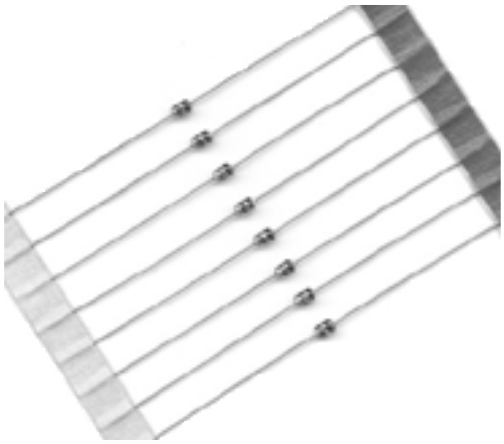
● Specifications (BS Series)

Type No.		Zener voltage			Dynamic resistance		Dynamic resistance		Reverse direction characteristic		Marking
		Min	Max	Measurement condition Iz(mA)	Max Rz (Ω)	Measurement condition Iz(mA)	Max Rz (Ω)	Measurement condition Iz(mA)	Max Rz (μA)	Measurement condition VR(V)	
UZ-5.6BS		5.29	5.88	5	40	5	900	0.5	5	2.5	Z5.6
	A	5.29	5.52								Z5.6A
	B	5.46	5.70								Z5.6B
	C	5.64	5.88								Z5.6C
UZ-6.2BS		5.81	6.40	5	30	5	500	0.5	5	3.0	Z6.2
	A	5.81	6.06								Z6.2A
	B	5.99	6.24								Z6.2B
	C	6.16	6.40								Z6.2C
UZ-6.8BS		6.32	6.97	5	25	5	150	0.5	2	3.5	Z6.8
	A	6.32	6.59								Z6.8A
	B	6.52	6.79								Z6.8B
	C	6.70	6.97								Z6.8C
UZ-7.5BS		6.88	7.64	5	25	5	120	0.5	0.5	4.0	Z7.5
	A	6.88	7.19								Z7.5A
	B	7.11	7.41								Z7.5B
	C	7.33	7.64								Z7.5C
UZ-8.2BS		7.56	8.41	5	20	5	120	0.5	0.5	5.0	Z8.2
	A	7.56	7.90								Z8.2A
	B	7.82	8.15								Z8.2B
	C	8.07	8.41								Z8.2C
UZ-9.1BS		8.33	9.29	5	20	5	120	0.5	0.5	6.0	Z9.1
	A	8.33	8.70								Z9.1A
	B	8.61	8.99								Z9.1B
	C	8.89	9.29								Z9.1C
UZ-10BS		9.19	10.30	5	20	5	120	0.5	0.2	7.0	Z10
	A	9.19	9.59								Z10A
	B	9.48	9.90								Z10B
	C	9.82	10.30								Z10C
UZ-11BS		10.18	11.26	5	20	5	110	0.5	0.2	8	Z11
	A	10.18	10.63								Z11A
	B	10.50	10.95								Z11B
	C	10.82	11.26								Z11C
UZ-12BS		11.13	12.30	5	25	5	110	0.5	0.2	9	Z12
	A	11.13	11.63								Z12A
	B	11.50	11.92								Z12B
	C	11.80	12.30								Z12C
UZ-13BS		12.18	13.62	5	25	5	110	0.5	0.2	10	Z13
	A	12.18	12.71								Z13A
	B	12.59	13.16								Z13B
	C	13.03	13.62								Z13C
UZ-15BS		13.48	15.02	5	25	5	110	0.5	0.2	11	Z15
	A	13.48	14.09								Z15A
	B	13.95	14.56								Z15B
	C	14.42	15.02								Z15C
UZ-16BS		14.87	16.50	5	25	5	150	0.5	0.2	12	Z16
	A	14.87	15.50								Z16A
	B	15.33	15.96								Z16B
	C	15.79	16.50								Z16C

Type No.		Zener voltage			Dynamic resistance		Dynamic resistance		Reverse direction characteristic		Marking
		Min	Max	Measurement condition Iz(mA)	Max Rz (Ω)	Measurement condition Iz(mA)	Max Rz (Ω)	Measurement condition Iz(mA)	Max Rz (μA)	Measurement condition VR(V)	
UZ-18BS		16.34	18.30	5	30	5	150	0.5	0.2	13	Z18
	A	16.34	17.06								Z18A
	B	16.90	17.67								Z18B
	C	17.51	18.30								Z18C
UZ-20BS		18.14	20.45	5	30	5	200	0.5	0.2	15	Z20
	A	18.14	18.96								Z20A
	B	18.80	19.68								Z20B
	C	19.52	20.45								Z20C
UZ-22BS		20.23	22.61	5	30	5	200	0.5	0.2	17	Z22
	A	20.23	21.08								Z22A
	B	20.76	21.65								Z22B
	C	21.22	22.09								Z22C
	D	21.68	22.61								Z22D
UZ-24BS		22.26	24.81	5	35	5	200	0.5	0.2	19	Z24
	A	22.26	23.12								Z24A
	B	22.75	23.73								Z24B
	C	23.29	24.27								Z24C
	D	23.81	24.81								Z24D
UZ-27BS		24.26	27.64	5	45	5	250	0.5	0.2	21	Z27
	A	24.26	25.52								Z27A
	B	24.97	26.26								Z27B
	C	25.63	26.95								Z27C
	D	26.29	27.64								Z27D
UZ-30BS		26.99	30.51	5	55	5	250	0.5	0.2	23	Z30
	A	26.99	28.39								Z30A
	B	27.70	29.13								Z30B
	C	28.36	29.82								Z30C
	D	29.02	30.51								Z30D
UZ-33BS		29.68	33.11	5	65	5	250	0.5	0.2	25	Z33
	A	29.68	31.22								Z33A
	B	30.32	31.88								Z33B
	C	30.90	32.50								Z33C
	D	31.49	33.11								Z33D
UZ-36BS		32.14	35.77	5	75	5	250	0.5	0.2	27	Z36
	A	32.14	33.79								Z36A
	B	32.79	34.49								Z36B
	C	33.40	35.13								Z36C
	D	34.01	35.77								Z36D
UZ-39BS		34.68	38.52	5	85	5	250	0.5	0.2	30	Z39
	A	34.68	36.47								Z39A
	B	35.36	37.19								Z39B
	C	36.00	37.85								Z39C
	D	36.63	38.52								Z39D
UZ-43BS	B	40	45	5	90	5	-	0.5	0.2	33	Z43B
UZ-47BS	B	44	49	5	90	5	-	0.5	0.2	36	Z47B
UZ-51BS	B	48	54	5	110	5	-	0.5	0.2	39	Z51B

For specifications of diodes other the standard ones consult the nearest dealer.

UZ Series Glass Sealed Standard Zener Diodes



● Feature

Small,light,high-quality diode with

DHD (glass-sealed) structure.

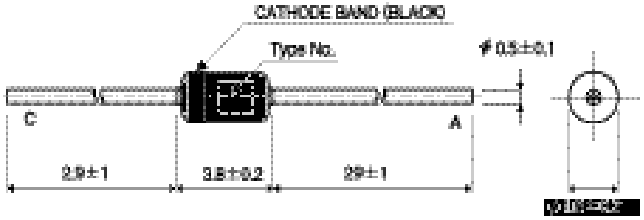
● Maximum rating

Storage temperature :-65℃ ~ +175 ℃

Junction temperature :+175℃

Maximum power dissipation :500mW (Ta=25℃)

● Dimension(mm): DO-35



● Specifications (UZ series)

Type No		Zener voltage			Dynamic resistance		Temperature coefficient on Vz (%/℃)	Reverse direction characteristic		Marking	Type No		Zener voltage			Dynamic resistance		Temperature coefficient on Vz (%/℃)	Reverse direction characteristic		Marking
		Min	Max	Measurement condition Iz(mA)	Max Rz (Ω)	Measurement condition Iz(mA)		Max IR (μA)	Measurement condition VR(V)				Min	Max	Measurement condition Iz(mA)	Max Rz (Ω)	Measurement condition Iz(mA)		Max IR (μA)	Measurement condition VR(V)	
UZ-2.0	A	1.8	2.3	10	100	10	-0.75	100	0.5	Z2.0A	UZ-5.1	A	4.7	5.8	10	50	10	0.035	10	1.5	Z5.1A
	B	1.9	2.1							Z2.0B		B	4.8	5.4							Z5.1B
UZ-2.2	A	2.0	2.5	10	100	10	-0.75	100	0.7	Z2.2A	UZ-5.6		5.2	6.0	10	20	10	0.04	10	1	Z5.6
	B	2.1	2.3							Z2.2B		L	5.2	5.6							Z5.6L
UZ-2.4	A	2.2	2.7	10	100	10	-0.07	100	1	Z2.4A		M	5.4	5.8							Z5.6M
	B	2.3	2.6							Z2.4B		H	5.6	6.0							Z5.6H
UZ-2.7	A	2.4	3.2	10	100	10	-0.07	80	1	Z2.7A	UZ-6.2		5.8	6.6	10	10	10	0.035	1	1.5	Z6.2
	B	2.6	2.9							Z2.7B		L	5.8	6.2							Z6.2L
UZ-3.0	A	2.6	3.5	10	80	10	-0.07	50	1	Z3.0A		M	6.0	6.4							Z6.2M
	B	2.8	3.2							Z3.0B		H	6.2	6.6							Z6.2H
UZ-3.3	A	3.0	3.8	10	70	10	-0.65	40	1	Z3.3A	UZ-6.8		6.4	7.2	10	10	10	0.04	1	2	Z6.8
	B	3.1	3.5							Z3.3B		L	6.4	6.8							Z6.8L
UZ-3.6	A	3.3	4.1	10	70	10	-0.06	10	1	Z3.6A		M	6.6	7.0							Z6.8M
	B	3.4	3.8							Z3.6B		H	6.8	7.2							Z6.8H
UZ-3.9	A	3.6	4.5	10	70	10	-0.04	10	1	Z3.9A	UZ-7.5		7.0	7.9	10	10	10	0.052	1	3	Z7.5
	B	3.7	4.1							Z3.9B		L	7.0	7.5							Z7.5L
UZ-4.3	A	3.9	4.9	10	60	10	-0.02	10	1	Z4.3A		M	7.2	7.7							Z7.5M
	B	4.0	4.6							Z4.3B		H	7.5	7.9							Z7.5H
UZ-4.7	A	4.3	5.3	10	60	10	-0.01	10	1	Z4.7A											
	B	4.4	5.0							Z4.7B											

●Specifications (UZ Series)

Type No.		Zener voltage			Dynamic resistance		Temperature coefficient on Vz (%/℃)	Reverse direction characteristic		Marking	Type No.		Zener voltage			Dynamic resistance		Temperature coefficient on Vz (%/℃)	Reverse direction characteristic		Marking
		Min	Max	Measurement condition Iz(mA)	Max Rz (Ω)	Measurement condition Iz(mA)		Max IR (μA)	Measurement condition VR(V)				Min	Max	Measurement condition Iz(mA)	Max Rz (Ω)	Measurement condition Iz(mA)		Max IR (μA)	Measurement condition VR(V)	
UZ-8.2B		7.7	8.7	10	10	10	0.055	1	4	Z8.2	UZ-20B		18.9	21.1	5	40	5	0.08	1	16	Z20
	L	7.7	8.2							Z8.2L		L	18.9	20.0							Z20L
	M	7.9	8.5							Z8.2M		M	19.1	20.9							Z20M
	H	8.2	8.7							Z8.2H		H	20.0	21.1							Z20H
UZ-9.1B		8.5	9.6	10	10	10	0.055	1	6	Z9.1	UZ-22B		20.9	23.1	5	40	5	0.08	1	18	Z22
	L	8.5	9.1							Z9.1L		L	20.9	22.0							Z22L
	M	8.7	9.4							Z9.1M		M	21.1	22.8							Z22M
	H	9.1	9.6							Z9.1H		H	22.0	23.1							Z22H
UZ-10B		9.9	10.6	10	15	5	0.06	1	8	Z10	UZ-24B		22.8	25.7	5	50	5	0.085	1	20	Z24
	L	9.4	10.0							Z10L		L	22.8	24.2							Z24L
	M	9.6	10.4							Z10M		M	23.1	25.5							Z24M
	H	10.0	10.6							Z10H		H	24.2	25.7							Z24H
UZ-11B		10.4	11.6	5	15	5	0.06	1	9	Z11	UZ-27B		25.5	30.0	5	55	5	0.09	1	22	Z27
	L	10.4	11.0							Z11L		L	25.5	27.0							Z27L
	M	10.6	11.4							Z11M		M	25.7	28.0							Z27M
	H	110.0	11.6							Z11H		H	27.0	30.0							Z27H
UZ-12B		11.4	12.6	5	20	5	0.065	1	10	Z12	UZ-30B		28.0	33.0	5	85	5	0.092	1	24	Z30
	L	11.4	12.0							Z12L		L	28.0	31.0							Z30L
	M	11.6	12.4							Z12M		M	29.0	32.0							Z30M
	H	12.0	12.6							Z12H		H	30.0	33.0							Z30H
UZ-13B		12.4	14.1	5	25	5	0.065	1	11	Z13	UZ-33	B	30.0	36.0	5	100	5	0.095	1	25	Z33
	L	12.4	13.2							Z13L											
	M	12.6	13.9							Z13M	UZ-36	B	33.0	39.0	5	110	5	0.095	1	27	Z36
	H	13.2	14.1							Z13H											
UZ-15B		13.9	15.6	5	30	5	0.07	1	12	Z15	UZ-39	B	36.0	43.0	5	120	5	0.095	1	30	Z39
	L	13.9	14.8							Z15L											
	M	14.1	15.4							Z15M	UZ-43	B	39.0	47.0	5	130	5	0.095	1	33	Z43
	H	14.8	15.6							Z15H											
UZ-16B		15.4	17.1	5	30	5	0.07	1	14	Z16	UZ-47	B	43.0	51.0	5	140	5	0.098	1	36	Z47
	L	15.4	16.2							Z16L											
	M	15.6	16.9							Z16M	UZ-51	B	47.0	51.0	5	150	5	0.098	1	36	Z51
	H	16.2	17.1							Z16H											
UZ-18B		16.9	19.1	5	30	5	0.75	1	15	Z18	UZ-56	B	51.0	62.0	5	160	5	0.098	1	43	Z56
	L	16.9	18.0							Z18L											
	M	17.1	18.9							Z18M	UZ-62	B	56.0	68.0	2	450	2	0.12	1	47	Z62
	H	18.0	19.1							Z18H											

NOTES) 1. The Zener voltage (Vz) is measured 40 ms after power is supplied.

