

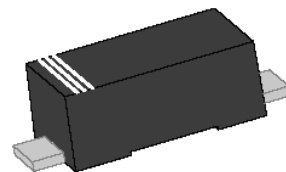


## Zener Diodes with Surge Current Specification: BZD27C Series

Rev.1.8

### FEATURE

- ✧ Silicon power zener diodes.
- ✧ Low zener impedance.
- ✧ Power dissipation: 2.3W.
- ✧ Voltage includes breakdown voltages from 4.7V to 6.2V with  $\pm 5\%$  for BZD27C series.
- ✧ Low profile surface-mount package.
- ✧ Zener and surge current specification.
- ✧ For use in stabilizing and clamping circuits with high power rating.
- ✧ Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C.



SOD-123FL



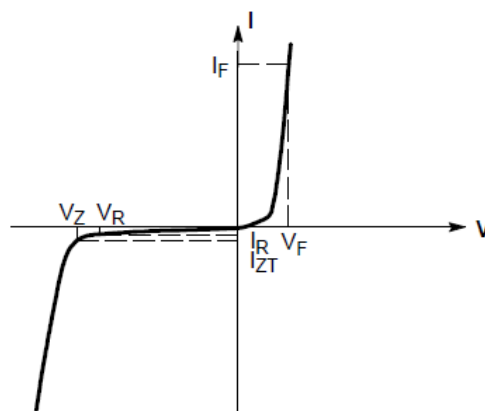
### ABSOLUTE MAXIMUM RATINGS AND THERMAL CHARACTERISTICS

Parameter	Symbol	Max Value	Unit
Total power dissipation @ $T_L=105^\circ\text{C}$	$P_D$	2300	mW
Total power dissipation @ $T_A=25^\circ\text{C}$	$P_D$	800	mW
Thermal resistance junction to ambient (Note1)	$R_{\theta JA}$	180	$^\circ\text{C}/\text{W}$
Maximum junction temperature	$T_J$	175	$^\circ\text{C}$
Storage temperature range	$T_S$	-65 to +175	$^\circ\text{C}$

Note1: Mounted on epoxy-glass PCB with 3 mm x 3 mm Cu pads ( $\geq 40 \mu\text{m}$  thick)

### ELECTRICAL CHARACTERISTICS

Symbol	Parameter
$V_Z$	Reverse zener voltage at $I_{zt}$
$I_{zt}$	Reverse current
$I_R$	Reverse leakage current at $V_R$
$V_R$	Reverse voltage
$I_F$	Forward current
$V_F$	Forward voltage at $I_F$



Zener voltage regulator

MARKING



7R1: Device Marking Code

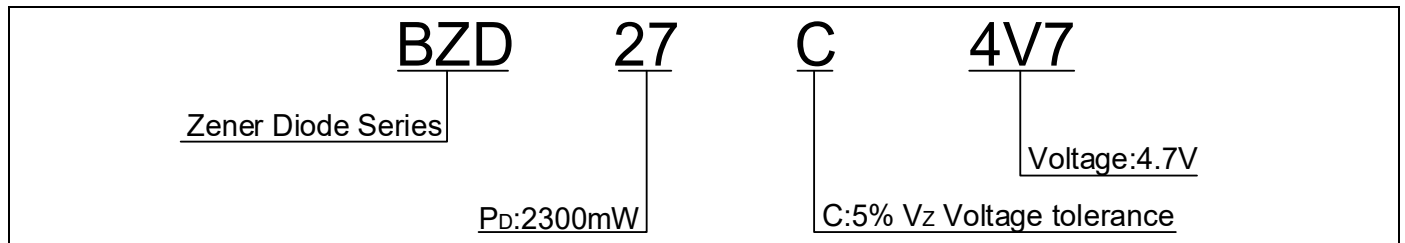
**BZD27C ELECTRICAL CHARACTERISTICS**( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

