GSZ03MxxxD1F Series

Zener Diodes

Product Description

Zener diode with 350mW power dissipation.

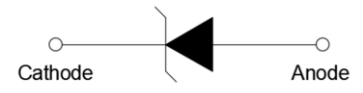
Features

- Zener Voltage Range from 2.4V to 75V
- V_Z Tolerance Selection of ±2%

Mechanical Data

- SOD-123 Package
- Band Indicates Cathode
- RoHS Compliant and Halogen Free

Package and Pin Assignment

SOD-123	Equivalent Circuit
	

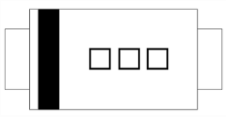
Ordering and Marking Information

Ordering Information

Part Number	Package	Part Marking	Quantity / Reel
GSZ03M□□□D1F	SOD-123	□□□	3,000 PCS

- **Product Code:** GSZ is Zener Diode
- **Series Code:** 03 w/ SOD-123 BZT52B Series
- **V_Z Tolerance:** M is 2%
- **Voltage Code:** □□□, such as 2V4 is 2.4V and 75V is 75V etc.
- **Package Code:** D1 is SOD-123
- **Green Level:** F is RoHS Compliant and Halogen Free

Marking Information



- **Voltage Code:** □□□
- The Color Band indicates Cathode Pin

Device Marking please refer to the Electrical Characteristics Section

Absolute Maximum Ratings (T_A=25°C Unless Otherwise Specified)

Symbol	Parameter	Value	Unit
P_D	Power Dissipation	350	mW
$R_{\theta JA}$	Thermal Resistance - Junction to Ambient [4]	350	°C/W
T_J	Junction Temperature Range	-55 to +150	°C
T_{STG}	Storage Temperature Range	-55 to +150	°C
V_F	Maximum Forward Voltage at I_F=10 mA	0.9	V

Electrical Characteristics (T_A=25°C unless otherwise specified)

Part Number	Marking	V_Z(V) @ I_{ZT}			Z_{ZT} max @		Z_{ZK} max @		I_R max @	
					Z_{ZT}	I_{ZT}	Z_{ZK}	I_{ZK}	I_R	V_R
		Min	Nom	Max	Ω	mA	Ω	mA	uA	V
GSZ03M2V4D1F	2WX	2.35	2.4	2.45	100	5	600	1	50	1
GSZ03M2V7D1F	2W1	2.65	2.7	2.75	100	5	600	1	20	1
GSZ03M3V0D1F	2W2	2.94	3.0	3.06	95	5	600	1	10	1
GSZ03M3V3D1F	2W3	3.23	3.3	3.37	95	5	600	1	5	1
GSZ03M3V6D1F	2W4	3.53	3.6	3.67	90	5	600	1	5	1
GSZ03M3V9D1F	2W5	3.82	3.9	3.98	90	5	600	1	3	1
GSZ03M4V3D1F	2W6	4.21	4.3	4.39	90	5	600	1	3	1
GSZ03M4V7D1F	2W7	4.61	4.7	4.79	80	5	500	1	3	2
GSZ03M5V1D1F	2W8	5.00	5.1	5.20	60	5	480	1	2	2
GSZ03M5V6D1F	2W9	5.49	5.6	5.71	40	5	400	1	1	2
GSZ03M6V2D1F	2WA	6.08	6.2	6.32	10	5	150	1	3	4
GSZ03M6V8D1F	2WB	6.66	6.8	6.94	15	5	80	1	2	4
GSZ03M7V5D1F	2WC	7.35	7.5	7.65	15	5	80	1	1	5
GSZ03M8V2D1F	2WD	8.04	8.2	8.36	15	5	80	1	0.7	5
GSZ03M9V1D1F	2WE	8.92	9.1	9.28	15	5	100	1	0.5	6
GSZ03M10VD1F	2WF	9.80	10	10.20	20	5	150	1	0.2	7
GSZ03M11VD1F	2WG	10.78	11	11.22	20	5	150	1	0.1	8
GSZ03M12VD1F	2WH	11.76	12	12.24	25	5	150	1	0.1	8
GSZ03M13VD1F	2WI	12.74	13	13.26	30	5	170	1	0.1	8
GSZ03M14VD1F	2WY	13.72	14	14.28	25	5	110	1	0.1	10.5
GSZ03M15VD1F	2WJ	14.70	15	15.30	30	5	200	1	0.1	10.5
GSZ03M16VD1F	2WK	15.68	16	16.32	40	5	200	1	0.1	11.2
GSZ03M18VD1F	2WL	17.64	18	18.36	45	5	225	1	0.1	12.6
GSZ03M20VD1F	2WM	19.60	20	20.40	55	5	225	1	0.1	14.0
GSZ03M22VD1F	2WN	21.56	22	22.44	55	5	250	1	0.1	15.4
GSZ03M24VD1F	2WO	23.52	24	24.48	70	5	250	1	0.1	16.8