2. The operating resistances (Zz, Zzk) are measured by superimposing a minute alternating current on the regulated current(Iz).

● Electrical characteristics curves (Ta=25℃)

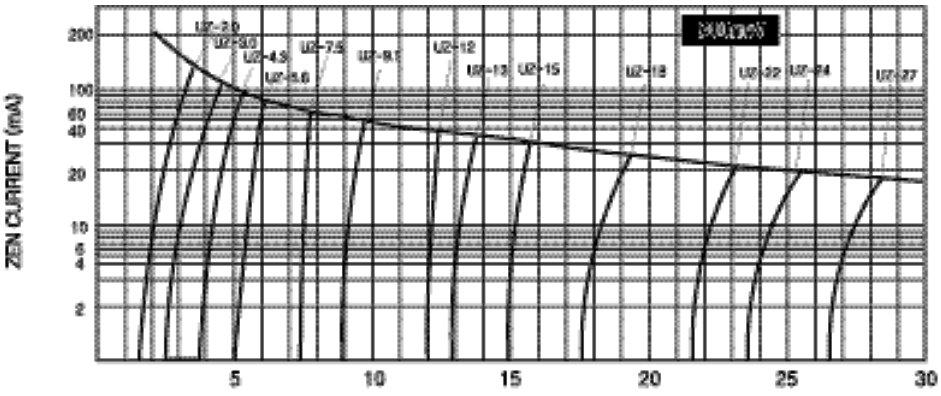


Fig1 Zener characteristics

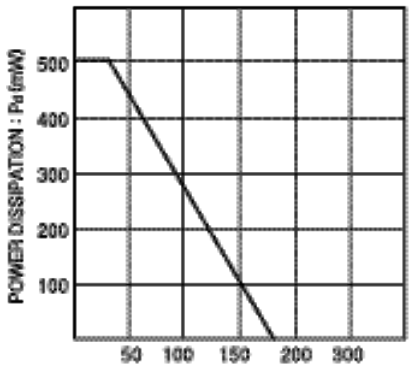


Fig. 2 Derating curve

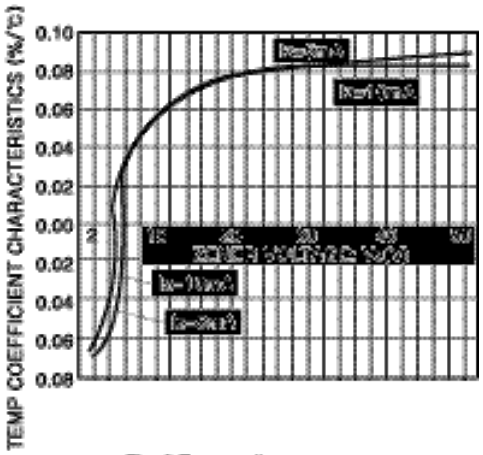


Fig. 3 Zener voltage-
temp.coefficient characteristics.

● BZX 55C Series (500m Watt)

Type No.	Nominal Zener Voltage Vz at Izt*	Test Current IzT	Maxmum Zener Impedance		Typical Temperature coefficient	Maximum Reverse Leakage Current		Maximum Regulator Current IzM
			ZzT at IzT	Zzk at Izk=1mA		IR	Test-Voltage suffix B	
	Volts	mA	Ω	Ω	%/℃	㎂	Volts	mA
BZX55-C2V4	2.28-2.56	5	85	600	- 0.070	50	1.0	150
BZX55-C2V7	2.5-2.9	5	85	600	- 0.070	10	1.0	135
BZX55-C3V0	2.8-3.2	5	85	600	- 0.070	5	1.0	125
BZX55-C3V3	3.1-3.5	5	85	600	- 0.065	2	1.0	115
BZX55-C3V6	3.4-38.	5	85	600	- 0.060	2	1.0	105
BZX55-C3V9	3.7-4.1	5	85	600	- 0.050	2	1.0	95
BZX55-C4V3	4.0-4.6	5	75	600	- 0.025	1	1.0	90
BZX55-C4V7	4.4-5.0	5	60	600	- 0.010	0.5	1.0	85
BZX55-C5V1	4.8-5.4	5	35	550	+ 0.015	0.1	1.0	80
BZX55-C5V6	5.2-6.0	5	25	450	+ 0.025	0.1	1.0	70
BZX55-C6V2	5.8-6.6	5	10	200	+ 0.035	0.1	2.0	64
BZX55-C6V8	6.4-7.2	5	8	150	+ 0.045	0.1	3.0	58
BZX55-C7V5	7.0-7.9	5	7	50	+ 0.050	0.1	5.0	53
BZX55-C8V2	7.7-8.7	5	7	50	+ 0.050	0.1	6.0	47
BZX55-C9V1	8.5-9.6	5	10	50	+ 0.060	0.1	7.0	43
BZX55-C10	9.4-10.6	5	15	70	+ 0.070	0.1	7.5	40
BZX55-C11	10.4-11.6	5	20	70	+ 0.070	0.1	8.5	36
BZX55-C12	11.4-12.7	5	20	90	+ 0.070	0.1	9.0	32
BZX55-C13	12.4-14.1	5	26	110	+ 0.070	0.1	10	29
BZX55-C15	13.8-15.6	5	30	110	+ 0.070	0.1	11	27
BZX55-C16	15.3-17.1	5	30	170	+ 0.070	0.1	12	24
BZX55-C18	16.8-19.1	5	40	170	+ 0.070	0.1	14	21
BZX55-C20	18.8-21.2	5	50	220	+ 0.070	0.1	15	20
BZX55-C22	20.8-23.3	5	55	220	+ 0.070	0.1	17	18
BZX55-C24	22.8-25.6	5	55	220	+ 0.080	0.1	18	16
BZX55-C27	25.1-28.9	5	80	220	+ 0.080	0.1	20	14
BZX55-C30	28-32	5	80	220	+ 0.080	0.1	22	13
BZX55-C33	31-35	5	80	220	+ 0.080	0.1	24	12
BZX55-C36	34-38	5	80	220	+ 0.080	0.1	27	11
BZX55-C39	37-41	2.5	90	500	+ 0.080	0.1	30	10
BZX55-C43	40-46	2.5	90	600	+ 0.080	0.1	33	9.2
BZX55-C47	44-50	2.5	110	700	+ 0.080	0.1	36	8.5

STANDARD VOLTAGE TOLERANCE IS 5% AND :
SUFFIX "A" FOR ±1%
SUFFIX "B" FOR ±2%
SUFFIX "C" FOR ±5%
SUFFIX "D" FOR ±20%

ZENER DIODE MARKING SYSTEM:

DO-34

Z	3V6
1*	2*

DO-35

BZX55	C3V6
1*	2*

1* Type No.
2* Vz of zener diode, V code is instead of decimal point. e. g., 3V6=3.6V
#Measured with pulses Tp=20m Sec.

● 1N52 Series (500mWatt)

Type No.	Nominal Zener Voltage Vz at Izt*	Test Current IzT	Maxmum Zener Impedance		Typical Temperature coefficient	Maximum Reverse Leakage Current		Maximum Regulator Current IzM
			ZzT at IzT	Zzk at Izk=1mA		IR	Test-Voltage suffix B	
	Volts	mA	Ω	Ω	%/℃	μA	Volts	mA
1N5221B	2.4	20	30	1200	- 0.085	100	1.0	191
1N5222B	2.5	20	30	1250	- 0.085	100	1.0	182
1N5223B	2.7	20	30	1300	- 0.080	75	1.0	168
1N5224B	2.8	20	30	1400	- 0.080	75	1.0	162
1N5225B	3.0	20	29	1600	- 0.075	50	1.0	151
1N5226B	3.3	20	28	1600	- 0.070	25	1.0	138
1N5227B	3.6	20	24	1700	- 0.065	15	1.0	126
1N5228B	3.9	20	23	1900	- 0.060	10	1.0	115
1N5229B	4.3	20	22	2000	+ 0.055	5	1.0	106
1N5230B	4.7	20	19	1900	+ 0.030	5	2.0	97
1N5231B	5.1	20	17	1600	+ 0.030	5	2.0	89
1N5232B	5.6	20	11	1600	+ 0.038	5	3.0	81
1N5233B	6.0	20	7	1600	+ 0.038	5	3.5	76
1N5234B	6.2	20	7	1000	+ 0.045	5	4.0	73
1N5235B	6.8	20	5	750	+ 0.050	3	5.0	67
1N5236B	7.5	20	6	200	+ 0.058	3	6.0	61
1N5237B	8.2	20	8	200	+ 0.062	3	6.5	55
1N5238B	8.7	20	8	600	+ 0.065	3	6.5	52
1N5239B	9.1	20	10	600	+ 0.068	3	7.0	50
1N5240B	10	20	17	600	+ 0.075	3	8.0	46
1N5241B	11	20	22	600	+ 0.076	2	8.4	41
1N5242B	12	20	30	600	+ 0.077	1	9.1	38
1N5243B	13	9.5	13	600	+ 0.079	0.5	9.9	35
1N5244B	14	9.0	15	600	+ 0.082	0.1	10	32
1N5245B	15	8.5	16	600	+ 0.082	0.1	11	30
1N5246B	16	7.8	17	600	+ 0.083	0.1	12	28
1N5247B	17	7.4	19	600	+ 0.084	0.1	13	27
1N5248B	18	7.0	21	600	+ 0.085	0.1	14	25
1N5249B	19	6.6	23	600	+ 0.086	0.1	14	24
1N5250B	20	6.2	25	600	+ 0.086	0.1	15	23
1N5251B	22	5.6	29	600	+ 0.087	0.1	17	21.2
1N5252B	24	5.2	33	600	+ 0.087	0.1	18	19.1
1N5253B	25	5.0	35	600	+ 0.089	0.1	19	18.2
1N5254B	27	4.6	41	600	+ 0.090	0.1	21	16.8
1N5255B	28	4.5	44	600	+ 0.091	0.1	21	16.2
1N5256B	30	4.2	49	600	+ 0.091	0.1	23	15.1
1N5257B	33	3.8	58	700	+ 0.092	0.1	25	13.8
1N5258B	36	3.4	70	700	+ 0.093	0.1	27	12.6
1N5259B	39	3.2	80	800	+ 0.094	0.1	30	11.5
1N5260B	43	3	93	900	+ 0.095	0.1	33	10.6
1N5261B	47	2.7	150	1000	+ 0.095	0.1	36	9.7

STANDARD VOLTAGE TOLERANCE IS ± 5% AND :
SUFFIX "A" FOR ±3%
SUFFIX "B" FOR ±5%
SUFFIX "C" FOR ±10%
SUFFIX "D" FOR ±20%
* MEASURED WITH PULSES Tp=40m SEC.
Package : DO-34, DO-35 Glass Sealed

ZENER DIODE MARKING SYSTEM:

$$\frac{1N5225}{1^*} \qquad \frac{B}{2^*}$$

1* Type No.
2* TOLERANCE OF VZ
3* e.g., 1N5225B=3.0V±5%

● 1N5262B..1N5281B Series (500mWatt)

V_F= 1.1V Max@I_F= 200mA for all types

Type No.	Nominal Zener Voltage Vz at Izt*	Test Current IzT	Maxmum Zener Impedance		Typical Temperature coefficient	Maximum Reverse Leakage Current		Maximum Regulator Current IzM
			ZzT at IzT	Zzk at Izk=1mA		IR	Test-Voltage suffix B	
	Volts	mA	Ω	Ω	%/℃	㎂	Volts	mA
1N5262B	48.5-53.55	2.5	125	1100	+ 0.0096	0.1	39	-
1N5263B	53.2-58.8	2.2	150	1300	+ 0.0096	0.1	43	-
1N5264B	57-63	2.1	170	1400	+ 0.0097	0.1	46	-
1N5265B	58.9-65.1	2.0	185	1400	+ 0.0097	0.1	47	-
1N5266B	64.6-71.4	1.8	230	1600	+ 0.0097	0.1	52	-
1N5267B	71.25-78.75	1.7	270	1700	+0.0098	0.1	56	-
1N5268B	77.9-86.1	1.5	330	2000	+ 0.0098	0.1	62	-
1N5269B	82.65-91.35	1.4	370	2200	+ 0.0099	0.1	68	-
1N5270B	86.45-95.55	1.4	400	2300	+ 0.0099	0.1	69	-
1N5271B	95-105	1.3	500	2600	+ 0.11	0.1	76	-
1N5272B	104.5-115.5	1.1	750	3000	+ 0.11	0.1	84	-
1N5273B	114-126	1	900	4000	+ 0.11	0.1	91	-
1N5274B	123.5-136.5	0.95	1100	4500	+ 0.11	0.1	99	-
1N5275B	133-147	0.9	1300	4500	+ 0.11	0.1	106	-
1N5276B	142-157.5	0.85	1500	5000	+ 0.11	0.1	114	-
1N5277B	152-168	0.8	1700	5500	+ 0.11	0.1	122	-
1N5278B	161.5-178.5	0.74	1900	5500	+ 0.11	0.1	129	-
1N5279B	171-189	0.68	2200	6000	+ 0.11	0.1	137	-
1N5280B	180.5-199.5	0.66	2400	6500	+ 0.11	0.1	144	-
1N5281B	190-210	0.65	2500	7000	+ 0.11	0.1	152	-

