

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)

Maximum Ratings(@ 25°C Unless Otherwise Specified)

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

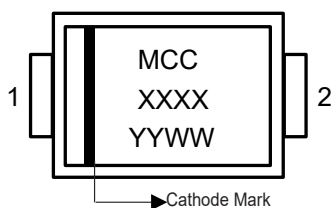
Thermal Characteristics(@ 25°C Unless Otherwise Specified)

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

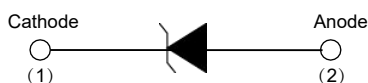
Note:

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



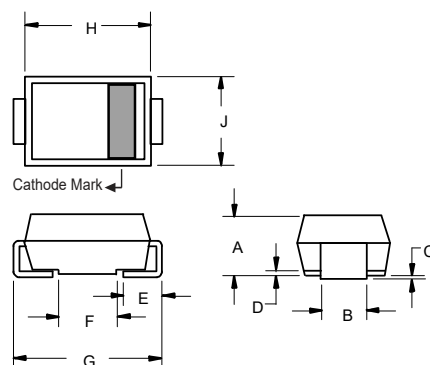
Graphic symbol



XXXX = Marking code YYWW = Date Code

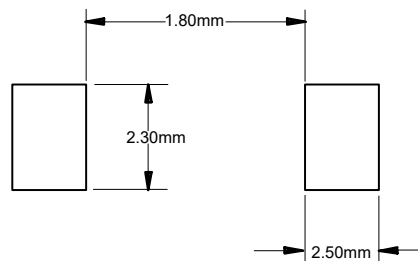
3 Watt Zener Diode 6.8 to 220 Volts

SMB (DO-214AA) (LEAD FRAME)



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)										
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

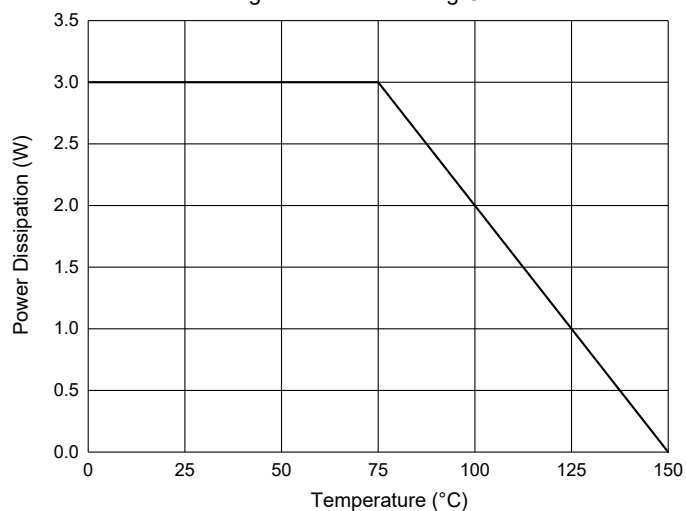


Fig. 2 - Typical Forward Characteristics

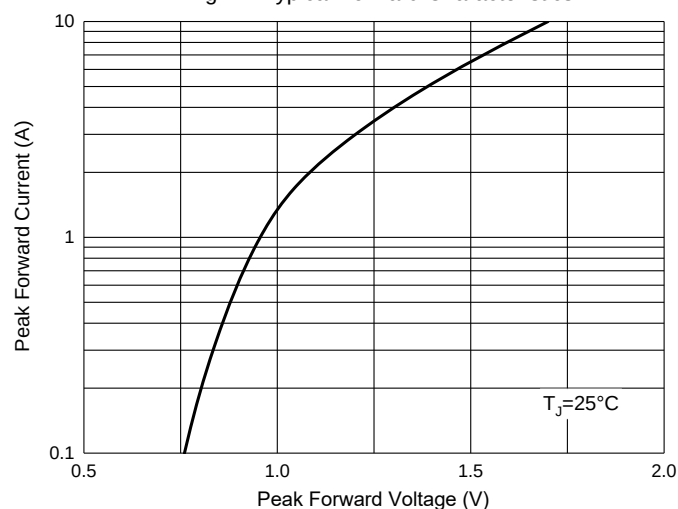


Fig. 3 - Pulse Waveform

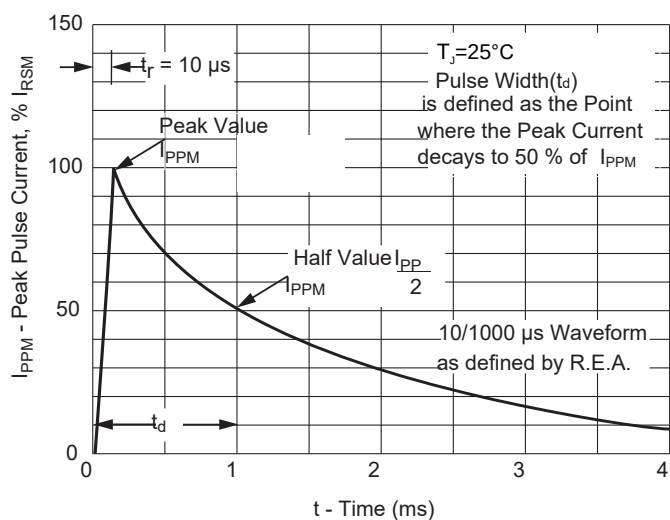
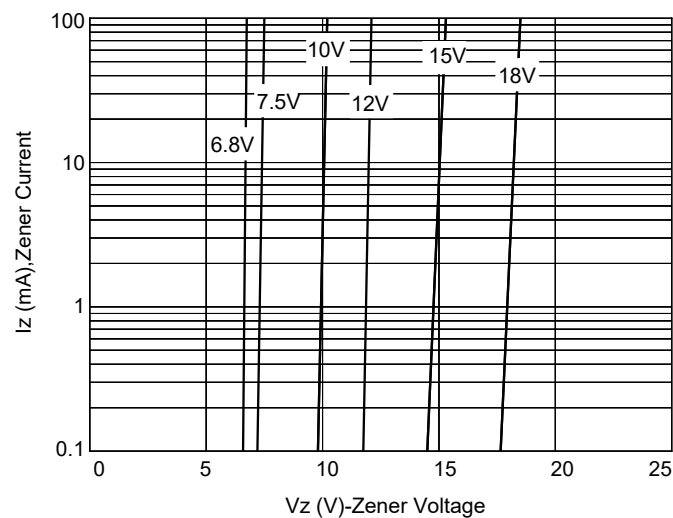


Fig. 4 - Typical Zener Breakdown Characteristics



Ordering Information

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

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