

FrelTec

Mathildenstr. 10A
82319 Starnberg
Germany

Zener Diode
SOD323

SOD323

SPECIFICATION

601		MM3Z__BWx		SD33		E03
Type		Type		Package		Packing
601: Zener Diode		MM3Z__BWx		SOD323		E03: Embossed tape and reel for 3k pc (7'REEL)

All products according to RoHS (2015/863/EU)

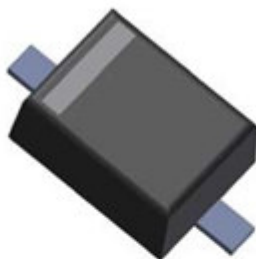
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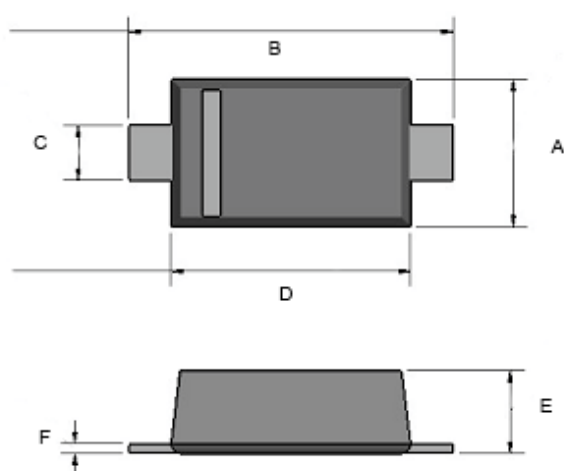
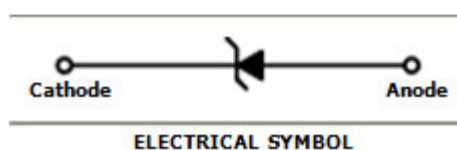
FrelTec
Zener Diode
MM3Z__BW

PACKAGE OUTLINE

Green Product



SOD-323 Flat Lead



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	1,15	1,35	0,045	0,053
B	2,30	2,70	0,010	0,016
C	0,25	0,40	0,010	0,016
D	1,60	1,80	0,063	0,071
E	0,80	1,00	0,031	0,039
F	0,05	0,25	0,002	0,010

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Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
P_D	Power Dissipation	200	mW
T_{STG}	Storage Temperature Range	-65 to +150	$^\circ\text{C}$
T_{OPR}	Operating Temperature Range	-65 to +150	$^\circ\text{C}$

These ratings are limiting values above which the serviceability of the diode may be impaired.

Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

Device Type	Device Marking	$V_Z @ I_{ZT}$ (Volts)			I_{ZT} (mA)	$Z_{ZT} @ I_{ZT}$ (Ω) Max	I_{ZK} (mA)	$Z_{ZK} @ I_{ZK}$ (Ω) Max	$I_R @ V_R$ (μA) Max	V_R (Volts)
		Min	Nom	Max						
MM3Z2V0BW	+Z	1,95	2,0	2,05	5	100	1	564	120	0,5
MM3Z2V2BW	\perp Z	2,14	2,2	2,26	5	100	1	564	120	0,7
MM3Z2V4BW	0Z	2,35	2,4	2,45	5	100	1	564	45	1
MM3Z2V7BW	1Z	2,65	2,7	2,75	5	100	1	564	18	1
MM3Z3V0BW	2Z	2,94	3,0	3,06	5	100	1	564	9	1
MM3Z3V3BW	3Z	3,23	3,3	3,37	5	95	1	564	4,5	1
MM3Z3V6BW	4Z	3,53	3,6	3,67	5	90	1	564	4,5	1
MM3Z3V9BW	5Z	3,82	3,9	3,98	5	90	1	564	2,7	1
MM3Z4V3BW	6Z	4,21	4,3	4,39	5	90	1	564	2,7	1
MM3Z4V7BW	7Z	4,61	4,7	4,79	5	80	1	470	2,7	2
MM3Z5V1BW	8Z	5,00	5,1	5,20	5	60	1	451	1,8	2
MM3Z5V6BW	9Z	5,49	5,6	5,71	5	40	1	376	0,9	2
MM3Z6V2BW	AZ	6,08	6,2	6,32	5	10	1	141	2,7	4
MM3Z6V8BW	BZ	6,66	6,8	6,94	5	15	1	75	1,8	4
MM3Z7V5BW	CZ	7,35	7,5	7,65	5	15	1	75	0,9	5
MM3Z8V2BW	DZ	8,04	8,2	8,36	5	15	1	75	0,63	5
MM3Z9V1BW	EZ	8,92	9,1	9,28	5	15	1	94	0,45	6
MM3Z10VBW	FZ	9,80	10	10,20	5	20	1	141	0,18	7
MM3Z11VBW	GZ	10,78	11	11,22	5	20	1	141	0,09	8
MM3Z12VBW	HZ	11,76	12	12,24	5	25	1	141	0,09	8
MM3Z13VBW	JZ	12,74	13	13,26	5	30	1	160	0,09	8
MM3Z15VBW	KZ	14,70	15	15,30	5	30	1	188	0,045	10,5
MM3Z16VBW	LZ	15,68	16	16,32	5	40	1	188	0,045	11,2
MM3Z18VBW	MZ	17,64	18	18,36	5	45	1	212	0,045	12,6
MM3Z20VBW	NZ	19,60	20	20,40	5	55	1	212	0,045	14,0
MM3Z22VBW	PZ	21,56	22	22,44	5	55	1	235	0,045	15,4
MM3Z24VBW	RZ	23,52	24	24,48	5	70	1	235	0,045	16,8
MM3Z27VBW	SZ	26,46	27	27,54	2	80	0,5	282	0,045	18,9
MM3Z30VBW	TZ	29,40	30	30,60	2	80	0,5	282	0,045	21,0
MM3Z33VBW	UZ	32,34	33	33,66	2	80	0,5	306	0,045	23,0
MM3Z36VBW	VZ	35,28	36	36,72	2	90	0,5	329	0,045	25,2
MM3Z39VBW	WZ	38,22	39	39,78	2	130	0,5	329	0,045	27,3

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MM3Z43VBW	XZ	42,14	43	43,86	2	150	0,5	353	0,045	30,1
MM3Z47VBW	YZ	46,06	47	47,94	2	170	0,5	353	0,045	33,0
MM3Z51VBW	-Z	49,98	51	52,02	2	180	0,5	376	0,045	35,7
MM3Z56VBW	=Z	54,88	56	57,12	2	200	0,5	400	0,045	39,2
MM3Z62VBW	≡Z	60,76	62	63,24	2	215	0,5	423	0,045	43,4
MM3Z68VBW	>Z	66,64	68	69,36	2	240	0,5	447	0,045	47,6
MM3Z75VBW	<Z	73,50	75	76,50	2	255	0,5	470	0,045	52,5