● 1N5985B..1N6025B Series (500mWatt)

V_F = 1.1V Max@I_F = 200mA for all types

Type No.	Nominal Zener Voltage Vz at Izt*	Test Current IzT	Maxmum Zener Impedance		Typical Temperature coefficient	Maximum Reverse Leakage Current		Maximum Regulator Current IzM
			ZzT at IzT	Zzk at Izk=1mA		IR	Test-Voltage suffix B	
	Volts	mA	Ω	Ω	%/℃	μA	Volts	mA
1N5985B	2.4	5	100	1800	-	100	1.0	208
1N5986B	2.7	5	100	1900	-	75	1.0	185
1N5987B	3.0	5	95	2000	-	50	1.0	167
1N5988B	3.3	5	95	2200	-	25	1.0	152
1N5989B	3.6	5	90	2300	-	15	1.0	139
1N5990B	3.9	5	90	2400	-	10	1.0	128
1N5991B	4.3	5	88	2500	-	5	1.0	116
1N5992B	4.7	5	70	2200	-	3	1.5	106
1N5993B	5.1	5	50	2050	-	2	2	98
1N5994B	5.6	5	25	1800	-	2	3	89
1N5995B	6.2	5	10	1300	-	1	4	81
1N5996B	6.8	5	8	750	-	1	5.2	74
1N5997B	7.5	5	7	600	-	0.5	6	67
1N5998B	8.2	5	7	600	-	0.5	6.5	61
1N5999B	9.1	5	10	600	-	0.5	7	55
1N6000B	10	5	15	600	-	0.1	8	50
1N6001B	11	5	18	600	-	0.1	8.4	45
1N6002B	12	5	22	600	-	0.1	9.1	42
1N6003B	13	5	25	600	-	0.1	9.9	38
1N6004B	15	5	32	600	-	0.1	11	33
1N6005B	16	5	36	600	-	0.1	12	31
1N6006B	18	5	42	600	-	0.1	14	28
1N6007B	20	5	48	600	-	0.1	15	25
1N6008B	22	5	55	600	-	0.1	17	23
1N6009B	24	5	62	600	-	0.1	18	21
1N6010B	27	5	70	600	-	0.1	21	19
1N6011B	30	5	78	600	-	0.1	23	17
1N6012B	33	5	88	700	-	0.1	25	15
1N6013B	36	5	95	700	-	0.1	27	14
1N6014B	39	5	130	800	-	0.1	30	13
1N6015B	43	5	150	900	-	0.1	33	12
1N6016B	47	5	170	1000	-	0.1	36	11
1N6017B	51	5	180	1300	-	0.1	39	9.8
1N6018B	56	5	200	1400	-	0.1	43	8.9
1N6019B	62	5	225	1400	-	0.1	47	8
1N6020B	68	5	240	1600	-	0.1	52	7.4
1N6021B	65	5	265	1700	-	0.1	56	6.7
1N6022B	82	5	280	2000	-	0.1	62	6.1
1N6023B	91	5	300	2300	-	0.1	69	5.5
1N6024B	100	5	500	2600	-	0.1	76	5
1N6025B	110	5	650	3000	-	0.1	84	4.5

Standard voltage tolerance is ± 5%

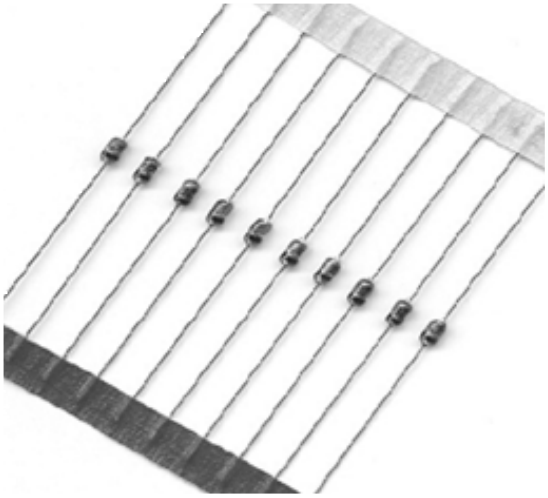
● 1N957B..1N992B Series (500mWatt)

V_F = 1.5V Max@I_F = 200mA for all types

Type No.	Nominal Zener Voltage Vz at Izt*	Test Current IzT	Maxmum Zener Impedance			Maximum Reverse Leakage Current		Maximum Regulator Current IzM
			ZzT at IzT	Zzk@ Izk		IR	Test-Voltage suffix B	
	Volts	mA	Ω	Ω	mA	μA	Volts	mA
1N957B	6.8	18.5	4.5	700	1.0	150	5.2	47
1N958B	7.5	16.5	5.5	700	0.5	75	5.7	42
1N959B	8.2	15	6.5	700	0.5	50	6.2	38
1N960B	9.1	14	7.5	700	0.5	25	6.9	35
1N961B	10	12.5	8.5	700	0.25	10	7.6	32
1N962B	11	11.5	9.5	700	0.25	5	8.4	28
1N963B	12	10.5	11.5	700	0.25	5	9.1	26
1N964B	13	9.5	13	700	0.25	5	9.9	24
1N965B	15	8.5	16	700	0.25	5	11.4	21
1N966B	16	7.8	17	700	0.25	5	12.2	19
1N967B	18	7.0	21	750	0.25	5	13.7	17
1N968B	20	6.2	25	750	0.25	5	15.2	15
1N969B	22	5.6	29	750	0.25	5	16.7	14
1N970B	24	5.2	33	750	0.25	5	18.2	13
1N971B	27	4.6	41	750	0.25	5	20.6	11
1N972B	30	4.2	49	1000	0.25	5	22.8	10
1N973B	33	4.8	58	1000	0.25	5	25.1	9.2
1N974B	36	3.4	70	1000	0.25	5	27.4	8.5
1N975B	39	3.2	80	1000	0.25	5	29.7	7.8
1N976B	43	3	93	1500	0.25	5	32.7	7
1N977B	47	2.7	105	1500	2.5	5	35.8	6.4
1N978B	51	2.5	125	1500	2.5	5	38.8	5.9
1N979B	56	2.2	150	2000	2.5	5	42.6	5.4
1N980B	62	2	185	2000	2.5	5	47.7	4.9
1N981B	68	1.8	230	2000	2.5	5	51.7	4.5
1N982B	75	1.7	270	2000	2.5	5	56	4.1
1N983B	82	1.5	330	3000	2.5	5	62.6	3.7
1N984B	91	1.4	400	3000	2.5	5	69.2	3.3
1N985B	100	1.3	500	3000	2.5	5	76	3
1N986B	110	1.1	750	4000	2.5	5	83.6	2.7
1N987B	120	1	900	4500	2.5	5	91.2	2.5
1N988B	130	0.95	1100	5000	2.5	5	98.8	2.3
1N989B	150	0.85	1500	6000	2.5	5	114	2
1N990B	160	0.8	1700	6500	2.5	5	121.6	1.9
1N991B	180	0.68	2200	7100	2.5	5	136.8	1.7
1N992B	200	0.65	2500	8000	2.5	5	152	1.5

Standard voltage tolerance is ± 5%

UZPs Series Power Zener Diode



● Feature

It can used for 1W whose rise characteristic is sharp.

Mini tube type DO-40

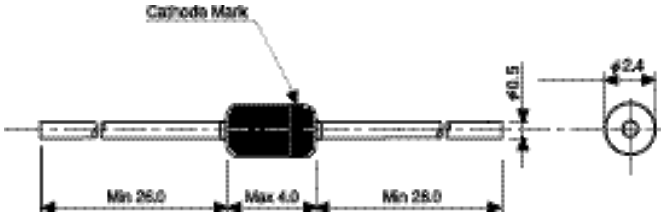
● Maximum rating

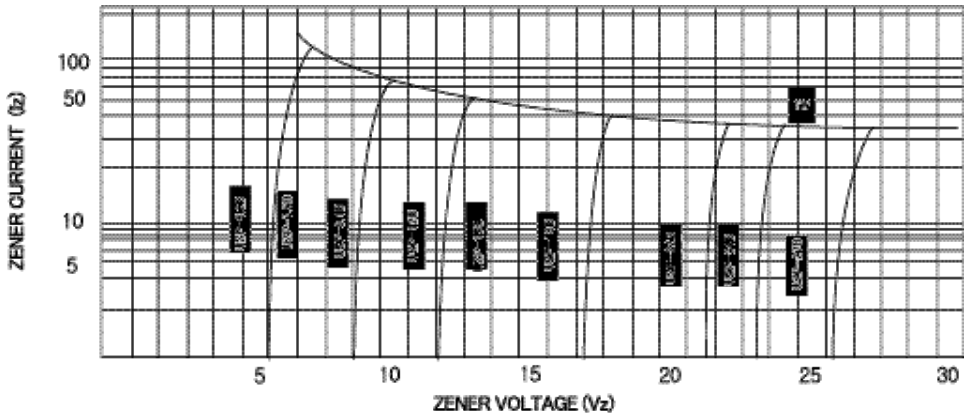
Storage temperature : -65℃ ~ +175℃

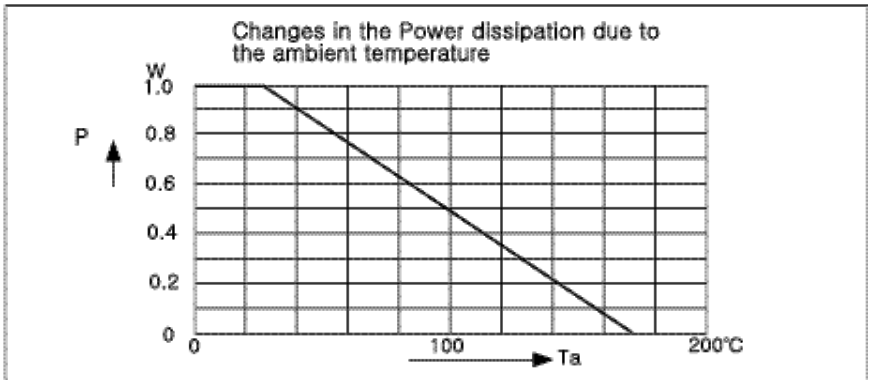
Junction temperature : +175℃

Maximum power dissipation : 1000mW (Ta=25℃)

● Dimension(mm): DO-40





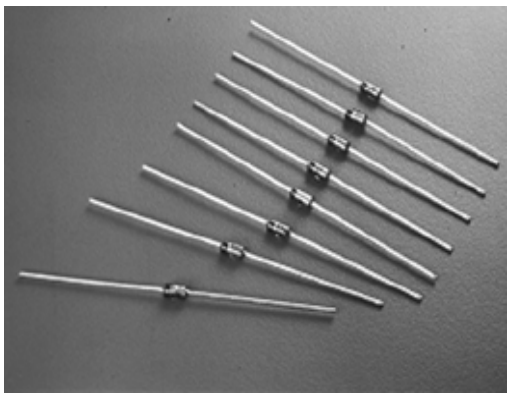


● Specifications UZPs Series

Type No.	Zener voltage			Dynamic resistance		Temperature coefficienton Vz (%/℃)	Reverse direction characteristic		Marking
	Min	Max	Measurement condition Iz (mA)	Max Rz (Ω)	Measurement condition Iz (mA)		Max IR (μA)	Measurement condition VR (V)	
UZPs-2.0B	1.9	2.1	40	25	40	-0.150	200	0.5	Z2.0B
UZPs-2.2B	2.1	2.3	40	20	40	-0.120	200	0.7	Z2.2B
UZPs-2.4B	2.3	2.6	40	20	40	-0.100	200	1.0	Z2.4B
UZPs-2.7B	2.6	2.9	40	20	40	-0.070	200	1.0	Z2.7B
UZPs-3.0B	2.8	3.2	40	20	40	-0.070	200	1.0	Z3.0B
UZPs-3.3B	3.1	3.5	40	20	40	-0.065	100	1.0	Z3.3B
UZPs-3.6B	3.4	3.8	40	20	40	-0.055	80	1.0	Z3.6B
UZPs-3.9B	3.7	4.1	40	20	40	-0.045	60	1.0	Z3.9B
UZPs-4.3B	4.0	4.6	40	20	40	-0.040	40	1.0	Z4.3B
UZPs-4.7B	4.4	5.0	40	15	40	-0.020	40	1.0	Z4.7B
UZPs-5.1B	4.8	5.4	30	10	30	-0.010	20	1.0	Z5.1B
UZPs-5.6B	5.2	6.0	30	6	30	-0.035	10	1.0	Z5.6B
UZPs-6.2B	5.8	6.6	30	6	30	-0.035	10	2.0	Z6.2B
UZPs-6.8B	6.4	7.2	30	6	30	-0.040	10	3.0	Z6.8B
UZPs-7.5B	7.0	7.9	30	6	30	-0.047	10	3.0	Z7.5B
UZPs-8.2B	7.7	8.7	30	6	30	-0.055	10	4.0	Z8.2B
UZPs-9.1B	8.5	9.6	30	6	30	-0.060	10	5.0	Z9.1B
UZPs-10B	9.1	10.6	30	7	30	-0.062	10	7.0	Z10B
UZPs-11B	10.4	11.6	20	9	20	-0.065	10	9.0	Z11B
UZPs-12B	11.4	12.6	20	10	20	-0.069	10	10.0	Z12B
UZPs-13B	12.4	14.1	20	10	20	-0.073	10	11.0	Z13B
UZPs-15B	13.9	15.6	20	15	20	-0.075	10	12.0	Z15B
UZPs-16B	15.4	17.1	20	17	20	-0.077	10	14.0	Z16B
UZPs-18B	16.9	19.1	20	20	20	-0.078	10	16.0	Z18B
UZPs-20B	18.9	21.1	10	22	10	-0.080	10	18.0	Z20B
UZPs-22B	20.9	23.1	10	24	10	-0.082	10	19.0	Z22B
UZPs-24B	22.8	25.6	10	28	10	-0.085	10	20.0	Z24B
UZPs-27B	25.5	30.0	10	35	10	-0.087	10	23.0	Z27B
UZPs-30B	28.0	33.0	10	40	10	-0.087	10	25.0	Z30B
UZPs-33B	31.4	34.6	10	50	10	-0.090	10	25.0	Z33B
UZPs-36B	34.0	39.0	10	60	10	-0.090	10	26.0	Z36B
UZPs-39B	36.5	41.0	10	70	10	-0.095	10	27.0	Z39B
UZPs-43B	40.0	46.0	10	80	10	-0.095	10	30.0	Z43B
UZPs-47B	43.0	50.0	10	90	10	-0.095	10	33.0	Z47B

For specifications of diodes other the standard ones.
consult the nearest dealer.

