Features

- Low Profile Package
- Ideal for Automated Placement
- Fully Automotive Qualified to AEC-Q101
- Halogen Free. “Green” Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note2) ("P" Suffix Designates RoHS Compliant. See Ordering Information)

3 Watt Zener Diode 6.8 to 220 Volts

Maximum Ratings(@ 25°C Unless Otherwise Specified)

Parameter	Symbol	Rating	Unit
DC Power Dissipation at T_L = 75 °C	P_D	3	W
Maximum Instantaneous Forward Voltage@ IF=200mA	V_F	1.5	V
Operating Junction Temperature Range	T_J	-55~175	℃
Storage Temperature Range	T_{stg}	-55~175	℃

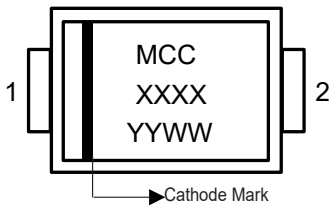
Thermal Characteristics(@ 25°C Unless Otherwise Specified)

Parameter	Symbol	Rating	Unit
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	33	℃/W
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	120	℃/W
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	25	℃/W

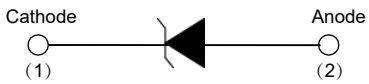
Note:

1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.
3. Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.4" x 0.4" (10 mm x 10 mm) copper pad areas
4. The VZ type numbers listed indicate a tolerance of +/-5%

Simplified outline

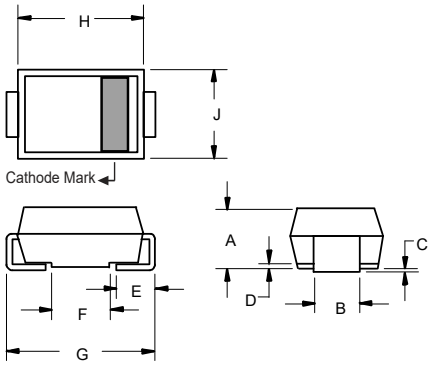


Graphic symbol



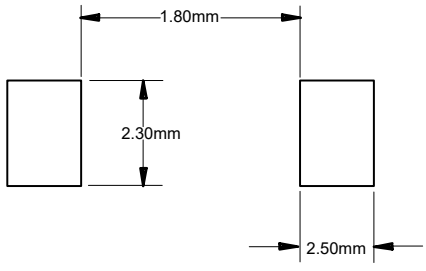
XXXX = Marking code YYWW = Date Code

SMB (DO-214AA) (LEAD FRAME)



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.079	0.103	2.00	2.62	
B	0.075	0.087	1.91	2.21	
C	0.002	0.008	0.05	0.20	
D	0.006	0.012	0.15	0.31	
E	0.030	0.060	0.76	1.52	
F	0.065	0.091	1.65	2.32	
G	0.200	0.220	5.08	5.59	
H	0.160	0.191	4.06	4.85	
J	0.130	0.155	3.30	3.94	

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C Unless Otherwise Specified

