

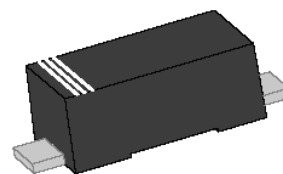


Zener Diodes with Surge Current Specification: BZD59C Series

Rev.1.6

FEATURE

- ◇ Silicon power zener diodes.
- ◇ Low zener impedance.
- ◇ Power dissipation: 1.5W.
- ◇ Voltage includes breakdown voltages from 3.9V to 6.2V with $\pm 5\%$ for BZD59C 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



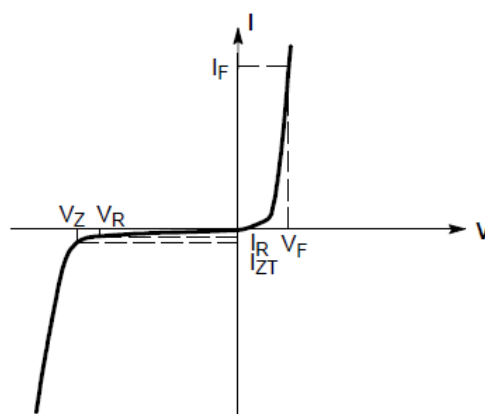
ABSOLUTE MAXIMUM RATINGS AND THERMAL CHARACTERISTICS

Parameter	Symbol	Max Value	Unit
Total power dissipation @75°C	P_D	1500	mW
Thermal resistance junction to ambient(Note1)	$R_{\theta JA}$	330	°C/W
Junction temperature	T_J	150	°C
Storage temperature range	T_S	-55 to+150	°C
Operating temperature range	T_{OP}	-55 to+150	°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



7T1: Device Marking Code

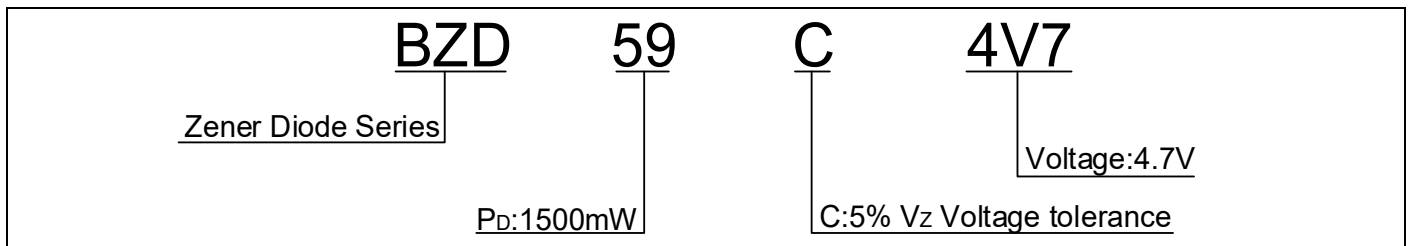
BZD59C ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

Maximum V_F=1.2V at I_F=200mA

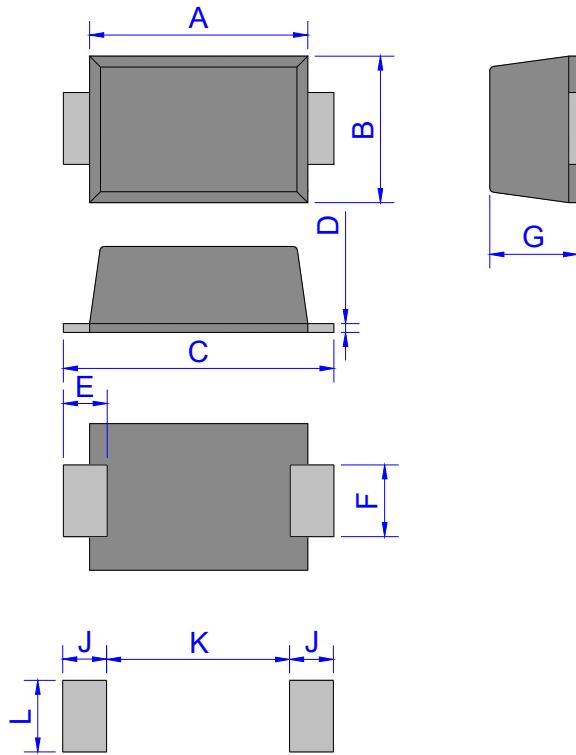
Type number	Zener voltage range at I _{ZT}				Maximum zener impedance			Maximum reverse leakage current		Marking code
	Nom (Volts)	Min (Volts)	Max (Volts)	I _{ZT} (mA)	Z _{ZT} (Ω)	Z _{ZK} (Ω)	I _{ZK} (mA)	I _R (μA)	V _R (Volts)	
BZD59C3V9	3.9	3.71	4.10	96.0	20	800	1.0	120	1	7P1
BZD59C4V3	4.3	4.09	4.52	87.0	20	600	1.0	20	1	7Q1
BZD59C4V7	4.7	4.47	4.94	79.8	8	600	1.0	10	1	7R1
BZD59C5V1	5.1	4.85	5.36	73.5	7	500	1.0	5	1	7T1
BZD59C5V6	5.6	5.32	5.88	67.0	5	500	1.0	5	2	7U1
BZD59C6V2	6.2	5.89	6.51	60.5	4	500	1.0	5	3	7V1