Maximum  $V_F=1.2\text{V}$  at  $I_F=200\text{mA}$

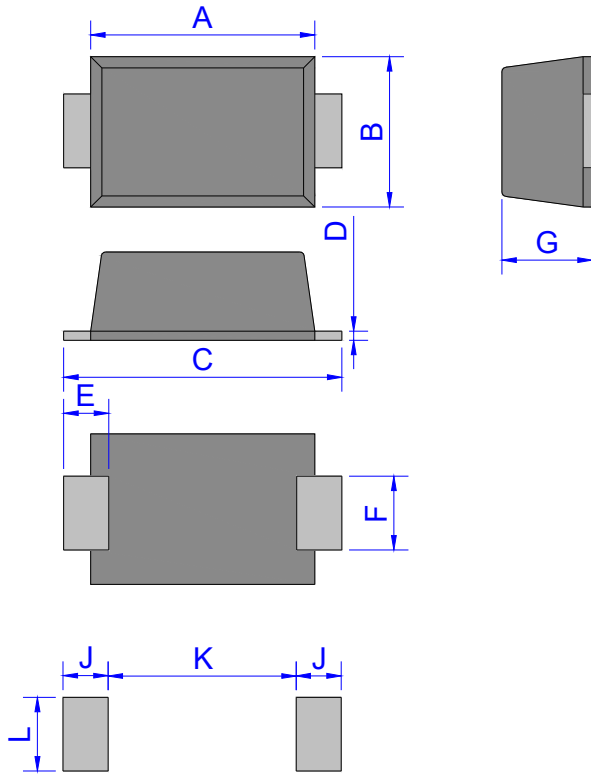
Type number	Zener voltage range at $I_{zt}$				Maximum zener impedance			Maximum reverse leakage current		Marking code
	Nom (Volts)	Min (Volts)	Max (Volts)	$I_{zt}$ (mA)	$Z_{zT}$ ( $\Omega$ )	$Z_{zK}$ ( $\Omega$ )	$I_{zK}$ (mA)	$I_R$ ( $\mu\text{A}$ )	$V_R$ (Volts)	
BZD27C4V7	4.7	4.47	4.94	79.8	8	600	1.0	10	1	7R1
BZD27C5V1	5.1	4.85	5.36	73.5	7	500	1.0	5	1	7T1
BZD27C5V6	5.6	5.32	5.88	67.0	5	500	1.0	5	2	7U1
BZD27C6V2	6.2	5.89	6.51	60.5	4	500	1.0	5	3	7V1

Notes: Zener voltage tolerance of standard BZD27C series is  $\pm 5\%$

ORDERING INFORMATION



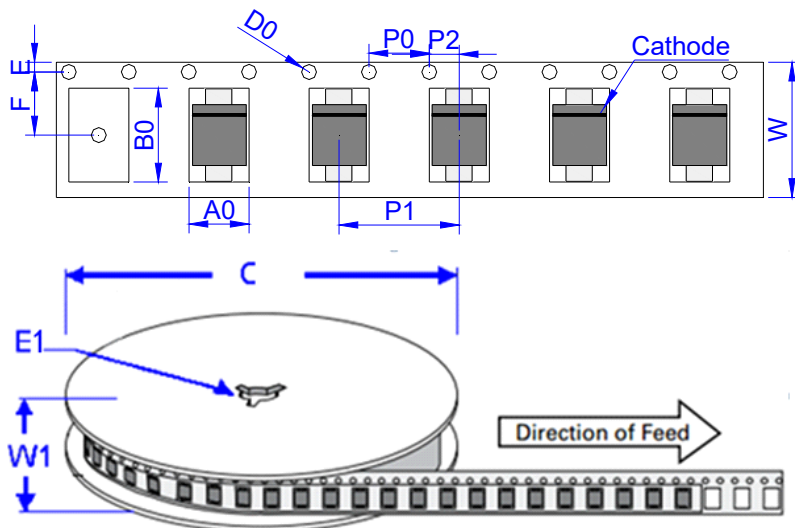
PACKAGE MECHANICAL DATA



SOD-123FL

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.60	3.00	0.102	0.118
B	1.60	2.00	0.063	0.079
C	3.45	3.95	0.136	0.156
D	0.10	0.25	0.004	0.01
E	0.3	0.9	0.012	0.035
F	0.80	1.20	0.031	0.047
G	0.95	1.35	0.037	0.053
J	1.30		0.051	
K		1.70		0.067
L	1.30		0.051	