UZP Series Standard Power Zener Diode



◈ Feature

It can used for 1W whose rise characteristic is sharp.

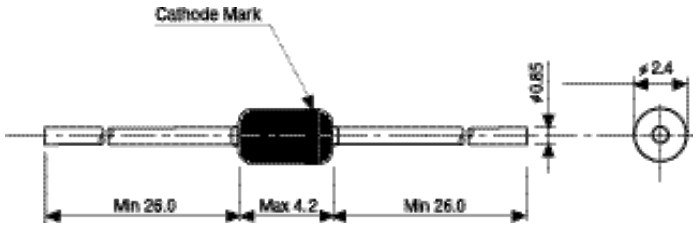
◈ Maximum rating

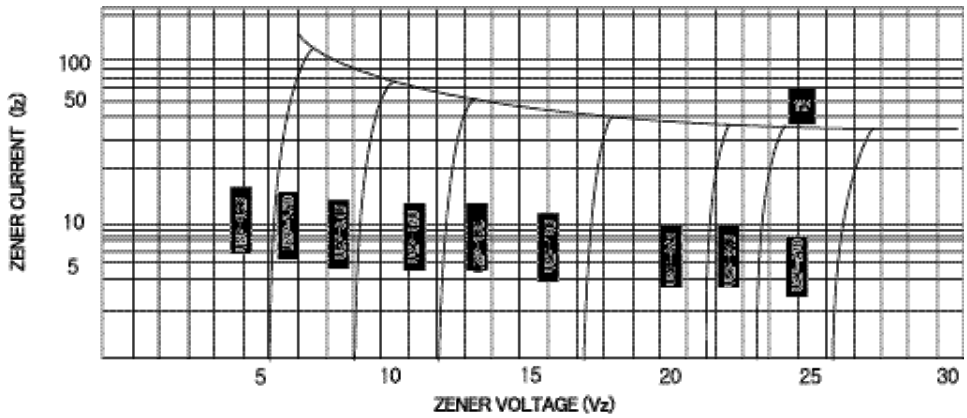
Storage temperature : -65℃ ~ +175℃

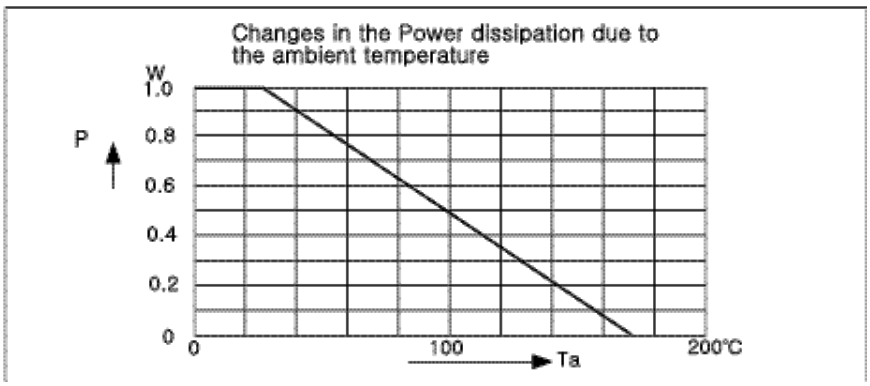
Junction temperature : +175℃

Maximum power dissipation : 1W (Ta=25℃)

◈ Dimension(mm) : DO-41







● Specifications UZP Series

Type No.	Zener voltage			Dynamic resistance		Temperature coefficienton Vz (%/℃)	Reverse direction characteristic		Marking
	Min	Max	Measurement condition Iz (mA)	Max Rz (Ω)	Measurement condition Iz (mA)		Max IR (μA)	Measurement condition VR (V)	
UZP-2.7B	2.6	2.9	40	20	40	-0.070	200	1.0	Z2.7B
UZP-3.0B	2.8	3.2	40	20	40	-0.070	200	1.0	Z3.0B
UZP-3.3B	3.1	3.5	40	20	40	-0.065	100	1.0	Z3.3B
UZP-3.6B	3.4	3.8	40	20	40	-0.055	80	1.0	Z3.6B
UZP-3.9B	3.7	4.1	40	20	40	-0.045	60	1.0	Z3.9B
UZP-4.3B	4.0	4.6	40	20	40	-0.040	40	1.0	Z4.3B
UZP-4.7B	4.4	5.0	40	15	40	-0.020	40	1.0	Z4.7B
UZP-5.1B	4.8	5.4	30	10	30	-0.010	20	1.0	Z5.1B
UZP-5.6B	5.2	6.0	30	6	30	-0.035	10	1.0	Z5.6B
UZP-6.2B	5.8	6.6	30	6	30	-0.035	10	2.0	Z6.2B
UZP-6.8B	6.4	7.2	30	6	30	-0.040	10	3.0	Z6.8B
UZP-7.5B	7.0	7.9	30	6	30	-0.047	10	3.0	Z7.5B
UZP-8.2B	7.7	8.7	30	6	30	-0.055	10	4.0	Z8.2B
UZP-9.1B	8.5	9.6	30	6	30	-0.060	10	5.0	Z9.1B
UZP-10B	9.1	10.6	30	7	30	-0.062	10	7.0	Z10B
UZP-11B	10.4	11.6	20	9	20	-0.065	10	9.0	Z11B
UZP-12B	11.4	12.6	20	10	20	-0.069	10	10.0	Z12B
UZP-13B	12.4	14.1	20	10	20	-0.073	10	11.0	Z13B
UZP-15B	13.9	15.6	20	15	20	-0.075	10	12.0	Z15B
UZP-16B	15.4	17.1	20	17	20	-0.077	10	14.0	Z16B
UZP-18B	16.9	19.1	20	20	20	-0.078	10	16.0	Z18B
UZP-20B	18.9	21.1	10	22	10	-0.080	10	18.0	Z20B
UZP-22B	20.9	23.1	10	24	10	-0.082	10	19.0	Z22B
UZP-24B	22.8	25.6	10	28	10	-0.085	10	20.0	Z24B
UZP-27B	25.5	30.0	10	35	10	-0.087	10	23.0	Z27B
UZP-30B	28.0	33.0	10	40	10	-0.087	10	25.0	Z30B
UZP-33B	31.4	34.6	10	50	10	-0.090	10	25.0	Z33B
UZP-36B	34.0	39.0	10	60	10	-0.090	10	26.0	Z36B
UZP-39B	36.5	41.0	10	70	10	-0.095	10	27.0	Z39B
UZP-43B	40.0	46.0	10	80	10	-0.095	10	30.0	Z43B
UZP-47B	43.0	50.0	10	90	10	-0.095	10	33.0	Z47B

NOTES) 1. The Zener voltage (Vz) is measured 40 ms after power is supplied.

2. The operating resistances (Zz, Zzk) are measured by superimposing a minute alternating current on the regulated current(Iz).

● IN47 Series (1.0 Watt)

Type No.	Nominal Zener Voltage Vz at Izt*	Test Current IzT	Maxmum Zener Impedance			Maximum Reverse Leakage Current		Surge Current	Maximum Regulator Current IzM
			ZzT at IzT	Zzk at Izk	Izk	IR	Test-Voltage suffix B	IR at Ta=25℃	
	Volts	mA	Ω	Ω	mA	㎂	Volts	mA	mA
1N4728A	3.3	76	10	400	1.0	100	1.0	1380	276
1N4729A	3.6	69	10	400	1.0	100	1.0	1260	252
1N4730A	3.9	64	9	400	1.0	50	1.0	1170	234
1N4731A	4.3	58	9	400	1.0	10	1.0	1085	217
1N4732A	4.7	53	8	500	1.0	10	1.0	965	193
1N4733A	5.1	49	7	550	1.0	10	1.0	890	178
1N4734A	5.6	45	5	600	1.0	10	2.0	810	162
1N4735A	6.2	41	2	700	1.0	10	3.0	730	146
1N4736A	6.8	37	3.5	700	1.0	10	4.0	660	133
1N4737A	7.5	34	4	700	0.5	10	5.0	605	121
1N4738A	8.2	31	4.5	700	0.5	10	6.0	550	110
1N4739A	9.1	28	5	700	0.5	10	7.0	500	100
1N4740A	10	25	7	700	0.25	10	7.6	454	91
1N4741A	11	23	8	700	0.25	5	8.4	414	83
1N4742A	12	21	9	700	0.25	5	9.1	380	76
1N4743A	13	19	10	700	0.25	5	9.9	344	69
1N4744A	15	17	14	700	0.25	5	11.4	304	61
1N4745A	16	15.5	16	700	0.25	5	12.2	285	57
1N4746A	18	14	20	750	0.25	5	13.7	250	50
1N4747A	20	12.5	22	750	0.25	5	15.2	225	45
1N4748A	22	11.5	23	750	0.25	5	16.7	205	41
1N4749A	24	10.5	25	1000	0.25	5	18.2	190	38
1N4750A	25	9.5	35	1000	0.25	5	20.6	170	34
1N4751A	27	8.5	40	1000	0.25	5	22.8	150	30
1N4752A	30	7.5	45	1000	0.25	5	25.1	135	27
1N4753A	33	7.0	50	1500	0.25	5	27.4	125	25
1N4754A	36	6.5	60	1500	0.25	5	29.7	115	23
1N4755A	39	6.0	70	1500	0.25	5	32.7	110	22
1N4756A	43	5.5	80	2000	0.25	5	35.8	95	19
1N4757A	47	5.0	95	2000	0.25	5	38.8	90	18
1N4758A	51	4.5	110	2000	0.25	5	42.6	80	16
1N4759A	56	4.0	125	2000	0.25	5	47.1	70	14
1N4760A	62	3.7	150	2000	0.25	5	51.7	65	13
1N4761A	75	3.3	175	2000	0.25	5	56.0	60	12
1N4762A	82	3	200	3000	0.25	5	62.2	55	11
1N4763A	91	2.8	250	3000	0.25	5	69.2	50	10
1N4764A	100	2.5	350	3000	0.25	5	76.0	45	9

STANDARD VOLTAGE TOLERANCE IS ± 10% AND :
SUFFIX "A" FOR ± 3%
OTGERS TOLERANCES UPON REQUEST.
ZENER DIODE UNMBERING STSTEM: 1N4731 (1*) A (2*)

Package : D0-41 Glass Sealed.

1* Type No.
2* TOLERANCE OF VZ
3* e.g., 1N4731B=4.3V±5%
*MEASURED WITH PULSES Tp=40m SEC.