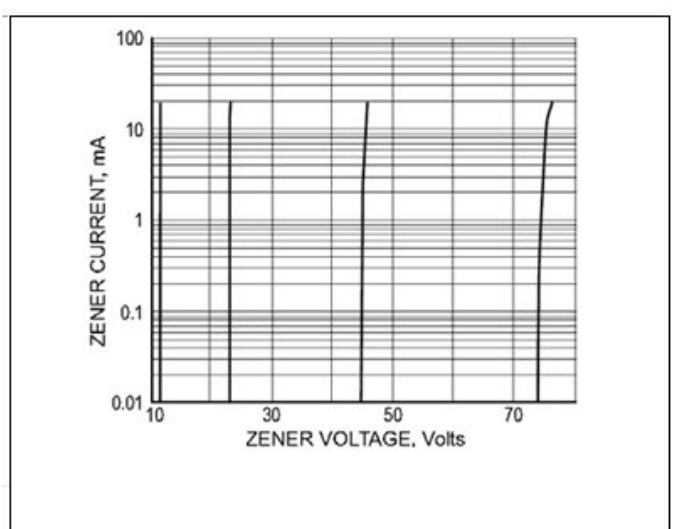
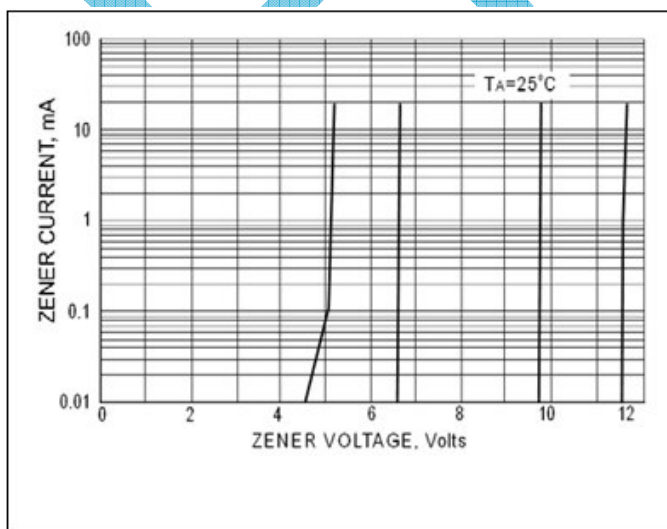
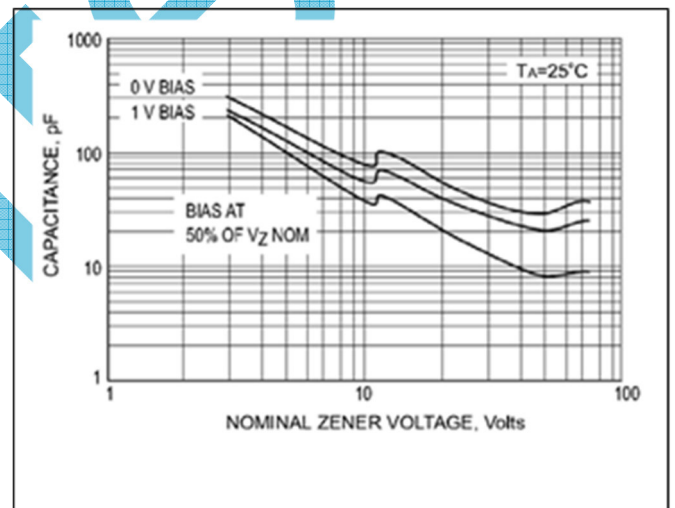
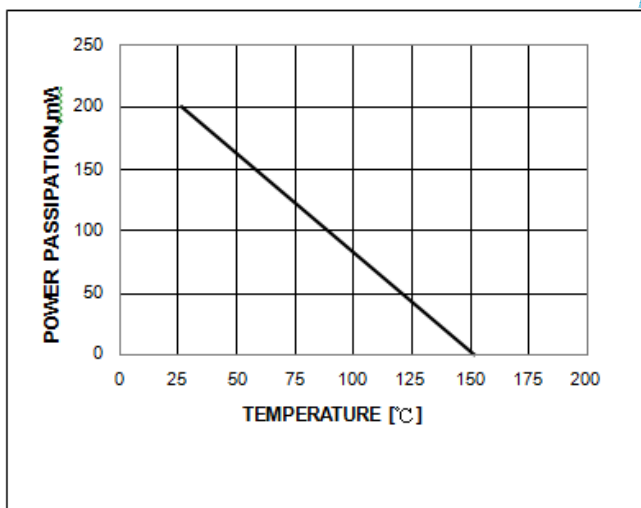
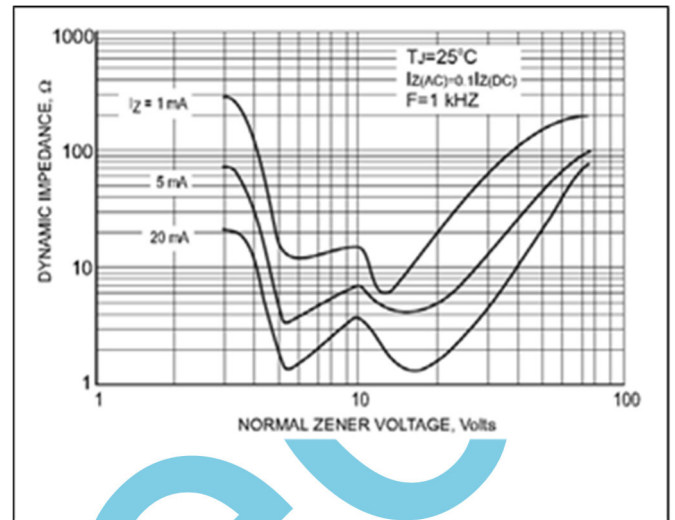
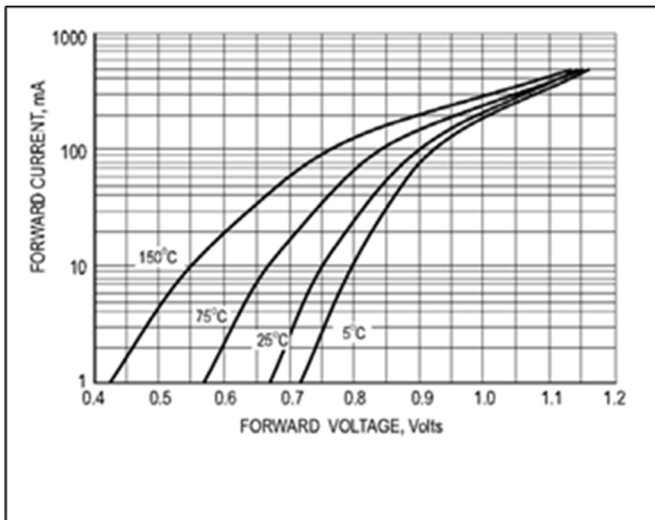
VF Forward Voltage = 1 V Maximum @ **IF** = 10 mA for all types