TAPE AND REEL SPECIFICATION-SOD-123FL



Ref.	Dimensions	
	Millimeters	Inches
A0	1.95 ± 0.3	0.077 ± 0.012
B0	3.95 ± 0.3	0.156 ± 0.012
C	178	7.0
D0	1.55 ± 0.1	0.061 ± 0.004
E	1.75 ± 0.2	0.069 ± 0.008
E1	13.3 ± 0.3	0.524 ± 0.012
F	3.50 ± 0.2	0.138 ± 0.008
P0	4.00 ± 0.2	0.157 ± 0.008
P1	4.00 ± 0.2	0.157 ± 0.008
P2	2.00 ± 0.2	0.079 ± 0.008
W	8.0 ± 0.2	0.315 ± 0.008
W1	11.5 ± 1.0	0.453 ± 0.039

PART No.	UNIT WEIGHT (g/PCS) typ.	REEL (PCS)	PER CARTON (PCS)	DESCRIPTION
BZD27C Series	0.0144	3,000	150,000	7 inch reel pack

**RATINGS AND CHARACTERISTICS CURVES**( $T_A=25^{\circ}\text{C}$ , unless otherwise noted)

Fig.1 Power dissipation vs lead temperature

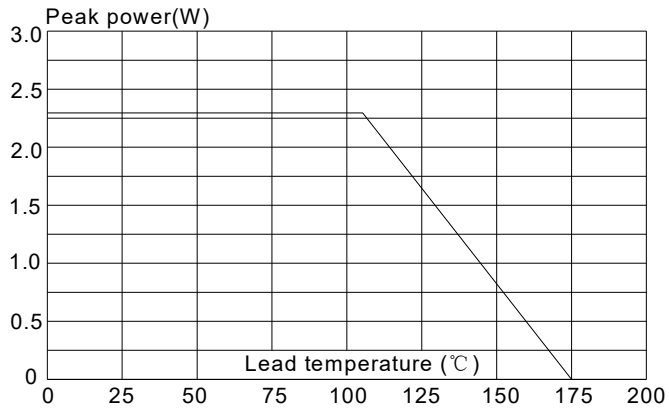


Fig.2 Zener breakdown characteristics

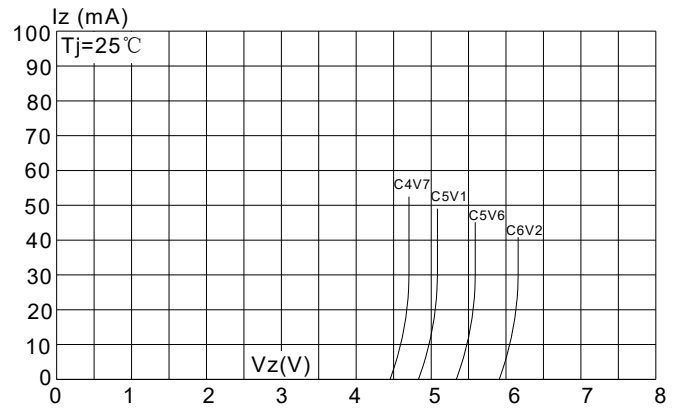
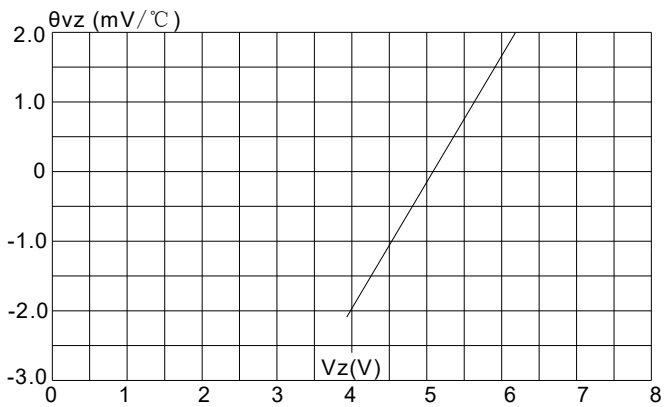


Fig.3 Temperature coefficient vs. zener voltage



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