Zener Diodes (continued)

Type No.	Nominal Zener Voltage	Test Current	Max. Zener Impedance			Leakage Current		Max. Zener Current	Package
	V_Z @ I_{ZT}	I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}	I_{ZK}	I_R @ V_R		I_{ZM}	
	V	mA	Ω	Ω	mA	μA	V	mA	
1.0 watt Zener Diodes --continued									
1SMA4741	11	23	8.0	700	0.25	0.1	8.4	-	SMA
1SMA4742	12	21	9.0	700	0.25	0.1	9.1	-	SMA
1SMA4743	13	19	10.0	700	0.25	0.1	9.9	-	SMA
1SMA4744	15	17	14.0	700	0.25	0.1	11.4	-	SMA
1SMA4745	16	15.5	16.0	700	0.25	0.1	12.2	-	SMA
1SMA4746	18	14.0	20.0	750	0.25	0.1	13.7	-	SMA
1SMA4747	20	12.5	22.0	750	0.25	0.1	15.2	-	SMA
1SMA4748	22	11.5	23.0	750	0.25	0.1	16.7	-	SMA
1SMA4749	24	10.5	25.0	750	0.25	0.1	18.2	-	SMA
1SMA4750	27	9.5	35.0	750	0.25	0.1	20.6	-	SMA
1SMA4751	30	8.5	40.0	1000	0.25	0.1	22.8	-	SMA
1SMA4752	33	7.5	45.0	1000	0.25	0.1	25.1	-	SMA
1SMA4753	36	7.0	50.0	1000	0.25	0.1	27.4	-	SMA
1SMA4754	39	6.5	60.0	1000	0.25	0.1	29.7	-	SMA
1.5 watt Zener Diodes									
1N5926B	11	34.1	5.5	550	0.25	1.0	8.4	136	DO-41
1N5927B	12	31.2	6.5	550	0.25	1.0	9.1	125	DO-41
1N5928B	13	28.6	7.0	550	0.25	1.0	9.9	115	DO-41
1N5929B	15	25.0	9.0	600	0.25	1.0	11.4	100	DO-41
1N5930B	16	23.4	10	600	0.25	1.0	12.2	93	DO-41
1N5931B	18	20.8	12	650	0.25	1.0	13.7	83	DO-41
1N5932B	20	18.7	14	650	0.25	1.0	15.2	75	DO-41
1N5933B	22	17.0	17.5	650	0.25	1.0	16.7	68	DO-41
1N5934B	24	15.6	19	700	0.25	1.0	18.2	62	DO-41
1N5935B	27	13.9	23	700	0.25	1.0	20.6	55	DO-41
1N5936B	30	12.5	26	750	0.25	1.0	22.8	50	DO-41
1N5937B	33	11.4	33	800	0.25	1.0	25.1	45	DO-41
1N5938B	36	10.4	38	850	0.25	1.0	27.4	41	DO-41
1N5939B	39	9.6	45	900	0.25	1.0	29.7	38	DO-41
1SMB5926B	11		5.5	550	0.25	1.0	8.4	136	SMB
1SMB5927B	12	31.2	6.5	550	0.25	1.0	9.1	125	SMB
1SMB5928B	13	28.6	7.0	550	0.25	1.0	9.9	115	SMB
1SMB5929B	15	25.0	9.0	600	0.25	1.0	11.4	100	SMB
1SMB5930B	16	23.4	10	600	0.25	1.0	12.2	93	SMB
1SMB5931B	18	20.8	12	650	0.25	1.0	13.7	83	SMB
1SMB5932B	20	18.7	14	650	0.25	1.0	15.2	75	SMB
1SMB5933B	22	17.0	17.5	650	0.25	1.0	16.7	68	SMB
1SMB5934B	24	15.6	19	700	0.25	1.0	18.2	62	SMB
1SMB5935B	27	13.9	23	700	0.25	1.0	20.6	55	SMB
1SMB5936B	30	12.5	26	750	0.25	1.0	22.8	50	SMB
1SMB5937B	33	11.4	33	800	0.25	1.0	25.1	45	SMB
1SMB5938B	36	10.4	38	850	0.25	1.0	27.4	41	SMB
1SMB5939B	39	9.6	45	900	0.25	1.0	29.7	38	SMB

DO-41

SMA/DO-214AC

SMB/DO-214AA

Zener Diodes (continued)

1.5 Watt

SMA/DO-41

Type No.	Nominal Zener Voltage	Test Current	Max. Zener Impedance			Leakage Current		Max. Zener Current	Package
	V_Z @ I_{ZT}	I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}	I_{ZK}	I_R @ V_R		I_{ZM}	
	V	mA	Ω	Ω	mA	μA	V	mA	
1.5 watt Zener Diodes --contiuned									
1N5947B	82	4.6	160	2500	0.25	1.0	62.2	18	DO-41
1N5948B	91	4.1	200	3000	0.25	1.0	69.2	16	DO-41
1N5949B	100	3.7	250	3100	0.25	1.0	76.0	15	DO-41
1N5950B	110	3.4	300	4000	0.25	1.0	83.6	13	DO-41
1N5951B	120	3.1	280	4500	0.25	1.0	91.2	12	DO-41
1N5952B	130	2.9	450	5000	0.25	1.0	98.8	11	DO-41
1N5953B	150	2.5	600	6000	0.25	1.0	114.0	10	DO-41
1N5954B	160	1.3	700	6500	0.25	1.0	121.6	9	DO-41
1N5955B	180	2.1	900	7000	0.25	1.0	136.8	8	DO-41
1N5956B	200	1.9	1200	8000	0.25	1.0	152.0	7	DO-41
1SMB5926	11	34.1	5.5	550	0.25	1.0	8.4	136	SMB
1SMB5927	12	31.2	6.5	550	0.25	1.0	9.1	125	SMB
1SMB5928	13	28.8	7.0	550	0.25	1.0	9.9	115	SMB
1SMB5929	15	25.0	9.0	600	0.25	1.0	11.4	100	SMB
1SMB5930	16	23.4	10	600	0.25	1.0	12.2	93	SMB
1SMB5931	18	20.8	12	650	0.25	1.0	13.7	83	SMB
1SMB5932	20	18.7	14	650	0.25	1.0	15.2	75	SMB
1SMB5933	22	17.0	17.5	650	0.25	1.0	16.7	68	SMB
1SMB5934	24	15.6	19	700	0.25	1.0	18.2	62	SMB
1SMB5935	27	13.9	23	700	0.25	1.0	20.6	55	SMB
1SMB5936	30	12.5	26	750	0.25	1.0	22.8	50	SMB
1SMB5937	33	11.4	33	800	0.25	1.0	25.1	45	SMB
1SMB5938	36	10.4	38	850	0.25	1.0	27.4	41	SMB
1SMB5939	39	9.6	45	900	0.25	1.0	29.7	38	SMB
1SMB5940	43	8.7	53	950	0.25	1.0	32.7	34	SMB
1SMB5941	47	8.0	67	1000	0.25	1.0	35.8	31	SMB
1SMB5942	51	7.3	70	1100	0.25	1.0	38.8	29	SMB
1SMB5943	56	6.7	86	1300	0.25	1.0	42.6	26	SMB
1SMB5944	62	6.0	100	1500	0.25	1.0	47.1	24	SMB
1SMB5945	58	5.5	120	1700	0.25	1.0	51.7	22	SMB
1SMB5946	75	5.0	140	2000	0.25	1.0	56.0	20	SMB
1SMB5947	82	4.6	160	2500	0.25	1.0	62.2	18	SMB
1SMB5948	91	4.1	200	3000	0.25	1.0	69.2	16	SMB
1SMB5949	100	3.7	250	3100	0.25	1.0	76.0	15	SMB
1SMB5950	110	3.4	300	4000	0.25	1.0	83.6	13	SMB
1SMB5951	120	3.1	380	4500	0.25	1.0	91.2	12	SMB
1SMB5952	130	2.9	450	5000	0.25	1.0	98.8	11	SMB
1SMB5953	150	2.5	600	6000	0.25	1.0	114.0	10	SMB
1SMB5954	160	2.3	700	6500	0.25	1.0	121.6	9	SMB
1SMB5955	180	2.1	900	7000	0.25	1.0	136.8	8	SMB
1SMB5956	200	1.9	1200	8000	0.25	1.0	152.0	7	SMB

DO-41

SMB/DO-214AA

Zener Diodes (continued)

2.0 Watt

DO-15/SMB

Type No.	Nominal Zener Voltage	Test Current	Max. Zener Impedance			Leakage Current		Max. Zener Current	Surge Current @ Ta=25□	Package
	V_Z @ I_{ZT}	I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}	I_{ZK}	I_R @ V_R		I_{ZM}	I_R	
	V	mA	Ω	Ω	mA	μA	V	mA	mA	
2.0 watt Zener Diodes										
2EZ11	11	45.5	4.0	700	0.25	1.0	8.4	166	1.82	DO-15
2EZ12	12	41.5	4.5	700	0.25	1.0	9.1	152	1.66	DO-15
2EZ13	13	38.5	5.0	700	0.25	0.5	9.9	138	1.54	DO-15
2EZ14	14	35.7	5.5	700	0.25	0.5	10.6	130	1.43	DO-15
2EZ15	15	33.4	7.0	700	0.25	0.5	11.4	122	1.33	DO-15
2EZ16	16	31.2	8.0	700	0.25	0.5	12.2	114	1.25	DO-15
2EZ17	17	29.4	9.0	750	0.25	0.5	13.0	107	1.18	DO-15
2EZ18	18	27.8	10	750	0.25	0.5	13.7	100	1.11	DO-15
2EZ19	19	26.3	11	750	0.25	0.5	14.4	95	1.05	DO-15
2EZ20	20	25.0	11	750	0.25	0.5	15.2	90	1.00	DO-15
2EZ22	22	22.8	12	750	0.25	0.5	16.7	82	0.91	DO-15
2EZ24	24	20.8	13	750	0.25	0.5	18.2	76	0.83	DO-15
2EZ27	27	18.5	18	750	0.25	0.5	20.6	68	0.74	DO-15
2EZ28	28	17.0	19	750	0.25	0.5	21.0	65	0.71	DO-15
2EZ30	30	16.6	20	1000	0.25	0.5	22.5	60	0.67	DO-15
2EZ33	33	15.1	23	1000	0.25	0.5	25.1	55	0.61	DO-15
2EZ36	36	13.9	25	1000	0.25	0.5	27.4	50	0.56	DO-15
2EZ39	39	12.8	30	1000	0.25	0.5	29.7	47	0.51	DO-15
1SMB2EZ11	11	45.5	4.0	700	0.25	1.0	8.4	166	1.82	SMB
1SMB2EZ12	12	41.5	4.5	700	0.25	1.0	9.1	152	1.66	SMB
1SMB2EZ13	13	38.5	5.0	700	0.25	0.5	9.9	138	1.54	SMB
1SMB2EZ14	14	35.7	5.5	700	0.25	0.5	10.6	130	1.43	SMB
1SMB2EZ15	15	33.4	7.0	700	0.25	0.5	11.4	122	1.33	SMB
1SMB2EZ16	16	31.2	8.0	700	0.25	0.5	12.2	114	1.25	SMB
1SMB2EZ17	17	29.4	9.0	750	0.25	0.5	13.0	107	1.18	SMB
1SMB2EZ18	18	27.8	10	750	0.25	0.5	13.7	100	1.11	SMB
1SMB2EZ19	19	26.3	11	750	0.25	0.5	14.4	95	1.05	SMB
1SMB2EZ20	20	25.0	11	750	0.25	0.5	15.2	90	1.00	SMB
1SMB2EZ22	22	22.8	12	750	0.25	0.5	16.7	82	0.91	SMB
1SMB2EZ24	24	20.8	13	750	0.25	0.5	18.2	76	0.83	SMB
1SMB2EZ27	27	18.5	18	750	0.25	0.5	20.6	68	0.74	SMB
1SMB2EZ28	28	17.0	19	750	0.25	0.5	21.0	65	0.71	SMB
1SMB2EZ30	30	16.6	20	1000	0.25	0.5	22.5	60	0.67	SMB
1SMB2EZ33	33	15.1	23	1000	0.25	0.5	25.1	55	0.61	SMB
1SMB2EZ36	36	13.9	25	1000	0.25	0.5	27.4	50	0.56	SMB
1SMB2EZ39	39	12.8	30	1000	0.25	0.5	29.7	47	0.51	SMB

DO-15

SMB/DO-214AA

Zener Diodes (continued)

3.0 Watt

SMB/DO-15

Type No.	Nominal Zener Voltage	Test Current	Max. Zener Impedance			Leakage Current		Max. Zener Current	Surge Current @ Ta=25℃	Package
	V_Z @ I_{ZT}	I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}	I_{ZK}	I_R @ V_R		I_{ZM}	I_R	
	V	mA	Ω	Ω	mA	μA	V	mA	mA	
3.0 watt Zener Diodes										
3EZ11	11	68	4.0	700	0.25	1.0	8.4	225	1.82	DO-15
3EZ12	12	63	4.5	700	0.25	1.0	9.1	246	1.66	DO-15
3EZ13	13	58	4.5	700	0.25	0.5	9.9	208	1.54	DO-15
3EZ14	14	53	5.0	700	0.25	0.5	10.6	193	1.43	DO-15
3EZ15	15	50	5.5	700	0.25	0.5	11.4	180	1.33	DO-15
3EZ16	16	47	5.5	700	0.25	0.5	12.2	169	1.25	DO-15
3EZ17	17	44	6.0	750	0.25	0.5	13.0	150	1.18	DO-15
3EZ18	18	42	6.0	750	0.25	0.5	13.7	159	1.11	DO-15
3EZ19	19	40	7.0	750	0.25	0.5	14.4	142	1.05	DO-15
3EZ20	20	37	7.0	750	0.25	0.5	15.2	135	1.00	DO-15
3EZ22	22	34	8.0	750	0.25	0.5	16.7	123	0.91	DO-15
3EZ24	24	31	9.0	750	0.25	0.5	18.2	112	0.83	DO-15
3EZ27	27	28	10	750	0.25	0.5	20.6	100	0.74	DO-15
3EZ28	28	27	12	750	0.25	0.5	21.0	96	0.71	DO-15
3EZ30	30	25	16	1000	0.25	0.5	22.5	90	0.67	DO-15
3EZ33	33	23	20	1000	0.25	0.5	25.1	82	0.61	DO-15
3EZ36	36	21	22	1000	0.25	0.5	27.4	75	0.56	DO-15
3EZ39	39	19	28	1000	0.25	0.5	29.7	69	0.51	DO-15
1SMB3EZ11	11	68	4.0	700	0.25	1.0	8.4	225	1.82	SMB
1SMB3EZ12	12	63	4.5	700	0.25	1.0	9.1	246	1.66	SMB
1SMB3EZ13	13	58	4.5	700	0.25	0.5	9.9	208	1.54	SMB
1SMB3EZ14	14	53	5.0	700	0.25	0.5	10.6	193	1.43	SMB
1SMB3EZ15	15	50	5.5	700	0.25	0.5	11.4	180	1.33	SMB
1SMB3EZ16	16	47	5.5	700	0.25	0.5	12.2	169	1.25	SMB
1SMB3EZ17	17	44	6.0	750	0.25	0.5	13.0	150	1.18	SMB
1SMB3EZ18	18	42	6.0	750	0.25	0.5	13.7	159	1.11	SMB
1SMB3EZ19	19	40	7.0	750	0.25	0.5	14.4	142	1.05	SMB
1SMB3EZ20	20	37	7.0	750	0.25	0.5	15.2	135	1.00	SMB
1SMB3EZ22	22	34	8.0	750	0.25	0.5	16.7	123	0.91	SMB
1SMB3EZ24	24	31	9.0	750	0.25	0.5	18.2	112	0.83	SMB
1SMB3EZ27	27	28	10	750	0.25	0.5	20.6	100	0.74	SMB
1SMB3EZ28	28	27	12	750	0.25	0.5	21.0	96	0.71	SMB
1SMB3EZ30	30	25	16	1000	0.25	0.5	22.5	90	0.67	SMB
1SMB3EZ33	33	23	20	1000	0.25	0.5	25.1	82	0.61	SMB
1SMB3EZ36	36	21	22	1000	0.25	0.5	27.4	75	0.56	SMB
1SMB3EZ39	39	19	28	1000	0.25	0.5	29.7	69	0.51	SMB

