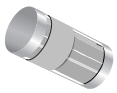
GENERAL SEMICONDUCTOR®

GLZ Series

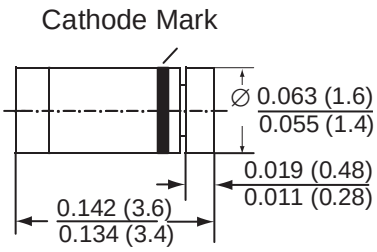
Zener Diodes

V_Z Range 3.3 to 39V
Power Dissipation 500mW



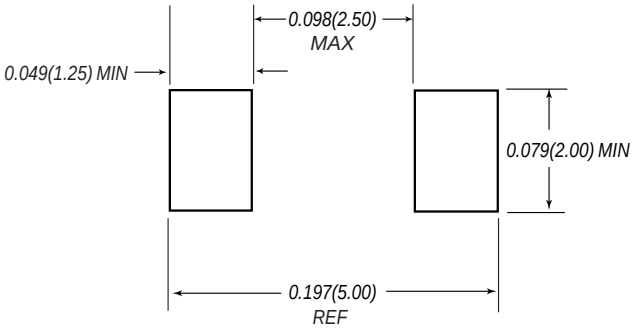
New Product

MiniMELF (SOD-80C)



Dimensions in inches and (millimeters)

Mounting Pad Layout



Mechanical Data

Case: MiniMELF Glass Case (SOD-80C)

Weight: approx. 0.05g

Packaging codes/options:

D1/10K per 13" reel (8mm tape), 20K/box
D2/2.5K per 7" reel (8mm tape), 20K/box

Features

- Silicon Planar Zener Diodes
- In MiniMELF case especially for automatic insertion
- The Zener voltages are graded according to voltage bands instead of by tolerance.
- Low Zener impedance and low leakage current
- Popular in Asian designs

Maximum Ratings and Thermal Characteristics (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Zener Current see Table "Characteristics"			
Power Dissipation (see fig. 1)	P_D	500(1)	mW
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	300(1)	°C/W
Junction temperature	T_j	175	°C
Storage temperature range	T_S	–55 to +175	°C

Note:
(1) Valid provided that electrodes are kept at ambient temperature.

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

Type	Rank	Zener Voltage			Dynamic Resistance [3]				Reverse Leakage Current	
		V_Z (V) at I_{ZT}			Z_Z (Ω) at I_{ZT}		Z_{ZK} (Ω) at I_{ZK}		I_R (µA)	
		Min	Max	I_{ZT} (mA)	Max	I_Z (mA)	Max	I_{ZK} (mA)	Max.	V_R (V)
GLZ3.3	A B	3.160 3.320	3.380 3.530	20	70	20	1000	1	20	1.0
GLZ3.6	A B	3.455 3.600	3.695 3.845	20	60	20	1000	1	10	1.0
GLZ3.9	A B	3.74 3.89	4.01 4.16	20	50	20	1000	1	5	1.0
GLZ4.3	A B C	4.04 4.17 4.30	4.29 4.43 4.57	20	40	20	1000	1	5	1.0
GLZ4.7	A B C	4.44 4.55 4.68	4.68 4.80 4.93	20	25	20	900	1	5	1.0
GLZ5.1	A B C	4.81 4.94 5.09	5.07 5.20 5.37	20	20	20	800	1	5	1.5
GLZ5.6	A B C	5.28 5.45 5.61	5.55 5.73 5.91	20	13	20	500	1	5	2.5
GLZ6.2	A B C	5.78 5.96 6.12	6.09 6.27 6.44	20	10	20	300	1	5	3.0
GLZ6.8	A B C	6.29 6.49 6.66	6.63 6.83 7.01	20	8	20	150	0.5	2	3.5
GLZ7.5	A B C	6.85 7.07 7.29	7.22 7.45 7.67	20	8	20	120	0.5	0.5	4.0
GLZ8.2	A B C	7.53 7.78 8.03	7.92 8.19 8.45	20	8	20	120	0.5	0.5	5.0
GLZ9.1	A B C	8.29 8.57 8.83	8.73 9.01 9.30	20	8	20	120	0.5	0.5	6.0
GLZ10	A B C D	9.12 9.41 9.70 9.94	9.59 9.90 10.20 10.44	20	8	20	120	0.5	0.2	7.0
GLZ11	A B C	10.18 10.50 10.82	10.71 11.05 11.38	10	10	10	120	0.5	0.2	8.0
GLZ12	A B C	11.13 11.44 11.74	11.71 12.03 12.35	10	12	10	110	0.5	0.2	9.0

