

## Features

- Planar Die Construction
- Zener Voltages from 2.4V - 62V
- Ideally Suited for Automated Assembly Processes
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- 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)

**350 mWatt  
Zener Diodes  
2.4 to 62 Volts**

## Maximum Ratings

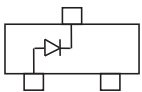
- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance : 357°C/W Junction to Ambient

Parameter	Symbol	Rating	Conditions
Power Dissipation	$P_D$	350mW	Note 1
Peak Forward Surge Current	$I_{FSM}$	2.0A	Note 2
Maximum Forward Voltage	$V_F$	0.9V	$I_F=10mA$

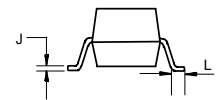
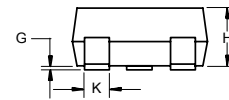
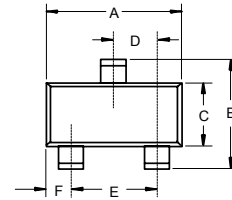
Note:

1. Mounted on 5.0mm<sup>2</sup> (.013mm thick) Land Areas.
2. Measured on 8.3ms, Single Half Sine-wave or Equivalent Square Wave

## Internal Structure



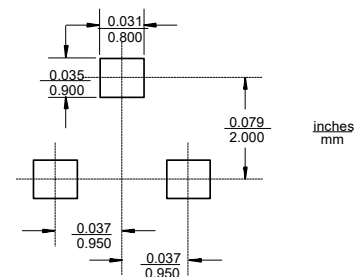
## SOT-23



### DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.110	0.120	2.80	3.04	
B	0.083	0.104	2.10	2.64	
C	0.047	0.055	1.20	1.40	
D	0.034	0.041	0.85	1.05	
E	0.067	0.083	1.70	2.10	
F	0.018	0.024	0.45	0.60	
G	0.0004	0.006	0.01	0.15	
H	0.035	0.043	0.90	1.10	
J	0.003	0.007	0.08	0.18	
K	0.012	0.020	0.30	0.51	
L	0.007	0.020	0.20	0.50	

### Suggested Solder Pad Layout



Electrical Characteristics @ 25°C Unless Otherwise Specified

MCC Part Number	Zener Voltage <sup>(3,4)</sup>			Maximum Zener Impedance <sup>(5)</sup>				Maximum Reverse Current I <sub>R</sub> @ V <sub>R</sub>		Marking Code
	V <sub>Z</sub> @ I <sub>ZT</sub>			I <sub>ZT</sub>	Z <sub>ZT</sub> @ I <sub>ZT</sub>	I <sub>ZK</sub>	Z <sub>ZK</sub> @ I <sub>ZK</sub>	I <sub>R</sub>	V <sub>R</sub>	
	Min.(V)	Nom(V)	Max.(V)	mA	Ω	mA	Ω	μA	V	
BZX84C2V4	2.28	2.40	2.52	5	100	1	600	50	1.0	W1/Z11
BZX84C2V7	2.50	2.70	2.90	5	100	1	600	20	1.0	W2/Z12
BZX84C3V0	2.80	3.00	3.20	5	95	1	600	10	1.0	W3/Z13
BZX84C3V3	3.10	3.30	3.50	5	95	1	600	5	1.0	W4/Z14
BZX84C3V6	3.40	3.60	3.80	5	90	1	600	5	1.0	W5/Z15
BZX84C3V9	3.70	3.90	4.10	5	90	1	600	3	1.0	W6/Z16
BZX84C4V3	4.00	4.30	4.60	5	90	1	600	3	1.0	W7/Z17
BZX84C4V7	4.40	4.70	5.00	5	80	1	500	3	2.0	W8/Z1
BZX84C5V1	4.80	5.10	5.40	5	60	1	480	2	2.0	W9/Z2
BZX84C5V6	5.20	5.60	6.00	5	40	1	400	1	2.0	WA/Z3
BZX84C6V2	5.80	6.20	6.60	5	10	1	150	3	4.0	WB/Z4
BZX84C6V8	6.40	6.80	7.20	5	15	1	80	2	4.0	WC/Z5
BZX84C7V5	7.00	7.50	7.90	5	15	1	80	1	5.0	WD/Z6
BZX84C8V2	7.70	8.20	8.70	5	15	1	80	0.7	5.0	WE/Z7
BZX84C9V1	8.50	9.10	9.60	5	15	1	100	0.5	6.0	WF/Z8
BZX84C10	9.40	10.00	10.60	5	20	1	150	0.2	7.0	WG/Z9
BZX84C11	10.40	11.00	11.60	5	20	1	150	0.1	8.0	WH/Y1
BZX84C12	11.40	12.00	12.70	5	25	1	150	0.1	8.0	WI/Y2
BZX84C13	12.40	13.00	14.10	5	30	1	170	0.1	8.0	WK/Y3
BZX84C15	13.80	15.00	15.60	5	30	1	200	0.1	10.5	WL/Y4
BZX84C16	15.30	16.00	17.10	5	40	1	200	0.1	11.2	WM/Y5
BZX84C18	16.80	18.00	19.10	5	45	1	225	0.1	12.6	WN/Y6
BZX84C20	18.80	20.00	21.20	5	55	1	225	0.1	14.0	WO/Y7
BZX84C22	20.80	22.00	23.30	5	55	1	250	0.1	15.4	WP/Y8
BZX84C24	22.80	24.00	25.60	5	70	1	250	0.1	16.8	WR/Y9
BZX84C27	25.10	27.00	28.90	2	80	1	300	0.1	18.9	WS/Y10
BZX84C30	28.00	30.00	32.00	2	80	1	300	0.1	21.0	WT/Y11
BZX84C33	31.00	33.00	35.00	2	80	1	325	0.1	23.1	WU/Y12
BZX84C36	34.00	36.00	38.00	2	90	1	350	0.1	25.2	WW/Y13
BZX84C39	37.00	39.00	41.00	2	130	1	350	0.1	27.3	WX/Y14
BZX84C43	40.85	43.00	45.15	5	150	1	375	0.1	30.10	WY/Y15
BZX84C47	44.65	47.00	49.35	5	170	1	375	0.1	32.90	WZ/Y16
BZX84C51	48.45	51.00	53.55	5	100	1	400	0.1	35.70	XA/Y17
BZX84C62	58.00	62.00	66.00	2	215	0.5	450	0.05	43.40	Y19