Notes:

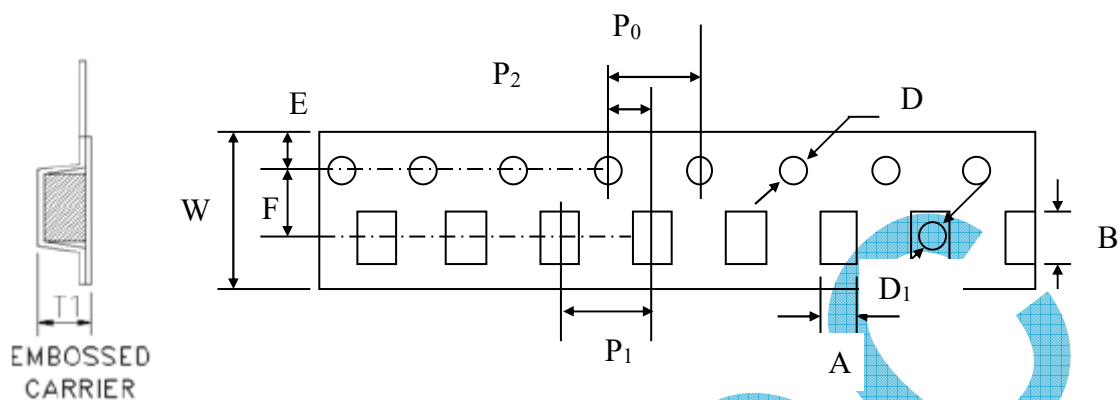
1. The Zener Voltage (**VZ**) is tested under pulse condition of 10mS.
2. The device numbers listed have a standard tolerance on the nominal zener voltage of $\pm 2\%$.
3. The zener impedance is derived from the 60-cycle ac voltage, which results when an ac current having an rms value equal to 10% of the dc zener current (**IZT** or **IZK**) is superimposed to **IZT** or **IZK**.

