

**ZENER DIODES**

$V_Z : 1.88 \text{ -- } 60 \text{ V}$   
**POWER DISSIPATION: 500 mW**

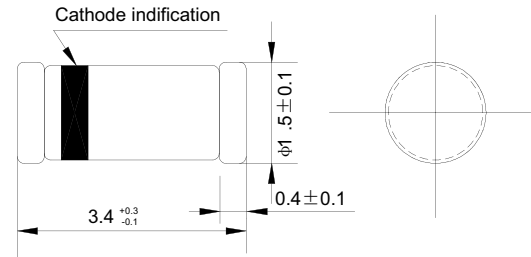
**FEATURES**

- ◇ Silicon planar power zener diodes.
- ◇ Designed for mounting on small surface areas.  
High reliability.

**MECHANICAL DATA**

- ◇ Case: JEDEC MINI-MELF, glass case.
- ◇ Terminals: Solderable per MIL-STD-202, Method 208
- ◇ Polarity: Color band denotes cathode end
- ◇ Weight: approx. 0.031 gram
- ◇ Mounting position: any

**MINI-MELF**



Dimensions in millimeters

**Maximum Ratings and Thermal Characteristics**

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

Parameter	Symbol	Value	Unit
Zener current (see Table "Characteristics")			
Power dissipation at $T_{amb}=75^\circ\text{C}$ (Note 1)	$P_{tot}$	500	mW
Maximum thermal resistance junction to ambient (Note 1)	$R_{\theta JA}$	300	K/W
Junction temperature	$T_J$	175	$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-55 to +175	$^\circ\text{C}$

Characteristic	Symbol	Value	Unit
Forward @ $I_F=200\text{mA}$	$V_F$	1.2	V

NOTE1: Valid provided electrodes are kept ambient temperature.

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Type	Zener Voltage				Operating resistance		Rising operating resistance		Reverse current	
	Rank	V <sub>Z</sub> (V)		I <sub>ZT</sub> (mA)	Z <sub>Z</sub> (Ω)		Z <sub>ZK</sub> (Ω)		I <sub>R</sub> (μA)	
		Min.	Max.		Max.	I <sub>ZT</sub> (mA)	Max.	I <sub>ZT</sub> (mA)	Max.	V <sub>R</sub> (V)
RLZ2.0	A	1.880	2.100	20	140	20	2000	1.0	120	0.5
	B	2.020	2.200							
RLZ2.2	A	2.120	2.300	20	120	20	2000	1.0	120	0.7
	B	2.220	2.410							
RLZ2.4	A	2.330	2.520	20	100	20	2000	1.0	120	1.0
	B	2.430	2.630							
RLZ2.7	A	2.540	2.750	20	100	20	1000	1.0	100	1.0
	B	2.690	2.910							
RLZ3.0	A	2.850	3.070	20	80	20	1000	1.0	50	1.0
	B	3.010	3.220							
RLZ3.3	A	3.160	3.380	20	70	20	1000	1.0	20	1.0
	B	3.320	3.530							
RLZ3.6	A	3.455	3.695	20	60	20	1000	1.0	10	1.0
	B	3.600	3.845							
RLZ3.9	A	3.74	4.01	20	50	20	1000	1.0	5.0	1.0
	B	3.89	4.16							
RLZ4.3	A	4.04	4.29	20	40	20	1000	1.0	5.0	1.0
	B	4.17	4.43							
	C	4.30	4.57							
RLZ4.7	A	4.44	4.68	20	25	20	900	1.0	5.0	1.0
	B	4.55	4.80							
	C	4.68	4.93							
RLZ5.1	A	4.81	5.07	20	20	20	800	1.0	5.0	1.5
	B	4.94	5.20							
	C	5.09	5.37							
RLZ5.6	A	5.28	5.55	20	13	20	500	1.0	5.0	2.5
	B	5.45	5.73							
	C	5.61	5.91							
RLZ6.2	A	5.78	6.09	20	10	20	300	1.0	5.0	3.0
	B	5.96	6.27							
	C	6.12	6.44							
RLZ6.8	A	6.29	6.63	20	8	20	150	0.5	2.0	3.5
	B	6.49	6.83							
	C	6.66	7.01							
RLZ7.5	A	6.85	7.22	20	8	20	120	0.5	0.5	4.0
	B	7.07	7.45							
	C	7.29	7.67							
RLZ8.2	A	7.53	7.92	20	8	20	120	0.5	0.5	5.0
	B	7.78	8.19							
	C	8.03	8.45							
RLZ9.1	A	8.29	8.73	20	8	20	120	0.5	0.5	6.0
	B	8.57	9.01							
	C	8.83	9.30							
RLZ10	A	9.12	9.59	20	8	20	120	0.5	0.2	7.0
	B	9.41	9.90							
	C	9.70	10.20							
	D	9.94	10.44							
RLZ11	A	10.18	10.71	10	10	10	120	0.5	0.2	8.0
	B	10.50	11.05							
	C	10.82	11.38							
RLZ12	A	11.13	11.71	10	12	10	110	0.5	0.2	9.0
	B	11.44	12.03							
	C	11.74	12.35							