Part Number	Nominal Zener Voltage			Test Current	Maximum Dynamic Impedance Resistance			Maximum Reverse leakage Current		Maximum DC Zener Current	Marking Code
	VZ@IZT			IZT	ZZT at IZT	ZZK at IZK	IZK	IR	VR	IZM	
	Min(V)	Nom(V)	Max(V)	mA	Ω	Ω	mA	μA	V	mA	
3SMBJ5921BQ	6.46	6.8	7.14	110.0	2.0	700	1.00	10.0	4.0	393.0	H21B
3SMBJ5922BQ	7.13	7.5	7.88	100.0	2.0	700	0.50	10.0	5.0	360.0	H22B
3SMBJ5923BQ	7.79	8.2	8.61	91.0	2.3	700	0.50	10.0	6.0	330.0	H23B
3SMBJ5924BQ	8.65	9.1	9.56	82.0	2.5	700	0.50	10.0	7.0	297.0	H24B
3SMBJ5925BQ	9.50	10.0	10.50	75.0	3.5	700	0.25	10.0	7.6	270.0	H25B
3SMBJ5926BQ	10.45	11.0	11.55	68.0	4.0	700	0.25	0.5	8.4	225.0	H26B
3SMBJ5927BQ	11.40	12.0	12.60	63.0	4.5	700	0.25	0.5	9.1	246.0	H27B
3SMBJ5928BQ	12.35	13.0	13.65	58.0	4.5	700	0.25	0.5	9.9	208.0	H28B
3SMBJ5929BQ	14.25	15.0	15.75	50.0	5.5	700	0.25	0.5	11.4	180.0	H29B
3SMBJ5930BQ	15.20	16.0	16.80	47.0	5.5	700	0.25	0.5	12.2	169.0	H30B
3SMBJ5931BQ	17.10	18.0	18.90	42.0	6.0	750	0.25	0.5	13.7	150.0	H31B
3SMBJ5932BQ	19.00	20.0	21.00	37.0	7.0	750	0.25	0.5	15.2	135.0	H32B
3SMBJ5933BQ	20.90	22.0	23.10	34.0	8.0	750	0.25	0.5	16.7	123.0	H33B
3SMBJ5934BQ	22.80	24.0	25.20	31.0	9.0	750	0.25	0.5	18.2	112.0	H34B
3SMBJ5935BQ	25.65	27.0	28.35	28.0	10.0	750	0.25	0.5	20.6	100.0	H35B
3SMBJ5936BQ	28.50	30.0	31.50	25.0	16.0	1000	0.25	0.5	22.5	90.0	H36B
3SMBJ5937BQ	31.35	33.0	34.65	23.0	20.0	1000	0.25	0.5	25.1	82.0	H37B
3SMBJ5938BQ	34.20	36.0	37.80	21.0	22.0	1000	0.25	0.5	27.4	75.0	H38B
3SMBJ5939BQ	37.05	39.0	40.95	19.0	28.0	1000	0.25	0.5	29.7	69.0	H39B
3SMBJ5940BQ	40.85	43.0	45.15	17.0	33.0	1500	0.25	0.5	32.7	63.0	H40B
3SMBJ5941BQ	44.65	47.0	49.35	16.0	38.0	1500	0.25	0.5	35.6	57.0	H41B
3SMBJ5942BQ	48.45	51.0	53.55	15.0	45.0	1500	0.25	0.5	38.8	53.0	H42B
3SMBJ5943BQ	53.20	56.0	58.80	13.0	50.0	2000	0.25	0.5	42.6	48.0	H43B
3SMBJ5944BQ	58.90	62.0	65.10	12.0	55.0	2000	0.25	0.5	47.1	44.0	H44B
3SMBJ5945BQ	64.60	68.0	71.40	11.0	70.0	2000	0.25	0.5	51.7	40.0	H45B
3SMBJ5946BQ	71.25	75.0	78.75	10.0	85.0	2000	0.25	0.5	56.0	36.0	H46B
3SMBJ5947BQ	77.90	82.0	86.10	9.1	95.0	3000	0.25	0.5	62.2	33.0	H47B
3SMBJ5948BQ	86.45	91.0	95.55	8.2	115.0	3000	0.25	0.5	69.2	30.0	H48B
3SMBJ5949BQ	95.00	100.0	105.00	7.5	160.0	3000	0.25	0.5	76.0	27.0	H49B
3SMBJ5950BQ	104.50	110.0	115.50	6.8	225.0	4000	0.25	0.5	83.6	25.0	H50B
3SMBJ5951BQ	114.00	120.0	126.00	6.3	300.0	4500	0.25	0.5	91.2	22.0	H51B
3SMBJ5952BQ	123.50	130.0	136.50	5.8	375.0	5000	0.25	0.5	98.8	21.0	H52B
3SMBJ5953BQ	142.50	150.0	157.50	5.0	550.0	6000	0.25	0.5	114.0	18.0	H53B
3SMBJ5954BQ	152.00	160.0	168.00	4.7	625.0	6500	0.25	0.5	121.6	17.0	H54B
3SMBJ5955BQ	171.00	180.0	189.00	4.2	700.0	7000	0.25	0.5	136.8	15.0	H55B
3SMBJ5956BQ	190.00	200.0	210.00	3.7	875.0	8000	0.25	0.5	152.0	13.0	H56B
3SMBJ5957BQ	199.50	210.0	220.50	3.5	950.0	8300	0.25	0.5	169.0	12.3	H57B
3SMBJ5958BQ	209.00	220.0	231.00	3.3	1600.0	8500	0.25	0.5	178.0	11.6	H58B