Notes: Zener voltage tolerance of standard BZD59C series is ±5%

ORDERING INFORMATION



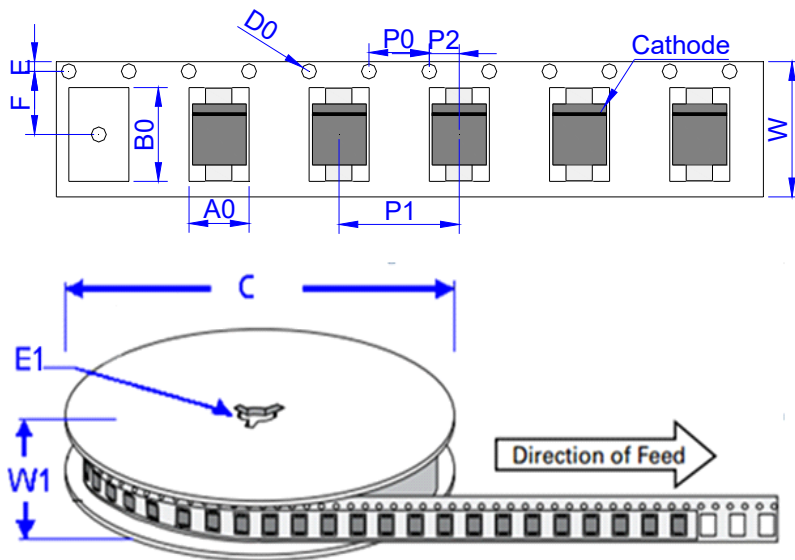
PACKAGE MECHANICAL DATA



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
BZD59C 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

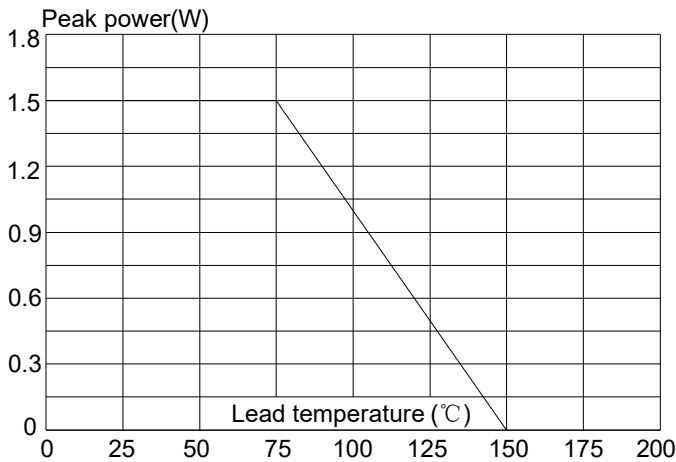
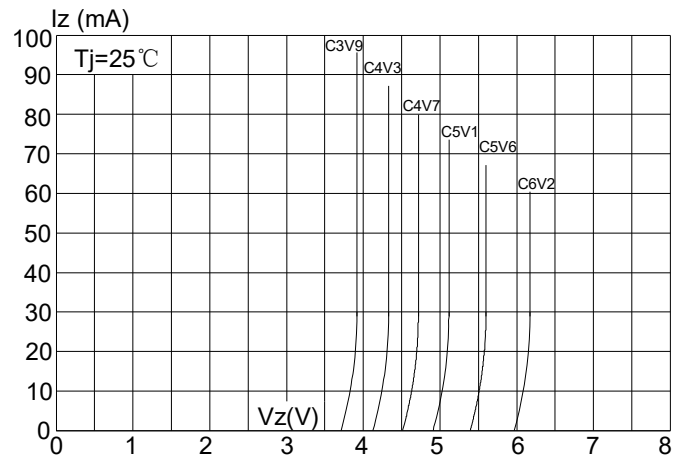


Fig.2 Zener breakdown characteristics



JieJie products are not designed for, and shall not be used for, any purpose (including, without limitation, automotive, military, aerospace, medical, life-saving, life-sustaining or nuclear facility applications, devices intended for surgical implant into the body, or any other application in which the failure or lack of desired operation of the product may result in personal injury, death, or property damage) other than those expressly set forth in applicable JieJie product documentation. Warranties granted by JieJie shall be deemed void for products used for any purpose not expressly set forth in applicable JieJie documentation. JieJie shall not be liable for any claims or damages arising out of products used in applications not expressly intended by JieJie as set forth in applicable JieJie documentation. The sale and use of JieJie products is subject to JieJie terms and conditions of sale, unless otherwise agreed by JieJie.

Information furnished in this document is believed to be accurate and reliable. However, Jiangsu JieJie Microelectronics Co., Ltd. assumes no responsibility for the consequences of use without consideration for such information nor use beyond it.

Information mentioned in this document is subject to change without notice, apart from that when an agreement is signed, Jiangsu JieJie complies with the agreement.

Products and information provided in this document have no infringement of patents. Jiangsu JieJie assumes no responsibility for any infringement of other rights of third parties which may result from the use of such products and information.

This document is the 1.6th version which is made in 14-Nov.-2023. This document supersedes and replaces all information previously supplied.

 is a registered trademark of Jiangsu JieJie Microelectronics Co., Ltd.

Copyright ©2023 Jiangsu JieJie Microelectronics Co., Ltd. Printed All rights reserved.