

## Features

- Standard Vz Tolerance is  $\pm 2\%$
- Halogen Free. "Green" Device (Note 1)
- AEC-Q101 Qualified
- Planar Die Construction
- Ideally Suited for Automated Assembly Processes
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

## Maximum Ratings

- Operating Junction Temperature Range:  $-55^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$
- Storage Temperature Range:  $-55^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$
- Thermal Resistance :  $304^{\circ}\text{C/W}$  Junction to Ambient (Note2)
- Thermal Resistance :  $250^{\circ}\text{C/W}$  Junction to Ambient (Note3)

Parameter	Symbol	Rating	Conditions
Power Dissipation	$P_D$	410mW	Diode on Ceramic Substrate 0.7 mm, 2.5 mm <sup>2</sup> Pad Areas
Power Dissipation	$P_D$	500mW	Diode on Ceramic Substrate 0.7 mm, 5 mm <sup>2</sup> Pad Areas
Maximum Forward Voltage	$V_F$	0.9V	$I_F=10\text{mA}$

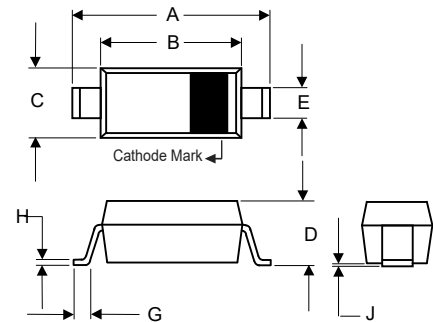
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Note: 2. Diode on Ceramic Substrate 0.7 mm, 2.5 mm<sup>2</sup> Pad Areas.

Note: 3. Diode on Ceramic Substrate 0.7 mm, 5 mm<sup>2</sup> Pad Areas.

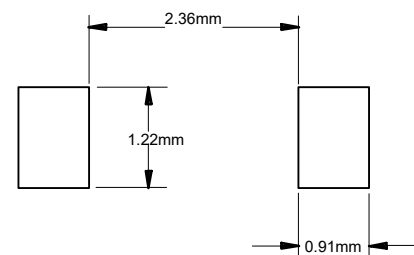
**500 mW  
Zener Diode  
3.6 to 47 Volts**

## SOD-123



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.140	0.152	3.55	3.85	
B	0.100	0.112	2.55	2.85	
C	0.055	0.071	1.40	1.80	
D	----	0.053	----	1.35	
E	0.018	0.026	0.45	0.65	
G	0.006	----	0.15	----	
H	----	0.010	----	0.25	
J	----	0.006	----	0.15	

## SUGGESTED SOLDER PAD LAYOUT



**Electrical Characteristics @ 25°C Unless Otherwise Specified**

MCC Part Number	Zener Voltage			Maximum Zener Impedance <sup>(4)</sup>				Reverse Current		Marking Code
	Min.(V)	V <sub>Z</sub> @ I <sub>ZT</sub>		Z <sub>ZT</sub>	I <sub>ZT</sub>	Z <sub>ZK</sub>	I <sub>ZK</sub>	I <sub>R</sub> (Max)	V <sub>R</sub>	
		Nom(V)	Max.(V)	Ω	mA	Ω	mA	μA	V	
BZT52B3V6HE3	3.52	3.6	3.67	95	5	600	1	15	1.0	2W4
BZT52B3V9HE3	3.82	3.9	3.98	95	5	600	1	10	1.0	2W5
BZT52B4V3HE3	4.21	4.3	4.39	95	5	600	1	5	1.0	2W6
BZT52B4V7HE3	4.61	4.7	4.79	78	5	500	1	5	2.0	2W7
BZT52B5V1HE3	5.0	5.1	5.2	60	5	480	1	0.1	0.8	2W8
BZT52B5V6HE3	5.49	5.6	5.71	40	5	400	1	0.1	1.0	2W9
BZT52B6V2HE3	6.08	6.2	6.32	10	5	150	1	0.1	2.0	2WA
BZT52B6V8HE3	6.66	6.8	6.94	8	5	80	1	0.1	3.0	2WB
BZT52B7V5HE3	7.35	7.5	7.65	7	5	80	1	0.1	5.0	2WC
BZT52B8V2HE3	8.04	8.2	8.36	7	5	80	1	0.1	6.0	2WD
BZT52B9V1HE3	8.92	9.1	9.28	10	5	100	1	0.1	7.0	2WE
BZT52B10HE3	9.80	10	10.2	15	5	150	1	0.1	7.5	2WF
BZT52B11HE3	10.78	11	11.22	20	5	150	1	0.1	8.5	2WG
BZT52B12HE3	11.76	12	12.24	20	5	150	1	0.1	9.0	2WH
BZT52B13HE3	12.74	13	13.3	25	5	170	1	0.1	10.0	2WI
BZT52B15HE3	14.7	15	15.3	30	5	200	1	0.1	11.0	2WJ
BZT52B16HE3	15.68	16	16.3	40	5	200	1	0.1	12.0	2WK
BZT52B18HE3	17.6	18	18.4	50	5	225	1	0.1	14.0	2WL
BZT52B20HE3	19.6	20	20.4	50	5	225	1	0.1	15.0	2WM
BZT52B22HE3	21.56	22	22.44	55	5	250	1	0.1	17.0	2WN
BZT52B24HE3	23.52	24	24.5	70	5	250	1	0.1	18.0	WR
BZT52B27HE3	26.46	27	27.54	80	2	300	1	0.1	20.0	2WP
BZT52B30HE3	29.4	30	30.6	80	2	300	1	0.1	22.5	WT
BZT52B33HE3	32.34	33	33.7	80	2	325	1	0.1	25.0	2WR
BZT52B36HE3	35.28	36	36.72	90	2	350	1	0.1	27.0	2WS
BZT52B39HE3	38.22	39	39.8	90	2	350	1	0.1	29.0	2WT
BZT52B43HE3	42.14	43	43.86	100	2	375	1	0.1	32.0	2WU
BZT52B47HE3	46.06	47	47.94	100	2	375	1	0.1	35.0	2WV