DO-15

SMB/DO-214AA

Zener Diodes (continued)

5.0 Watt

DO-201AE / SMC

Type No.	Nominal Zener Voltage	Test Current	Max. Zener Impedance			Leakage Current		Max. Zener Current	Surge Current @ Ta=25℃	Package
	V_Z @ I_{ZT}	I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}	I_{ZK}	I_R @ V_R		I_{ZM}	I_R	
	V	mA	Ω	Ω	mA	μA	V	mA	mA	
5.0 watt Zener Diodes										
1N5348B	11	125	2.5	125	1.0	5.0	8.4	430	8.0	DO-201AE
1N5349B	12	100	2.5	125	1.0	2.0	9.1	395	7.5	DO-201AE
1N5350B	13	100	2.5	100	1.0	1.0	9.9	365	7.0	DO-201AE
1N5351B	14	100	2.5	75	1.0	1.0	10.6	340	6.7	DO-201AE
1N5352B	15	75	2.5	75	1.0	1.0	11.5	315	6.3	DO-201AE
1N5353B	16	75	2.5	75	1.0	1.0	12.2	295	6.0	DO-201AE
1N5354B	17	70	2.5	75	1.0	0.5	12.9	280	5.8	DO-201AE
1N5355B	18	65	2.5	75	1.0	0.5	13.7	265	5.5	DO-201AE
1N5356B	19	65	3.0	75	1.0	0.5	14.4	250	5.3	DO-201AE
1N5357B	20	65	3.0	75	1.0	0.5	15.2	237	5.1	DO-201AE
1N5358B	22	50	3.5	75	1.0	0.5	16.7	216	4.7	DO-201AE
1N5359B	24	50	3.5	100	1.0	0.5	18.2	198	4.4	DO-201AE
1N5360B	25	50	4.0	110	1.0	0.5	19.0	190	4.3	DO-201AE
1N5361B	27	50	5.0	120	1.0	0.5	20.6	176	4.1	DO-201AE
1N5362B	28	50	6.0	130	1.0	0.5	21.2	170	3.9	DO-201AE
1N5363B	30	40	8.0	140	1.0	0.5	22.8	158	3.7	DO-201AE
1N5364B	33	40	10	150	1.0	0.5	25.1	144	3.5	DO-201AE
1N5365B	36	30	11	160	1.0	0.5	27.4	132	3.3	DO-201AE
1N5366B	39	30	14	170	1.0	0.5	29.7	122	3.1	DO-201AE
1SMC5348	11	125	2.5	125	1.0	5.0	8.4	430	8.0	SMC
1SMC5349	12	100	2.5	125	1.0	2.0	9.1	395	7.5	SMC
1SMC5350	13	100	2.5	100	1.0	1.0	9.9	365	7.0	SMC
1SMC5351	14	100	2.5	75	1.0	1.0	10.6	340	6.7	SMC
1SMC5352	15	75	2.5	75	1.0	1.0	11.5	315	6.3	SMC
1SMC5353	16	75	2.5	75	1.0	1.0	12.2	295	6.0	SMC
1SMC5354	17	70	2.5	75	1.0	0.5	12.9	280	5.8	SMC
1SMC5355	18	65	2.5	75	1.0	0.5	13.7	265	5.5	SMC
1SMC5356	19	65	3.0	75	1.0	0.5	14.4	250	5.3	SMC
1SMC5357	20	65	3.0	75	1.0	0.5	15.2	237	5.1	SMC
1SMC5358	22	50	3.5	75	1.0	0.5	16.7	216	4.7	SMC
1SMC5359	24	50	3.5	100	1.0	0.5	18.2	198	4.4	SMC
1SMC5360	25	50	4.0	110	1.0	0.5	19.0	190	4.3	SMC
1SMC5361	27	50	5.0	120	1.0	0.5	20.6	176	4.1	SMC
1SMC5362	28	50	6.0	130	1.0	0.5	21.2	170	3.9	SMC
1SMC5363	30	40	8.0	140	1.0	0.5	22.8	158	3.7	SMC
1SMC5364	33	40	10	150	1.0	0.5	25.1	144	3.5	SMC
1SMC5365	36	30	11	160	1.0	0.5	27.4	132	3.3	SMC
1SMC5366	39	30	14	170	1.0	0.5	29.7	122	3.1	SMC

DO-201AE

SMC/DO-214AB

Small Signal Switching Diodes

Product Series

Small Signal Switching Diodes

Part Number	Peak Reverse Voltage	Reverse Recovery Time	Power Dissipation	Peak Forward Surge Current		Forward Voltage		Reverse Leakage Current		Capacitance	Package	Circuit Figuare
	max.	max.	-	-	-	max.	-	max.	-	max.		
	V_{RRM}	T_{RR}	P_{TOT}	I_{FSM}@T		V_F@I_F		I_R@V_R		C_T @0V		
	V	ns	mW	A	mS	V	mA	μA	V	pF		
200 mWatts Switching Diodes												
MMBD6050WS	80	4.0	200	2.0	1.0	0.7/1.1	1/100	0.10	50	2.5	SOD-323	–
MMBD914WS	100	4.0	200	2.0	1.0	1.000	10	0.025/5	20/75	4.0	SOD-323	–
1N4148WS	100	4.0	200	2.0	1.0	0.715/0.855/1/1.25	1/10/50/150	0.03/2.5	25/75	1.5	SOD-323	–
1N4448WS	100	4.0	200	4.0	1.0	0.72/1	5/100	2.50	75	4.0	SOD-323	–
BAV16WS	100	6.0	200	2.0	1.0	0.855	10	1.00	75	2.0	SOD-323	–
BAV19WS	120	50.0	200	2.5	1.0	1.000	100	0.10	100	5.0	SOD-323	–
BAV20WS	200	50.0	200	2.5	1.0	1.000	100	0.10	150	5.0	SOD-323	–
BAV21WS	250	50.0	200	2.5	1.0	1.000	100	0.10	200	5.0	SOD-323	–
MMBD6100W	80	4.0	200	2.0	1.0	0.7/1.1	1/100	0.10	50	2.5	SOT-323	Fig.3
MMBD7000W	100	4.0	200	2.0	1.0	0.7/0.82/1.1	1/10/100	1.0/3.0	50/100	1.5	SOT-323	Fig.4
MMBD4148W	100	4.0	200	2.0	1.0	0.715/0.855/1/1.25	1/10/50/150	0.03/2.5	25/75	1.5	SOT-323	Fig.1
MMBD4448W	100	4.0	200	4.0	1.0	0.72/1	5/100	2.50	75	4.0	SOT-323	Fig.1
BAW56W	100	4.0	200	2.0	1.0	0.715/0.855/1/1.25	1/10/50/150	0.03/2.5	25/75	1.5	SOT-323	Fig.2
BAV70W	100	4.0	200	2.0	1.0	0.715/0.855/1/1.25	1/10/50/150	0.03/2.5	25/75	1.5	SOT-323	Fig.3
BAV99W	100	4.0	200	2.0	1.0	0.715/0.855/1/1.25	1/10/50/150	0.03/2.5	25/75	1.5	SOT-323	Fig.4
BAL99W	100	4.0	200	2.0	1.0	0.715/0.855/1/1.25	1/10/50/150	0.03/2.5	25/75	1.5	SOT-323	Fig.5
BAS16W	100	6.0	200	2.0	1.0	0.855	10	1.00	75	2.0	SOT-323	Fig.1
BAS19W	120	50.0	200	2.5	1.0	1.000	100	0.10	100	5.0	SOT-323	Fig.1
BAS20W	200	50.0	200	2.5	1.0	1.000	100	0.10	150	5.0	SOT-323	Fig.1
BAS21W	250	50.0	200	2.5	1.0	1.000	100	0.10	200	5.0	SOT-323	Fig.1
200 mWatts Low Leakage Switching Diodes												
BAS116WS	100	3000	200	2.0	1.0	0.9/1.0/1.1/1.25	1/10/50/150	0.005	75	2.0	SOT-323	–
BAS116W	100	3000	200	2.0	1.0	0.9/1.0/1.1/1.25	1/10/50/150	0.005	75	2.0	SOT-323	Fig.1
BAW156W	100	3000	200	2.0	1.0	0.9/1.0/1.1/1.25	1/10/50/150	0.005	75	2.0	SOT-323	Fig.2
BAV170W	100	3000	200	2.0	1.0	0.9/1.0/1.1/1.25	1/10/50/150	0.005	75	2.0	SOT-323	Fig.3
BAV199W	100	3000	200	2.0	1.0	0.9/1.0/1.1/1.25	1/10/50/150	0.005	75	2.0	SOT-323	Fig.4
250 mWatts Switching Diodes												
MMBD6050	80	4.0	250	2.0	1.0	0.7/1.1	1/100	0.10	50	2.5	SOT-23	Fig.1
MMBD6100	80	4.0	250	2.0	1.0	0.7/1.1	1/100	0.10	50	2.5	SOT-23	Fig.3
MMBD914	100	4.0	250	2.0	1.0	1.000	10	0.025/5	20/75	4.0	SOT-23	Fig.1
MMBD7000	100	4.0	250	2.0	1.0	0.7/0/82/1.1	1/10/100	1.0/3.0	50/100	1.5	SOT-23	Fig.4
MMBD4148	100	4.0	250	2.0	1.0	0.715/0.855/1/1.25	1/10/50/150	0.03/2.5	25/75	1.5	SOT-23	Fig.1
MMBD4448	100	4.0	250	4.0	1.0	0.72/1	5/100	2.50	75	4.0	SOT-23	Fig.1
BAW56	100	4.0	250	2.0	1.0	0.715/0.855/1/1.25	1/10/50/150	0.03/2.5	25/75	1.5	SOT-23	Fig.2
BAV70	100	4.0	250	2.0	1.0	0.715/0.855/1/1.25	1/10/50/150	0.03/2.5	25/75	1.5	SOT-23	Fig.3
BAV99	70	4.0	250	2.0	1.0	0.715/0.855/1/1.25	1/10/50/150	0.03/2.5	25/75	1.5	SOT-23	Fig.4
BAL99	70	6.0	250	2.0	1.0	0.715/0.855/1/1.25	1/10/50/150	0.03/2.5	25/75	1.5	SOT-23	Fig.5
MMBD1201	100	4.0	250	4.0	1.0	0.85/1.05	10/200	0.03/5	25/75	2.0	SOT-23	Fig.1
MMBD1202	100	4.0	250	4.0	1.0	0.85/1.05	10/200	0.03/5	25/75	2.0	SOT-23	Fig.6
MMBD1203	100	4.0	250	4.0	1.0	0.85/1.05	10/200	0.03/5	25/75	2.0	SOT-23	Fig.4
MMBD1204	100	4.0	250	4.0	1.0	0.85/1.05	10/200	0.03/5	25/75	2.0	SOT-23	Fig.3
MMBD4150	75	4.0	250	0.5	1000ms	0.74/0.92	10/100	0.1	50	2.5	SOT-23	Fig.6

* Diode Capacitance is VR=0, f=1MHz
* Trr when Switched from I_F=10mA to I_R=10mA

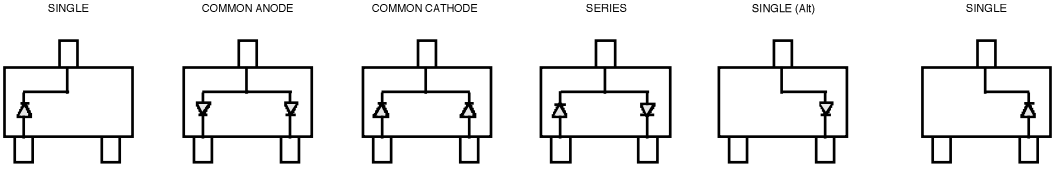


Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5 Fig. 6

SOD-323 SOT-323 SOT-23

Small Signal Switching Diodes (continued)