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Rating and Characteristic Curves



SPECIFICATION

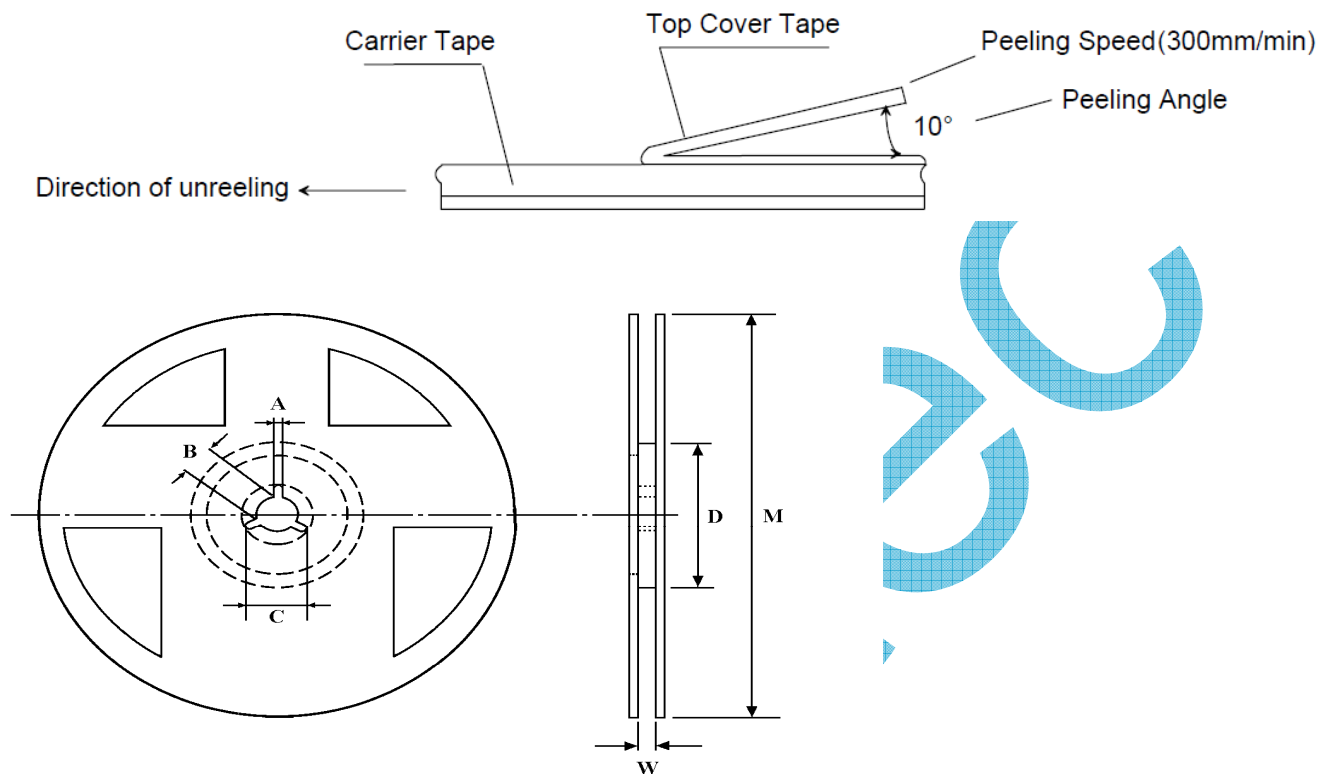
Tape And Reel Package

Type	A	B	W	E	F	P ₀	P ₁	P ₂	ΦD	ΦD ₁	T1
	1,85 ±0,1	3,94 ±0,1	8 ±0,30	1,75±0,01	3,5 ±0,05	4,00±0,10	4,00±0,10	2,00±0,05	1,55±0,03	1,5	1,58 ±0,1