Note :

- Standard zener voltage tolerance is +/- 5% with a 'C' suffix from BZX84C2V4~BZX84C62 , suffix 'B' is +/- 2% tolerance from BZX84B4V3~BZX84B51.
- Zener Voltage (V<sub>Z</sub>) Measurement. Guarantess the Zener Voltage When Measured at 90 Seconds While Maintaining the Lead Temperature (T<sub>L</sub>) at 25°C from the Diode Body.
- Zener Impedance (Z<sub>Z</sub>) Derivation. 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 (I<sub>ZT</sub> or I<sub>ZK</sub>) is Superimposed on I<sub>ZT</sub> or I<sub>ZK</sub>.

Electrical Characteristics @ 25°C Unless Otherwise Specified

MCC Part Number	Zener Voltage <sup>(3,4)</sup>			Maximum Zener Impedance <sup>(5)</sup>				Maximum Reverse Current $I_R(\text{Max}) @ V_R$		Marking Code
	$V_Z @ I_{ZT}$			$I_{ZT}$	$Z_{ZT} @ I_{ZT}$	$I_{ZK}$	$Z_{ZK} @ I_{ZK}$	$I_R$	$V_R$	
	Min.(V)	Nom(V)	Max.(V)	mA	$\Omega$	mA	$\Omega$	$\mu\text{A}$	V	
BZX84B4V3	4.21	4.30	4.39	5	90	1	600	3.0	1.0	W7
BZX84B4V7	4.61	4.70	4.79	5	80	1	500	3.0	2.0	W8/Z1
BZX84B5V1	5.00	5.10	5.20	5	60	1	480	2.0	2.0	W9/Z22
BZX84B5V6	5.49	5.60	5.71	5	40	1	400	1.0	2.0	WA/Z23
BZX84B6V2	6.08	6.20	6.32	5	10	1	150	3.0	4.0	WB/Z24
BZX84B6V8	6.66	6.80	6.94	5	15	1	80	2.0	4.0	WC/Z25
BZX84B7V5	7.35	7.50	7.65	5	15	1	80	1.0	5.0	WD/Z26
BZX84B8V2	8.04	8.20	8.36	5	15	1	80	0.7	5.0	WE/Z27
BZX84B9V1	8.92	9.10	9.28	5	15	1	100	0.5	6.0	WF/Z28
BZX84B10	9.80	10.00	10.20	5	20	1	150	0.2	7.0	WG/Z29
BZX84B11	10.78	11.00	11.22	5	20	1	150	0.1	8.0	WH/ZY1
BZX84B12	11.76	12.00	12.24	5	25	1	150	0.1	8.0	WI/ZY2
BZX84B13	12.74	13.00	13.26	5	30	1	170	0.1	8.0	WK/ZY3
BZX84B15	14.70	15.00	15.30	5	30	1	200	0.1	10.5	WL/ZY4
BZX84B16	15.68	16.00	16.32	5	40	1	200	0.1	11.2	WM/ZY5
BZX84B18	17.64	18.00	18.36	5	45	1	225	0.1	12.6	WN/ZY6
BZX84B20	19.60	20.00	20.40	5	55	1	225	0.1	14.0	WO/ZY7
BZX84B22	21.56	22.00	22.44	5	55	1	250	0.1	15.4	WP/Y8
BZX84B24	23.52	24.00	24.48	5	70	1	250	0.1	16.8	WR/Y9
BZX84B27	26.46	27.00	27.54	5	80	1	300	0.1	18.9	WS/Y10
BZX84B30	29.40	30.00	30.60	5	80	1	300	0.1	21.0	WT/Y11
BZX84B33	32.34	33.00	33.66	5	80	1	325	0.1	23.1	WU/Y12
BZX84B36	35.28	36.00	36.72	5	90	1	350	0.1	25.2	WW/Y13
BZX84B39	38.22	39.00	39.78	5	130	1	350	0.1	27.3	WX/Y14
BZX84B43	42.14	43.00	43.86	5	150	1	375	0.1	30.1	WY
BZX84B47	46.06	47.00	47.94	5	170	1	375	0.1	32.9	WZ
BZX84B51	49.98	51.00	52.02	5	100	1	750	0.1	38.0	XA