Part Number	Peak Reverse Voltage	Reverse Recovery Time	Power Dissipation	Peak Forward Surge Current		Forward Voltage		Reverse Leakage Current		Capacitance	Package	Circuit Figuare
	max.	max.	-	-	-	max.	-	max.	-	max.		
	V_{RRM}	T_{RR}	P_{TOT}	I_{FSM}@T		V_F@I_F		I_R@V_R		C_T @0V		
	V	ns	mW	A	mS	V	mA	μA	V	pF		
250 mWatts Switching Diodes --contiuned												
BAS16	100	6.0	250	2.0	0.001	0.855	10	1.00	75	2.0	SOT-23	Fig.1
BAS19	120	50.0	250	2.5	0.001	1.000	100	0.10	100	5.0	SOT-23	Fig.1
BAS20	200	50.0	250	2.5	0.001	1.000	100	0.10	150	5.0	SOT-23	Fig.1
BAS21	250	50.0	250	2.5	0.001	1.000	100	0.10	200	5.0	SOT-23	Fig.1
BAS21A	250	50.0	250	2.5	0.001	0.7/1	1.0/100	0.10	200	5.0	SOT-23	Fig.2
BAS21C	250	50.0	250	2.5	0.001	0.7/1	1.0/100	0.10	200	5.0	SOT-23	Fig.3
BAS21S	250	50.0	250	2.5	0.001	0.7/1	1.0/100	0.10	200	5.0	SOT-23	Fig.4
BAV99S	100	4.0	250	2.0	0.001	0.715/0.855/1/1.25	1/10/50/150	1.00	75	1.5	SOT-23	Fig.4
250 mWatts Low Leakage Switching Diodes												
BAS116	100	3000	250	2.0	0.001	0.9/1.0/1.1/1.25	1/10/50/150	0.005	75	2.0	SOT-23	Fig.1
BAW156	100	3000	250	2.0	0.001	0.9/1.0/1.1/1.25	1/10/50/150	0.005	75	2.0	SOT-23	Fig.2
BAV170	100	3000	250	2.0	0.001	0.9/1.0/1.1/1.25	1/10/50/150	0.005	75	2.0	SOT-23	Fig.3
BAV199	100	3000	250	2.0	0.001	0.9/1.0/1.1/1.25	1/10/50/150	0.005	75	2.0	SOT-23	Fig.4
300 mWatts Switching Diodes												
BAV101	120	75	300	1.0	1000	1.0	100	0.1	100	3	MINI-MELF	-
BAV102	200	75.0	300	1.0	1000	1.0	100	0.1	150	3	MINI-MELF	-
BAV103	250	75	300	1.0	1000	1.0	100	0.1	200	3	MINI-MELF	-
BAV201	120	75.0	300	1.0	1000	1.0	100	0.1	100	3	QUADRO-MELF	-
BAV202	200	75	300	1.0	1000	1.0	100	0.1	150	3	QUADRO-MELF	-
BAV203	250	75.0	300	1.0	1000	1.0	100	0.1	200	3	QUADRO-MELF	-
BAV301	120	75	300	1.0	1000	1.0	100	0.1	100	3	MICRO-MELF	-
BAV302	200	75.0	300	1.0	1000	1.0	100	0.1	150	3	MICRO-MELF	-
BAV303	250	75	300	1.0	1000	1.0	100	0.1	200	3	MICRO-MELF	-
350 mWatts Switching Diodes												
BAV16W	100	6.0	350	2.0	0.001	0.855	10	1.00	75	2.0	SOD-123	-
410 mWatts Switching Diodes												
BAV19W	120	50.0	410	2.5	1.000	1.000	100	0.10	100	5.0	SOD-123	-
BAV20W	200	50.0	410	2.5	1.000	1.000	100	0.10	150	5.0	SOD-123	-
BAV21W	250	50.0	410	2.5	1.000	1.000	100	0.10	200	5.0	SOD-123	-
1N4148W	100	4.0	410	2.0	0.001	0.715/0.855/1/1.25	1/10/50/150	0.03/2.5	25/75	1.5	SOD-123	-
1N4150W	50	4.0	410	0.5	1000	1.000	200	0.10	50	4.0	SOD-123	-
500 mWatts Switching Diodes												
1N4151W	75	2.0	500	0.5	1000	1.000	10	0.05	50	2.0	SOD-123	-
1N4448W	100	4.0	500	4.0	0.001	0.72/1	5/100	2.50	75	4.0	SOD-123	-
1N4148	100	4.0	500	0.5	1000	1.000	50	5/0.025	75/20	4.0	DO-35	-
1N4148M	100	4.0	500	0.5	1000	1.000	50	5/0.025	75/20	4.0	DO-34	-
PSS133	90	4.0	300	0.6	1000	1.2	1.0	0.5	80	2.0	DO-34	-
PSS244	250	50	300	1.0	1000	1.1	2.0	10	220	3.0	DO-34	-
PLS245	250	75	300	1.0	1000	1.5	0.2	10	220	3.0	MINI-MELF	-
LL4148	100	4.0	500	0.5	1000	1.000	50	5/0.025	75/20	4.0	MINI-MELF	-
LS4148	100	4.0	500	0.5	1000	1.000	50	5/0.025	75/20	4.0	QUADRO-MELF	-
MCL4148	100	4.0	500	0.5	1000	1.000	50	5/0.025	75/20	4.0	MICRO-MELF	

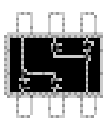


Fig. 32

SINGLE

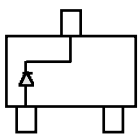


Fig. 1

COMMON ANODE

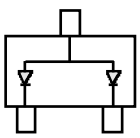


Fig. 2

COMMON CATHODE

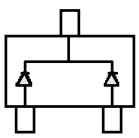


Fig. 3

SERIES

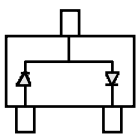


Fig. 4

SINGLE (Alt)

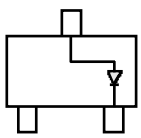


Fig. 5

SOT-23

SOD-123

DO-34/35

MINI-MELF

QUADRO-MELF

MICRO-MELF

SOT-363

DIODE EQUIVALENT DEIVCE LIST

PCTRONIX	ROHM	TOSHIBA	NEC	KEC	FSC	AUK
PDS193	DAN212K	ISS193	-	KDS193	-	SDS914
PDS187	DA116	ISS187	-	KDS187	-	SDS915
PDS181	DAP202K	ISS181	-	KDS181	BAW56	SDS2836
PDS184	DAN202K	ISS184	-	KDS184	BAV70	SDS2838
PDS226	DAN127	ISS226	-	KDS226	BAV99	SDS7000

Small Signal Schottky Diodes

Product Series

Small Signal Schottky Diodes

Part Number	Peak Repetitive Reverse Voltage	Max. Average Rectified Current		Max. Peak Forward Surge Current		Max. Forward Voltage		Max. Reverse Current		Max. Total Capactance		Package	Circuit Figuare
	V_{RRM}	I_O @ T		I_{FSM} @ T		V_F @ I_F		I_R @ V_R		C_T @V_R			
	V	A	℃	A	mS	V	mA	㎂	V	pF	V		
Low Capacitance, High Frequency Schottky Barrier Rectifiers													
MMBD101WS	7	-	-	-	-	0.600	10	0.25/10	3/7	1.0	0	SOD-323	-
MMBD330WS	30	-	-	-	-	0.45/0.6	1/10	0.20	25	1.5	15	SOD-323	-
MMBD770WS	70	-	-	-	-	0.5/1.0	1/10	0.20	35	1.0	20	SOD-323	-
MMBD101W	7	-	-	-	-	0.600	10	0.25/10	3/7	1.0	0	SOT-323	Fig.1
MMBD352W	7	-	-	-	-	0.600	10	0.25/10	3/7	1.0	0	SOT-323	Fig.4
MMBD353W	7	-	-	-	-	0.600	10	0.25/10	3/7	1.0	0	SOT-323	Fig.33
MMBD354W	7	-	-	-	-	0.600	10	0.25/10	3/7	1.0	0	SOT-323	Fig.3
MMBD355W	7	-	-	-	-	0.600	10	0.25/10	3/7	1.0	0	SOT-323	Fig.2
MMBD330W	30	-	-	-	-	0.45/0.6	1/10	0.20	25	1.5	15	SOT-323	Fig.1
MMBD770W	70	-	-	-	-	0.5/1.0	1/10	0.20	35	1.0	20	SOT-323	Fig.1
MMBD101	7	-	-	-	-	0.600	10	0.25/10	3/7	1.0	0	SOT-23	Fig.1
MMBD352	7	-	-	-	-	0.600	10	0.25/10	3/7	1.0	0	SOT-23	Fig.4
MMBD353	7	-	-	-	-	0.600	10	0.25/10	3/7	1.0	0	SOT-23	Fig.33
MMBD354	7	-	-	-	-	0.600	10	0.25/10	3/7	1.0	0	SOT-23	Fig.3
MMBD355	7	-	-	-	-	0.600	10	0.25/10	3/7	1.0	0	SOT-23	Fig.2
MMBD301	30	-	-	-	-	0.45/0.6	1/10	0.20	25	1.5	15	SOT-23	Fig.1
MMBD452	30	-	-	-	-	0.45/0.6	1/10	0.20	25	1.5	15	SOT-23	Fig.4
MMBD701	70	-	-	-	-	0.5/1.0	1/10	0.20	35	1.0	20	SOT-23	Fig.1
0.2 AMP Schottky Barrier Rectifiers													
MMBD717WS	20	0.20	25	0.2	8.3	0.370	1	1.0	10	2.5	0	SOD-323	-
BAT42W	30	0.20	75	4.0	1.0	0.4/1	10/200	0.5	30	10.0	1	SOD-323	-
BAT43W	30	0.20	75	4.0	1.0	0.33/1	2/200	0.5	30	10.0	1	SOD-323	-
BAT54WS	30	0.20	75	0.6	1000	0.32/1	1/100	2.0	25	10.0	1	SOD-323	-
BAS40WS	40	0.20	25	4.0	1.0	0.38/0.5/1	1/10/40	1.0	25	5.0	0	SOD-323	-
BAS70WS	70	0.20	25	4.0	1.0	0.41/0.75/1	1/10/15	0.1/10	50/70	2.0	0	SOD-323	-
BAT42W	30	0.20	75	4.0	10	0.4/1	10/200	0.5	30	10.0	1	SOD-123	-
BAT43W	30	0.20	75	4.0	10	0.33/1	2/200	0.5	30	10.0	1	SOD-123	-
MMBD717W	20	0.20	25	0.2	8.3	0.370	1	1.0	10	2.5	0	SOT-323	Fig.1
MMBD717AW	20	0.20	25	0.2	8.3	0.370	1	1.0	10	2.5	0	SOT-323	Fig.2
MMBD717CW	20	0.20	25	0.2	8.3	0.370	1	1.0	10	2.5	0	SOT-323	Fig.3
MMBD717SW	20	0.20	25	0.2	8.3	0370	1	1.0	10	2.5	0	SOT-323	Fig.4
BAT54W	30	0.20	75	0.6	1000	0.32/1	1/100	2.0	25	10.0	1	SOT-323	Fig.1
BAT54AW	30	0.20	75	0.6	1000	0.32/1	1/100	2.0	25	10.0	1	SOT-323	Fig.2
BAT54CW	30	0.20	75	0.6	1000	0.32/1	1/100	2.0	25	10.0	1	SOT-323	Fig.3
BAT54SW	30	0.20	75	0.6	1000	0.32/1	1/100	2.0	25	10.0	1	SOT-323	Fig.4
BAS40W	40	0.20	25	0.6	1000	0.38/0.5/1	1/10/40	1.0	25	5.0	0	SOT-323	Fig.1
BAS40AW	40	0.20	25	0.6	1000	0.38/0.5/1	1/10/40	1.0	25	5.0	0	SOT-323	Fig.2
BAS40CW	40	0.20	25	0.6	1000	0.38/0.5/1	1/10/40	1.0	25	5.0	0	SOT-323	Fig.3
BAS40SW	40	0.20	25	0.6	1000	0.38/0.5/1	1/10/40	1.0	25	5.0	0	SOT-323	Fig.4
BAS70W	70	0.20	25	0.6	100	0.41/0.75/1	1/10/15	0.1/10	50/70	2.0	0	SOT-323	Fig.1

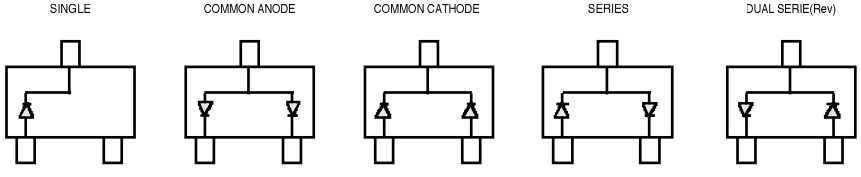


Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 33

SOD-123 SOD-323 SOT-323 SOT-23

Small Signal Schottky Diodes (continued)