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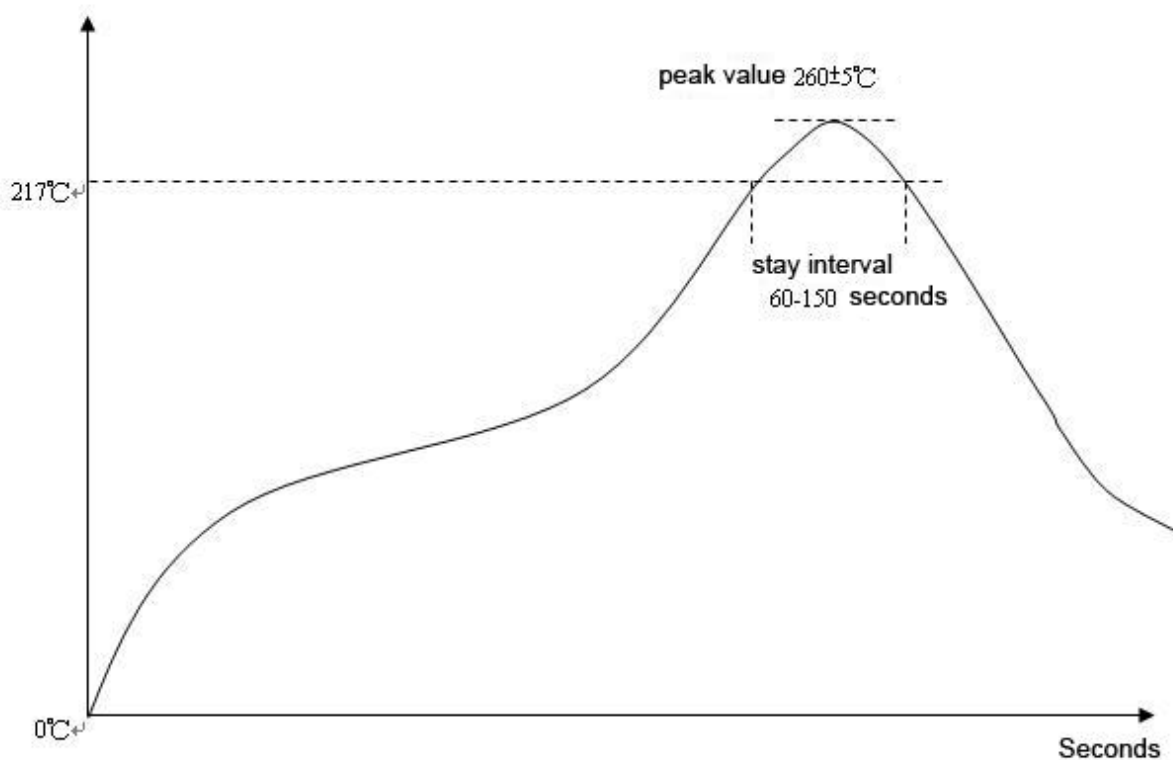
Cover Tape Peel off Strength

Specifications: peel force of top cover tape shall be between 8 to 40g
The peel speed shall be about 300mm/min \pm 5%



Type	Packaging	M	A	B	C	D	W	T
	Embossed	178,0 \pm 1,0	2 \pm 0,5	13,5 \pm 0,7	21 \pm 0,5	60,0 \pm 1,0	13,5 \pm 1,0	15,5 \pm 1,0

Lead Free Reflow Soldering Profile



Frel

Stock period

The performance of these products, including the solderability, is guaranteed for 12 month, provided that they remain packed as they were when delivered and stored at a temperature of $25^\circ\text{C} \pm 3^\circ\text{C}$ and a relative humidity less than 80%RH

3/4/2020

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Please read cautions and warnings and important notes at the end of this document.

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