# ELECTRICAL CHARACTERISTICS (Ratings at 25 °C ambient temperature unless otherwise specified)

TABLE2

Type	Zener Voltage			Operating resistance		Rising operating resistance		Reverse current		
	Rank	$V_Z$ (V)		$Z_Z$ ( $\Omega$ )		$Z_{ZK}$ ( $\Omega$ )		$I_R$ ( $\mu$ A)		
		Min.	Max.	$I_{ZT}$ (mA)	Max.	$I_{ZT}$ (mA)	Max.	$I_{ZT}$ (mA)	Max.	$V_R$ (V)
RLZ13	A	12.11	12.75	10	14	10	110	0.5	0.2	10
	B	12.55	13.21							
	C	12.99	13.66							
RLZ15	A	13.44	14.13	10	16	10	110	0.5	0.2	11
	B	13.89	14.62							
	C	14.35	15.09							
RLZ16	A	14.80	15.57	10	18	10	150	0.5	0.2	12
	B	15.25	16.04							
	C	15.69	16.51							
RLZ18	A	16.22	17.06	10	23	10	150	0.5	0.2	13
	B	16.82	17.70							
	C	17.42	18.33							
RLZ20	A	18.02	18.96	5	28	10	200	0.5	0.2	15
	B	18.63	19.59							
	C	19.23	20.22							
	D	19.72	20.72							
RLZ22	A	20.15	21.20	5	30	5	200	0.5	0.2	17
	B	20.64	21.71							
	C	21.08	22.17							
	D	21.52	22.63							
RLZ24	A	22.05	23.18	5	35	5	200	0.5	0.2	19
	B	22.61	23.77							
	C	23.12	24.31							
	D	23.63	24.85							
RLZ27	A	24.26	25.52	5	45	5	250	0.5	0.2	21
	B	24.97	26.26							
	C	25.63	26.95							
	D	26.29	27.64							
RLZ30	A	26.99	28.39	5	55	5	250	0.5	0.2	23
	B	27.70	29.13							
	C	28.36	29.82							
	D	29.02	30.51							
RLZ33	A	29.68	31.22	5	65	5	250	0.5	0.2	25
	B	30.32	31.88							
	C	30.90	32.50							
	D	31.49	33.11							
RLZ36	A	32.14	33.79	5	75	5	250	0.5	0.2	27
	B	32.79	34.49							
	C	33.40	35.13							
	D	34.01	35.77							
RLZ39 Note(3)	A	34.68	36.47	5	85	5	250	0.5	0.2	30
	B	35.36	37.19							
	C	36.00	37.85							
	D	36.63	38.52							
	E	37.36	39.29							
	F	38.14	40.11							
	G	38.94	40.80							
RLZ43	-	40.00	45.00	5	90	5	-	-	0.2	33
RLZ47	-	44.00	49.00	5	90	5	-	-	0.2	36
RLZ51	-	48.00	54.00	5	100	5	-	-	0.2	39
RLZ56	-	53.00	60.00	5	100	5	-	-	0.2	43

Note:(1) The Zener voltage is measured 40 ms after power is supplied.

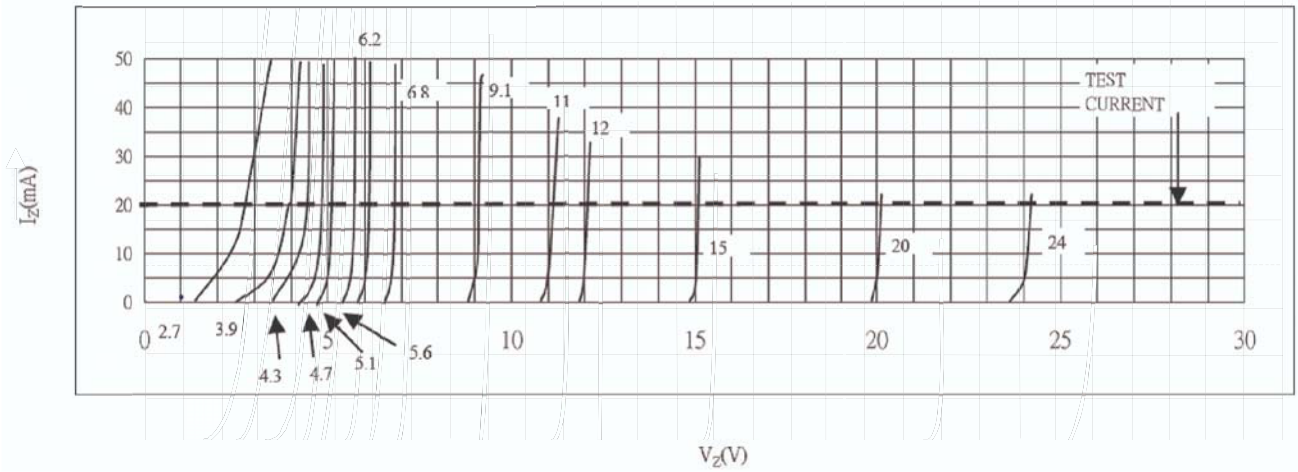
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(2) For the Zener voltage subdivisions,the free ranks(A,B or C) or recommended when ordering.

(3) Zener voltages between 43 and 56 are grouped together in no particular order.39E and above are available only on special order.

# RATINGS AND CHARACTERISTIC CURVES

**FIG.1- BREAKDOWN CHARACTERISTICS**



**FIG.2- POWER ,TEMPERATURE DERATING CURVE**