Part Number	Peak Repetitive Reverse Voltage	Max. Average Rectified Current		Max. Peak Forward Surge Current		Max. Forward Voltage		Max. Reverse Current		Max. Total Capactance		Package	Circuit Figuare
	V_{RRM}	I_O @ T		I_{FSM} @ T		V_F @ I_F		I_R @ V_R		C_T @ V_R			
	V	A	℃	A	mS	V	mA	μA	V	pF	V		
0.2 AMP Schottky Barrier Rectifiers --continued													
BAS70AW	70	0.20	25	0.6	1000	0.41/0.75/1	1/10/15	0.1/10	50/70	2.0	0	SOD-323	Fig.2
BAS70CW	70	0.20	25	0.6	1000	0.41/0.75/1	1/10/15	0.1/10	50/70	2.0	0	SOD-323	Fig.3
BAS70SW	70	0.20	25	0.6	1000	0.41/0.75/1	1/10/15	0.1/10	50/70	2.0	0	SOD-323	Fig.4
MMBD717	20	0.20	25	0.6	1000	0.370	1	1.0	10	2.5	1	SOT-23	Fig.1
MMBD717A	20	0.20	25	0.6	1000	0.370	1	1.0	10	2.5	1	SOT-23	Fig.2
MMBD717C	20	0.20	25	0.6	1000	0.370	1	1.0	10	2.5	1	SOT-23	Fig.3
MMBD717S	20	0.20	25	0.6	1000	0.370	1	1.0	10	2.5	1	SOT-23	Fig.4
BAT54	30	0.20	75	0.6	1000	0.32/1	1/100	2.0	25	10.0	1	SOT-23	Fig.1
BAT54A	30	0.20	75	0.6	1000	0.32/1	1/100	2.0	25	10.0	1	SOT-23	Fig.2
BAT54C	30	0.20	75	0.6	1000	0.32/1	1/100	2.0	25	10.0	1	SOT-23	Fig.3
BAT54S	30	0.20	75	0.6	1000	0.32/1	1/100	2.0	25	10.0	1	SOT-23	Fig.4
BAS40	40	0.20	25	0.6	1000	0.38/0.5/1	1/10/40	1.0	25	5.0	0	SOT-23	Fig.1
BAS40A	40	0.20	25	0.6	1000	0.38/0.5/1	1/10/40	1.0	25	5.0	0	SOT-23	Fig.2
BAS40C	40	0.20	25	0.6	1000	0.38/0.5/1	1/10/40	1.0	25	5.0	0	SOT-23	Fig.3
BAS40S	40	0.20	25	0.6	1000	0.38/0.5/1	1/10/40	1.0	25	5.0	0	SOT-23	Fig.4
BAS70	70	0.20	25	0.6	1000	0.41/0.75/1	1/10/15	0.1/10	50/70	2.0	0	SOT-23	Fig.1
BAS70A	70	0.20	25	0.6	1000	0.41/0.75/1	1/10/15	0.1/10	50/70	2.0	0	SOT-23	Fig.2
BAS70C	70	0.20	25	0.6	1000	0.41/0.75/1	1/10/15	0.1/10	50/70	2.0	0	SOT-23	Fig.3
BAS70S	70	0.20	25	0.6	1000	0.41/0.75/1	1/10/15	0.1/10	50/70	2.0	0	SOT-23	Fig.4
0.35 AMP Schottky Barrier Rectifiers													
SD103AWS	40	0.35	75	2.0	0.01	0.37/0.6	20/200	5.0	30	50 typ	0	SOD-323	-
SD103BWS	30	0.35	75	2.0	0.01	0.37/0.6	20/200	5.0	20	50 typ	0	SOD-323	-
SD103CWS	20	0.35	75	2.0	0.01	0.37/0.6	20/200	5.0	10	50 typ	0	SOD-323	-
SD103AW	40	0.35	75	2.0	0.01	0.37/0.6	20/200	5.0	30	50 typ	0	SOD-123	-
SD103BW	30	0.35	75	2.0	0.01	0.37/0.6	20/200	5.0	20	50 typ	0	SOD-123	-
SD103CW	20	0.35	75	2.0	0.01	0.37/0.6	20/200	5.0	10	50 typ	0	SOD-123	-
LLSD103A	40	0.35	75	15	0.30	0.37/0.6	20/200	5	30	50 typ	0	MINI-MELF	-
LLSD103B	30	0.35	75	15	0.30	0.37/0.6	20/200	5	20	50 typ	0	MINI-MELF	-
LLSD103C	20	0.35	75	15	0.30	0.37/0.6	20/200	5	10	50 typ	0	MINI-MELF	-
LQSD103A	40	0.35	75	15	0.30	0.37/0.6	20/200	5	30	50 typ	0	QUADRO-MELF	-
LQSD103B	30	0.35	75	15	0.30	0.37/0.6	20/200	5	20	50 typ	0	QUADRO-MELF	-
LQSD103C	20	0.35	75	15	0.30	0.37/0.6	20/200	5	10	50 typ	0	QUADRO-MELF	-
LMSD103A	40	0.35	75	15	0.30	0.37/0.6	20/200	5	30	50 typ	0	MICRO-MELF	-
LMSD103B	30	0.35	75	15	0.30	0.37/0.6	20/200	5	20	50 typ	0	MICRO-MELF	-
LMSD103C	20	0.35	75	15	0.30	0.37/0.6	20/200	5	10	50 typ	0	MICRO-MELF	-

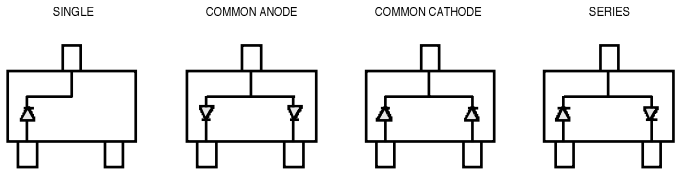


Fig. 1 Fig. 2 Fig. 3 Fig. 4

SOD-323 SOT-23 SOD-123 MINI-MELF QUADRO-MELF MICRO-MELF

Small Signal Schottky Diodes (continued)

Part Number	Peak Repetitive Reverse Voltage	Max. Average Rectified Current		Max. Peak Forward Surge Current		Max. Forward Voltage		Max. Reverse Current		Max. Total Capactance		Reverse Leakage Current	Package	Circuit Figuare
	V_{RRM}	I_O @ T		I_{FSM} @ T		V_F @ I_F		I_R @ V_R		C_T @ V_R		Trr		
	V	A	℃	A	mS	V	mA	㎂	V	pF	V	nS		
0.5 AMP Glass sealed Schottky Barryer Rectfiers														
1N60	20	0.03	25	0.15	1s	0.35/1.0		5	15	1	1	1	DO-35	
1N60P	30	0.05	25	0.4	1s	0.20/1.0	1/200	10	15	10	10	1	DO-35	
1N5711	70	0.4	25	2.0	10㎲	0.41/1.0	1/200	10	70	2.0	0	1	DO-35	
1N6263	60	0.4	25	2.0	10㎲	0.41/1.0	1/15	10	60	2.0	0	1	DO-35	
1N5712	20	0.25	25	-	-	0.41/1.0	1/15	10	20	1.2	0	-	DO-35	
1SS106	10	0.03	25	-	-	1.0	1/35	70	6	1.5	6	-	DO-35	
BAT19	10	0.06	25	0.06	≤1s	0.4/1.0	4.5	10	10	1.2	0	-	DO-35	
BAT29	5	0.06	25	0.06	≤1s	0.55	1/35	100	5	1.0	0	-	DO-35	
BAT41	100	0.4	65	0.35	≤1s	0.45/1.0	10	100	100	2.0	1	5	DO-35	
BAT42	30	0.2	65	0.5	≤1s	0.4/0.65	1/200	0.5	25	7	25	5	DO-35	
BAT43	30	0.2	65	0.5	≤1s	0.33/0.45	10/50	0.5	25	7	25	5	DO-35	
BAT45	15	0.03	25	0.06	≤1s	0.38/1.0	2/15	10	15	1.1	1.0	-	DO-35	
BAT46	100	0.15	65	0.35	≤1s	0.255/1.0	1/30	5	75	10 type	0	-	DO-35	
BAT47	20	0.33	65	1.0	≤1s	0.25/1.0	0.1/250	4/10	10/20	12type	1.0	-	DO-35	
BAT48	40	0.33	65	1.0	≤1s	0.25/0.9	0.1/300	/	20/40	12type	1.0	-	DO-35	
BAT85	30	0.2	65	0.3	≤1s	0.24/0.8	0.1/250	2	25	10	1.0	5	DO-35	
BAT86	50	0.2	65	0.3	≤1s	0.3/0.9	0.1/100	0.5	25	8	1.0	5	DO-35	
MA700	15	0.03	25	0.15	-	0.4/1.0	0.1/100	0.10	15	1.3 type	1.0	1 type	DO-35	
MA700A	30	0.03	25	0.15	-	0.4/1.0	1/30	0.15	30	1.3 type	1.0	1 type	DO-35	
SD101A	60	0.4	25	2.0	10㎲	0.41/1.0	1/30	10	60	2.0	0	1	DO-35	
SD101B	50	0.4	25	2.0	10㎲	0.4/0.95	1/15	10	50	2.1	0	1	DO-35	
SD101C	40	0.4	25	2.0	10㎲	0.39/0.9	1/15	10	40	2.2	0	1	DO-35	
SD103A	40	0.4	25	15	*	0.37/0.6	1/15	5	30	50 typ	0	10 type	DO-35	
SD103B	30	0.4	25	15	*	0.37/0.6	20/200	5	20	50 typ	0	10 type	DO-35	
SD103C	20	0.4	25	15	*	0.37/0.6	20/200	5	10	50 typ	0	10 type	DO-35	
PB441Q-40	40	0.1	25	1	1s	0.34/0.55	20/200	100	40	6.0 typ	10		DO-34	
PB721Q-40	40	0.03	25	0.2	1s	0.37	10/100	0.5	25	2.0 typ	1		DO-34	
0.5 AMP Schottky Barrier Rectifiers														
SS05020	20	0.50	75	5.5	8.3	0.3/0.385		75	10	170 typ	0	-	SOD-123	-
SS0530	30	0.50	75	5.5	8.3	0.375/0.43	10/500	20	15	170 typ	0	-	SOD-123	-
SS0540	40	0.50	75	5.5	8.3	0.51/0.62	10/500	10	20	170 typ	0	-	SOD-123	-
1.0 AMP Schottky Barrier Rectifiers														
SS1020	20	1.0	75	50	8.3	0.45		400	20	300 typ	0	-	SOD-123	-
SS1040	40	1.0	75	30	8.3	0.45	1000	500	40	230 typ	0	-	SOD-123	-

* Maximum single cycle Surge 60Hz sine wave

SOD-123

DO-34/35

Variable Capacitance Diodes

Product Series

Variable Capacitance Diodes

Part Number	V_R (V)	C_d(pF)			$C_d(V_{R1})/C_d(V_{R2})$, f=1MHz					r_p Max			I_R Max		package
		Min	Max	V_R (V)	Min	Typ	Max	V_{R1} (V)	V_{R2} (V)	(Ω)	C_d (pF)	f_T (HMz)	(nA)	V_R (V)	
BB132	30	60 3.2	75 2.75	0.5 28	24	-	30	0.5	28	2	30	100	10	30	SOD-323
BB133	30	38 2.2	46 2.6	0.5 28	14.0	-	21	0.5	28	0.9	30	100	10	30	
BB134	30	17.5 1.7	21 2.1	0.5 28	8.9	-	12	0.5	28	0.75	9	470	10	30	
BB135	30	17.5 1.7	21 2.1	0.5 28	8.9	-	12	0.5	28	0.75	9	470	10	30	
BB149	30	18 1.9	19.5 2.25	1 28	8.2	-	10	1.0	28	0.75	9	470	10	30	
Part Number	**V_R (V)**	**C_d(pF)**			**$C_d(V_{R1})/C_d(V_{R2})$, f=1MHz**					**r_p Max**			**I_R Max**		**Package**
		Min	**Max**	**V_R (V)**	**Min**	**Typ**	**Max**	**V_{R1} (V)**	**V_{R2} (V)**	**(Ω)**	**C_d (pF)**	**f_T (HMz)**	**(nA)**	**V_R (V)**	
BB535	30	17.5 1.9	2.0 2.3	1 28	8.2	8.9	9.8	1	28	0.65	3	470	10	30	SOD-323
HVU200A	32	27.7 2.67	31.8 3.03	2 25	10.2	-	-	2	25	0.7	5	470	10	30	
HVU202A	34	14.11 2.06	16.47 2.35	2 25	6.2	-	-	2	25	0.57	5	470	10	32	
HVU202B	32	14.15 2.06	15.75 2.35	2 25	6.3	-	-	2	25	0.57	5	470	10	32	
HVU300A	32	39.5 2.60	47.4 3.03	2 25	14.5	-	-	2	25	1.1	5	470	10	30	
HVU300B	34	47.0 2.65	53.0 3.0	2 25	17.0	-	-	2	25	1.1	5	470	10	32	
HVU306A	32	29.3 2.57	34.2 2.92	2 25	11.0	-	-	2	25	0.75	5	470	10	30	
HVU306B	34	29.30 2.60	33.5 2.90	2 25	11.0	-	-	2	25	0.75	5	470	10	32	

STYLE

SOD-323

Small Signal Junction Field-effect Transistors

Product Series

Small Signal Junction Field-Effect Transistors

Part Number	Polarity	Gate Current	Drain-Source Voltage	Gate-Source Voltage	Gate-Source Off-Voltage		Zero-Gate-Voltage Drain Current		Input Capacitance				Reverse Transfer Capacitance				Total Power Dissipation	Package
		max.	max.	max.	min.	max.	min.	max.	max	-	-	-	max	-	-	-	max.	
		I_G	V_{DS}	V_{GS}	$V_{GS(OFF)}$		I_{DSS}		C_{iss} @ $V_{GS}/V_{DS}/f$	$I_C/V_{CE}/f$			C_{rss} @ $V_{GS}/V_{DS}/f$	$I_C/V_{CE}/f$			Ptot	
		mA	V	V	V	V	mA	mA	pF	V	V	MHz	pF	V	V	MHz	mW	
High Frequency JFETs																		
MMBFJ310	N-Channel	10	25	25	2.0	6.5	24	60	5	10	0	1	2.5	10	0	1	225	SOT-23
MMBFU310	N-Channe	10	25	25	2.5	6.0	24	60	5	10	0	1	2.5	10	0	1	225	SOT-23

SOT-23