GSZ03M27VD1F	2WP	26.46	27	27.54	80	2	300	0.5	0.1	18.9
GSZ03M30VD1F	2WQ	29.40	30	30.60	80	2	300	0.5	0.1	21.0
GSZ03M33VD1F	2WR	32.34	33	33.66	80	2	325	0.5	0.1	23.1
GSZ03M36VD1F	2WS	35.28	36	36.72	90	2	350	0.5	0.1	25.2
GSZ03M39VD1F	2WT	38.22	39	39.78	130	2	350	0.5	0.1	27.3
GSZ03M43VD1F	2WU	42.14	43	43.86	130	2	350	0.5	0.1	29.4
GSZ03M47VD1F	2WV	46.06	47	47.94	170	2	1000	0.25	0.1	36
GSZ03M51VD1F	2X1	49.98	51	52.02	180	2	1300	0.25	0.1	39
GSZ03M56VD1F	2X2	54.88	56	57.12	200	2	1400	0.25	0.1	43
GSZ03M62VD1F	2X3	60.76	62	63.24	225	2	1400	0.25	0.1	47
GSZ03M68VD1F	2X4	66.64	68	69.36	240	2	1600	0.25	0.1	52
GSZ03M75VD1F	2X5	73.50	75	76.50	265	2	1700	0.25	0.1	56

NOTE:

1. The Zener Voltage (V_Z) is tested under pulse condition of 10mS.
2. The device numbers listed have a standard tolerance on the nominal Zener voltage of ±2%.
3. 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_{ZT} or I_{ZK}) is superimposed to I_{ZT} or I_{ZK}.
4. Device mounted on FR4 PCB, single-sided copper, tin-plated and standard footprint.