Note :

- Standard zener voltage tolerance is +/- 5% with a 'C' suffix from BZX84C2V4~BZX84C62 , suffix 'B' is +/- 2% tolerance from BZX84B4V3~BZX84B51.
- Zener Voltage ( $V_Z$ ) Measurement. Guarantess the Zener Voltage When Measured at 90 Seconds While Maintaining the Lead Temperature ( $T_L$ ) at 25°C from the Diode Body.
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**Curve Characteristics**

Fig. 1 - Power Derating Curve

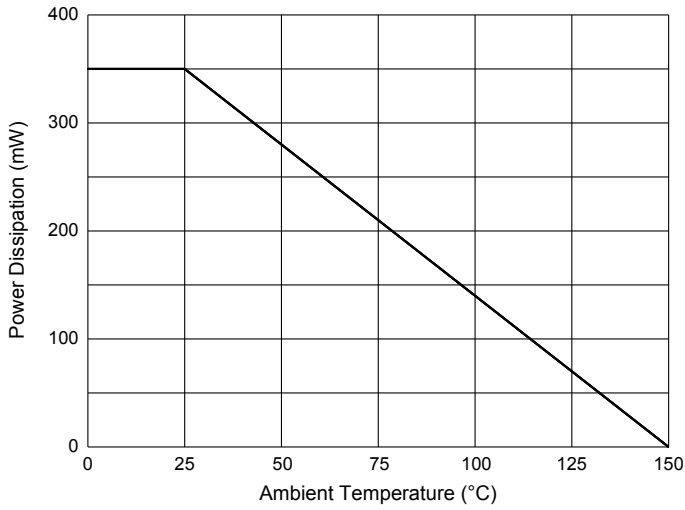


Fig. 2 - Typical Zener Breakdown Characteristics

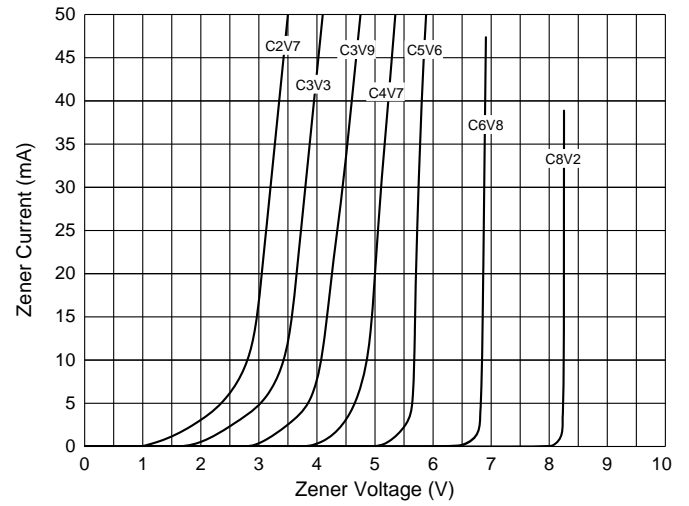
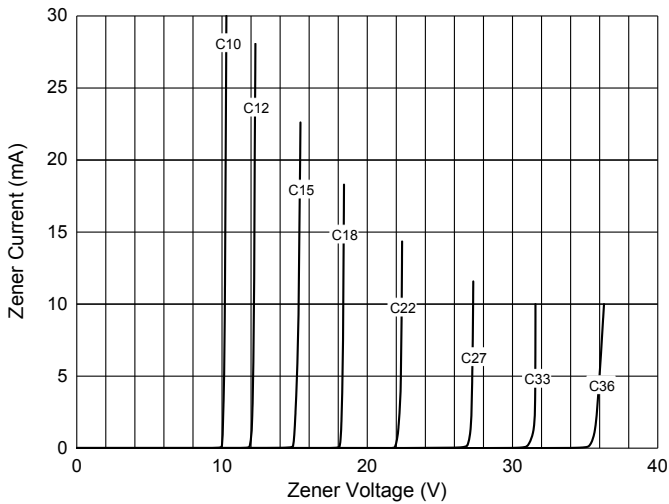


Fig. 3 - Typical Zener Breakdown Characteristics



## Ordering Information

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

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-TP-HF

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