Note : 4. f=1KHz

**Curve Characteristics**

Fig. 1 - Power Derating Curve

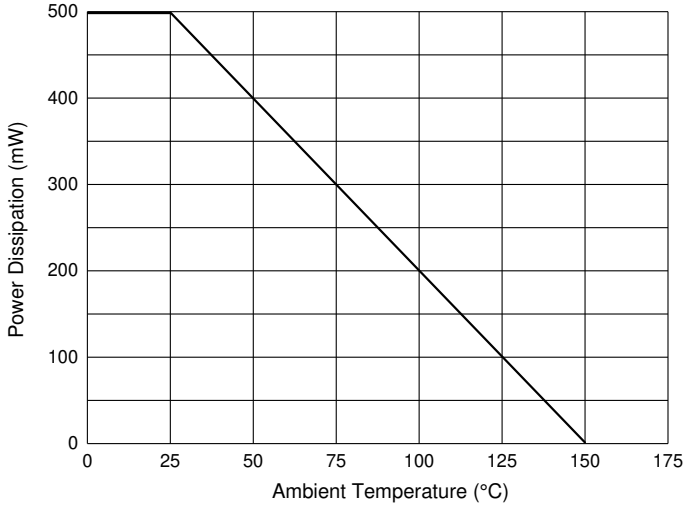


Fig. 2 - Typical Zener Breakdown Characteristics

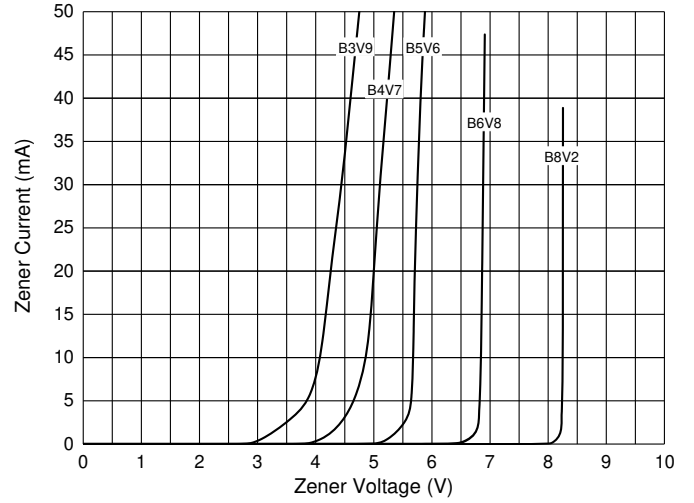


Fig. 3 - Typical Zener Breakdown Characteristics

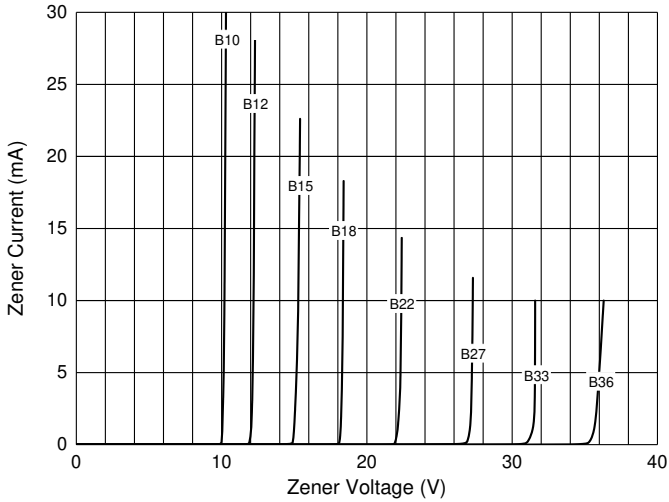
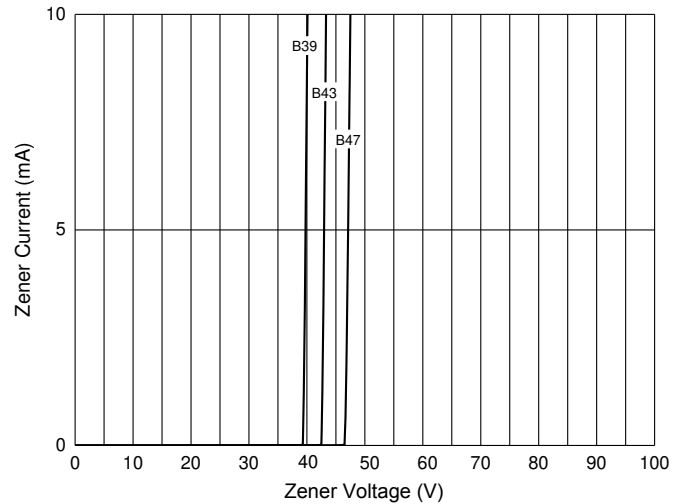


Fig. 4 - Typical Zener Breakdown Characteristics



## Ordering Information

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

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