Typical Characteristics

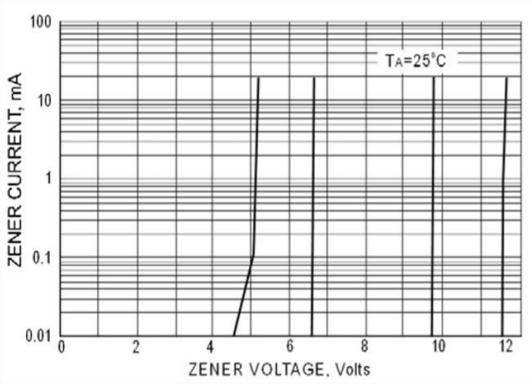


Fig 1. Zener Breakdown Characteristic

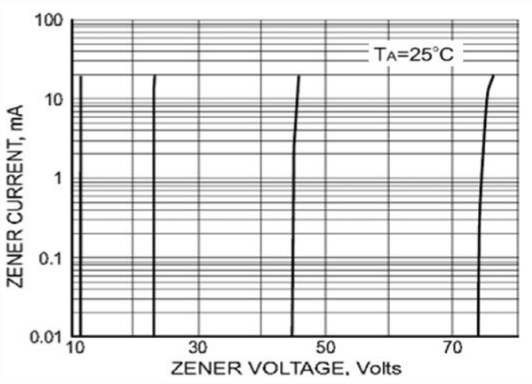


Fig 2. Zener Breakdown Characteristic

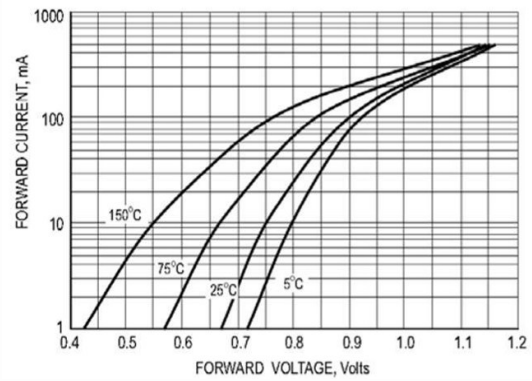


Fig 3. Forward Characteristic

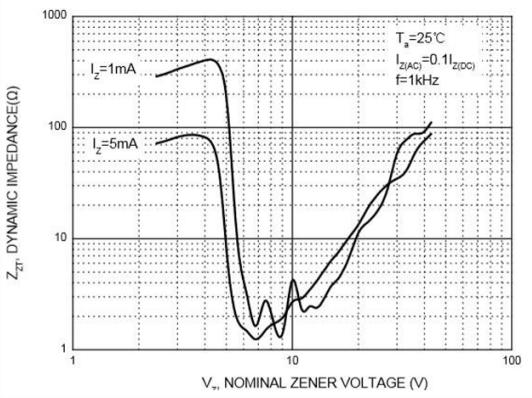


Fig 4. Zener Impedance Characteristic

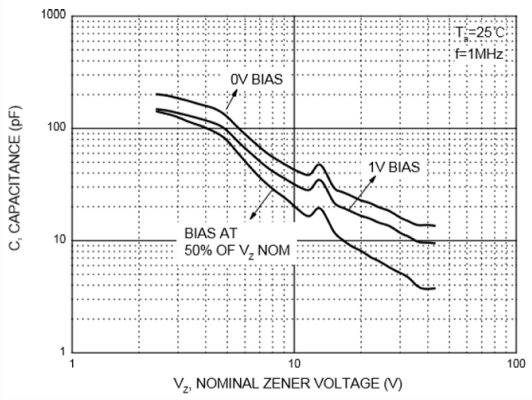


Fig 5. Capacitance Characteristic

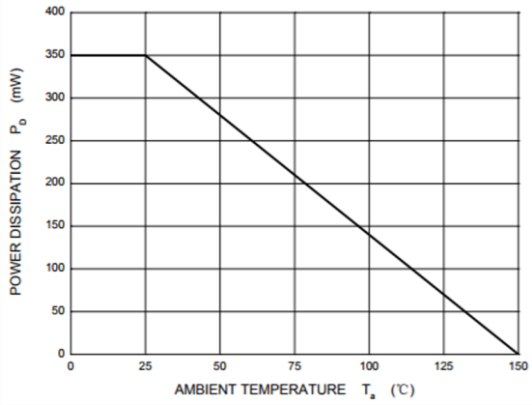
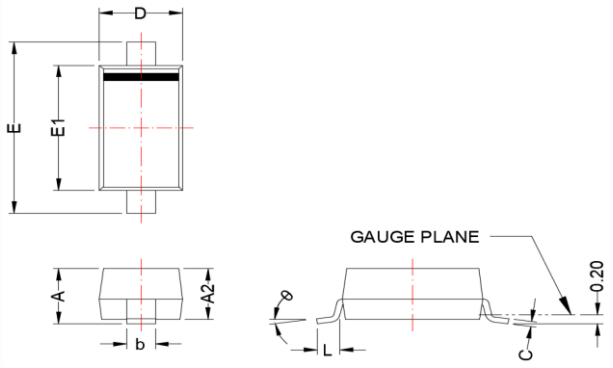


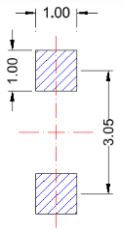
Fig 6. Power Derating Curve

SOD-123

Package Dimension



Recommended Land Pattern



(Unit:mm)

Dimensions				
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.05	1.25	0.041	0.049
A1	0.00	0.10	0.000	0.004
A2	1.05	1.15	0.041	0.045
b	0.45	0.65	0.018	0.026
c	0.08	0.15	0.003	0.006
D	1.50	1.70	0.059	0.067
E	3.55	3.85	0.140	0.152
E1	2.60	2.80	0.102	0.110
L	0.25	0.45	0.010	0.018
θ	0°	8°	0°	8°

NOTE:
Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

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