Curve Characteristics

Fig. 1 - Power Derating Curve

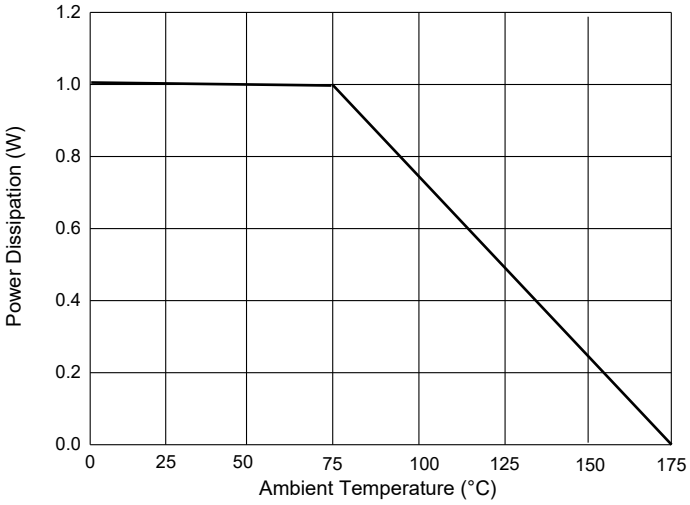


Fig. 2 - Typical Forward Characteristics

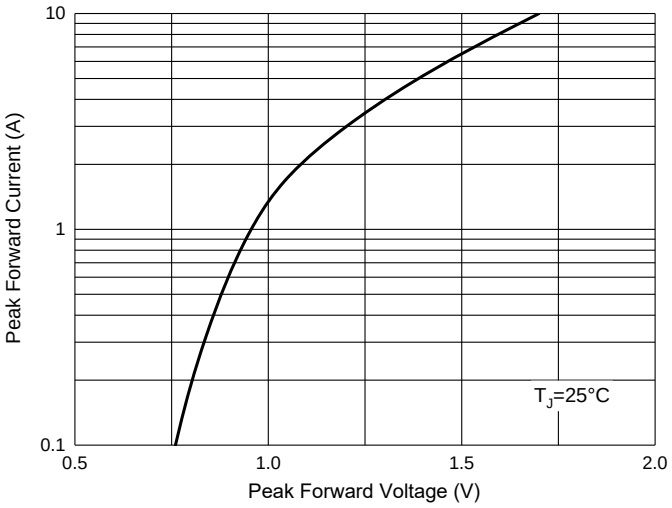


Fig. 3 - Pulse Waveform

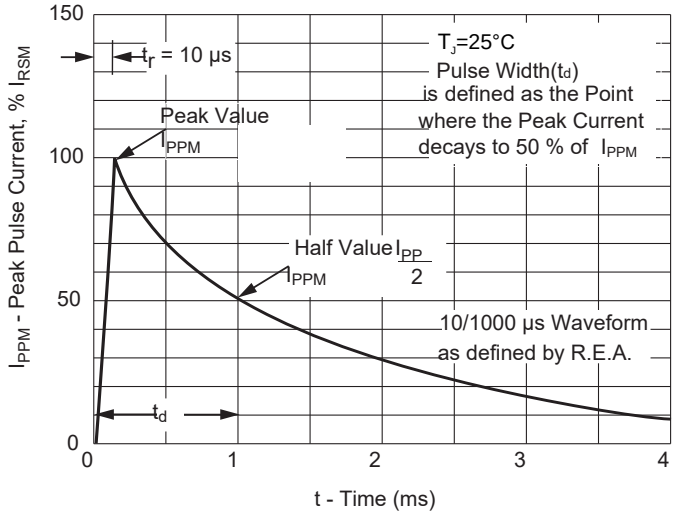
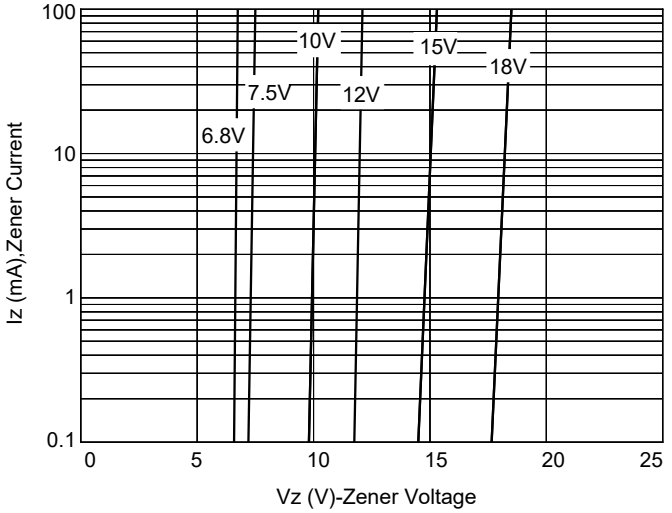


Fig.4 -Typical Zener Breakdown Characteristics



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:3Kpcs/Reel

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