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

Type	Rank	Zener Voltage			Dynamic Resistance (3)				Reverse Leakage Current	
		V_Z (V) at I_{ZT}			Z_Z (Ω) at I_{ZT}		Z_{ZK} (Ω) at I_{ZK}		I_R (µA)	
		Min	Max	I_{ZT} (mA)	Max	I_Z (mA)	Max	I_{ZK} (mA)	Max.	V_R (V)
GLZ13	A B C	12.11 12.55 12.99	12.75 13.21 13.66	10	14	10	110	0.5	0.2	10
GLZ15	A B C	13.44 13.89 14.35	14.13 14.62 15.09	10	16	10	110	0.5	0.2	11
GLZ16	A B C	14.80 15.25 15.69	15.57 16.04 16.51	10	18	10	150	0.5	0.2	12
GLZ18	A B C	16.22 16.82 17.42	17.06 17.70 18.33	10	23	10	150	0.5	0.2	13
GLZ20	A B C D	18.02 18.63 19.23 19.72	18.96 19.59 20.22 20.72	10	28	10	200	0.5	0.2	15
GLZ22	A B C D	20.15 20.64 21.08 21.52	21.20 21.71 22.17 22.63	5	30	5	200	0.5	0.2	17
GLZ24	A B C D	22.05 22.61 23.12 23.63	23.18 23.77 24.31 24.85	5	35	5	200	0.5	0.2	19
GLZ27	A B C D	24.26 24.97 25.63 26.29	25.52 26.26 26.95 27.64	5	45	5	250	0.5	0.2	21
GLZ30	A B C D	26.99 27.70 28.36 29.02	28.39 29.13 29.82 30.51	5	55	5	250	0.5	0.2	23
GLZ33	A B C D	29.68 30.32 30.90 31.49	31.22 31.88 32.50 33.11	5	65	5	250	0.5	0.2	25
GLZ36	A B C D	32.14 32.79 33.40 34.01	33.79 34.49 35.13 35.77	5	75	5	250	0.5	0.2	27
GLZ39	A B C D	34.68 35.36 36.00 36.63	36.47 37.19 37.85 38.52	5	85	5	250	0.5	0.2	30

Notes: (1) The Zener voltage is measured 40ms after power is supplied.
(2) Specify Zener voltage rank (A, B, C, or D) when ordering parts
(3) Dynamic Zener resistance is measured with f = 1kHz

Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

Fig. 1 – Power Derating Curve

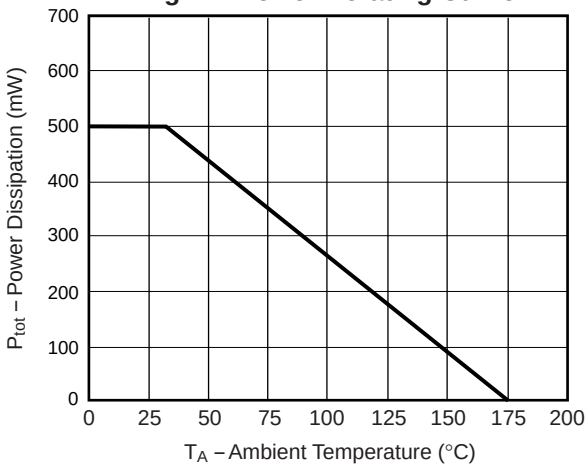


Fig. 2 – Typical Breakdown Characteristics

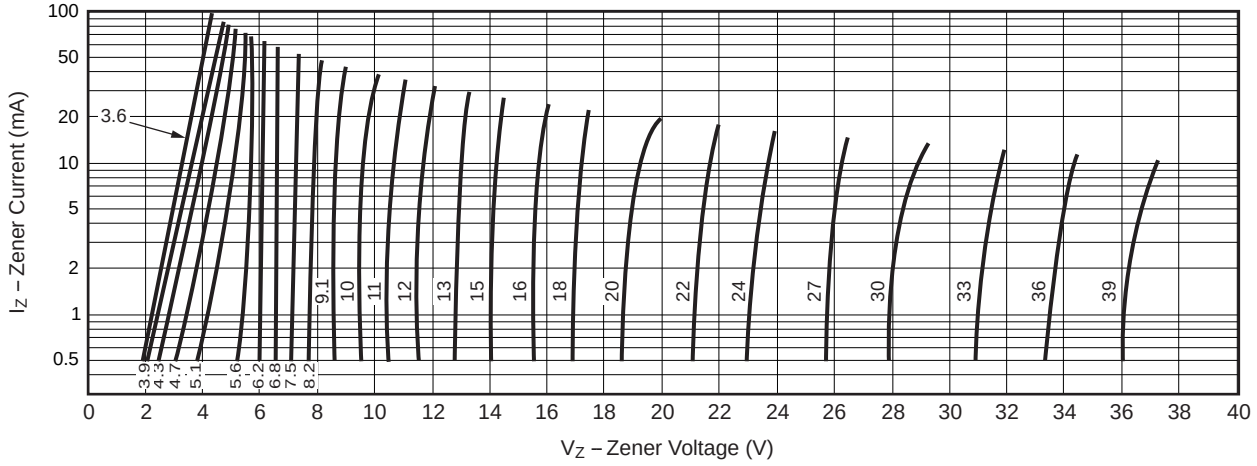


Fig. 3 – Typical RZ vs. IZ

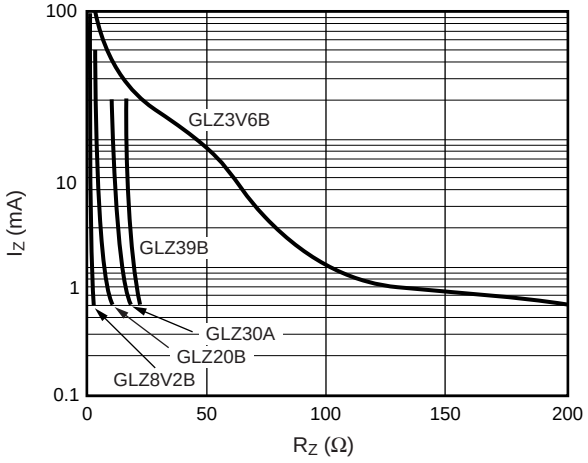


Fig. 4 – Typical Forward Characteristics