

RLZ series

Diode, Zener, 500 mW, leadless

These glass-sealed Zener diodes are suitable for high density surface-mounting on printed circuit boards. Because of their cylindrical shape they can also be mounted flat. They can be supplied in voltages between 2.0 and 56 V.

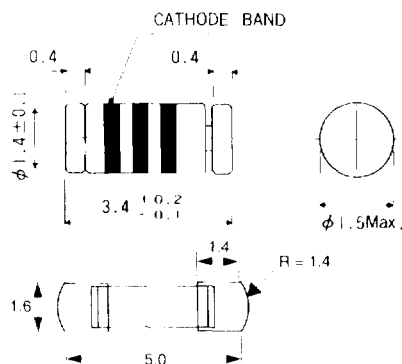
Features

- available in LLDS (LL-34) package
- product marking, 3 bands, colors shown in following table

Applications

- voltage regulating

Dimensions (Units : mm)



Band markings (1st band at cathode)

Part no.	Band 1	Band 2	Band 3	Part no.	Band 1	Band 2	Band 3	Part no.	Band 1	Band 2	Band 3
RLZ 2.0	Black	Brown		RLZ 6.8	Brown	Yellow		RLZ 24	Red	Purple	A: Yellow
RLZ 2.2	Black	Red		RLZ 7.5	Brown	Green		RLZ 27	Red	Gray	
RLZ 2.4	Black	Orange		RLZ 8.2	Brown	Blue		RLZ 30	Red	White	B: Green
RLZ 2.7	Black	Yellow		RLZ 9.1	Brown	Purple		RLZ 33	Orange	Black	C: Blue
RLZ 3.0	Black	Green	A: Yellow	RLZ 10	Brown	Gray	A: Yellow	RLZ 36	Orange	Brown	
RLZ 3.3	Black	Blue	B: Green	RLZ 11	Brown	White	B: Green	RLZ 39	Orange	Red	D: White
RLZ 3.6	Black	Purple		RLZ 12	Red	Black		RLZ 39 E	Yellow	White	Yellow
RLZ 3.9	Black	Gray	C: Blue	RLZ 13	Red	Brown	C: Blue	RLZ 39 F	Yellow	White	Green
RLZ 4.3	Black	White	D: White	RLZ 15	Red	Red	D: White	RLZ 39 G	Yellow	White	Blue
RLZ 4.7	Brown	Black		RLZ 16	Red	Orange		RLZ 43	Orange	Orange	
RLZ 5.1	Brown	Brown		RLZ 18	Red	Yellow		RLZ 47	Orange	Yellow	
RLZ 5.6	Brown	Red		RLZ 20	Red	Green		RLZ 51	Orange	Green	
RLZ 6.2	Red	Orange		RLZ 22	Red	Blue		RLZ 56	Orange	Blue	

Absolute maximum ratings ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Limits	Unit
Power dissipation	P	500	mW
Junction temperature	T_j	175	$^\circ\text{C}$
Storage temperature	T_{stg}	-65 ~ +175	$^\circ\text{C}$

Electrical characteristics (unless otherwise noted, $T_a = 25^\circ\text{C}$) (Sheet 1 of 3)

Part no.	Zener voltage subdivision ¹				Operating resistance ²		Rising operating resistance		Reverse current	
	Class ³	V _Z (V)		I _Z (mA)	Z _Z (Ω) Max	I _Z (mA)	Z _{ZK} (Ω) Max	I _Z (mA)	I _R (μA) Max	V _R (V)
		Min	Max							
RLZ 2.0	A	1.880	2.100	20	140	20	2000	1	120	0.5
	B	2.020	2.200							
RLZ 2.2	A	2.120	2.300	20	120	20	2000	1	120	0.7
	B	2.220	2.410							
RLZ 2.4	A	2.330	2.520	20	100	20	2000	1	120	1.0
	B	2.430	2.630							
RLZ 2.7	A	2.540	2.750	20	100	20	1000	1	100	1.0
	B	2.690	2.910							
RLZ 3.0	A	2.850	3.070	20	80	20	1000	1	50	1.0
	B	3.010	3.220							
RLZ 3.3	A	3.160	3.380	20	70	20	1000	1	20	1.0
	B	3.320	3.530							
RLZ 3.6	A	3.455	3.695	20	60	20	1000	1	10	1.0
	B	3.600	3.845							
RLZ 3.9	A	3.74	4.01	20	50	20	1000	1	5	1.0
	B	3.89	4.16							
RLZ 4.3	A	4.04	4.29	20	40	20	1000	1	5	1.0
	B	4.17	4.43							
	C	4.30	4.57							
RLZ 4.7	A	4.44	4.68	20	25	20	900	1	5	1.0
	B	4.55	4.80							
	C	4.68	4.93							
RLZ 5.1	A	4.81	5.04	20	20	20	800	1	5	1.5
	B	4.94	5.20							
	C	5.09	5.37							
RLZ 5.6	A	5.28	5.55	20	13	20	500	1	5	2.5
	B	5.45	5.73							
	C	5.61	5.91							
RLZ 6.2	A	5.78	6.09	20	10	20	300	1	5	3.0
	B	5.96	6.27							
	C	6.12	6.44							
RLZ 6.8	A	6.29	6.63	20	8	20	150	0.5	2	3.5
	B	6.49	6.83							
	C	6.66	7.01							
RLZ 7.5	A	6.85	7.22	20	6	20	120	0.5	0.5	4.0
	B	7.07	7.45							
	C	7.29	7.67							

Electrical characteristics (unless otherwise noted, $T_a = 25^\circ\text{C}$) (Sheet 2 of 3)

Part no.	Zener voltage subdivision ¹			Operating resistance ²		Rising operating resistance		Reverse current		
	Class ³	V _Z (V)		I _Z (mA)	Z _Z (Ω) Max	I _Z (mA)	Z _{ZK} (Ω) Max	I _Z (mA)	I _R (μA) Max	V _R (V)
		Min	Max							
RLZ 8.2	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							
RLZ 9.1	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							
RLZ 10	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							
RLZ 11	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							
RLZ 12	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							
RLZ 13	A	12.11	12.75	10	14	10	110	0.5	0.2	10
	B	12.55	13.21							
	C	12.99	13.66							
RLZ 15	A	13.44	14.13	10	16	10	110	0.5	0.2	11
	B	13.89	14.62							
	C	14.35	15.09							
RLZ 16	A	14.80	15.57	10	18	10	150	0.5	0.2	12
	B	15.25	16.04							
	C	15.69	16.51							
RLZ 18	A	16.22	17.06	10	23	10	150	0.5	0.2	13
	B	16.82	17.70							
	C	17.42	18.33							
RLZ 20	A	18.02	18.96	10	28	10	200	0.5	0.2	15
	B	18.63	19.59							
	C	19.23	20.22							
	D	19.72	20.72							
RLZ 22	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							

RLZ series Zener diodes

Electrical characteristics (unless otherwise noted, $T_a = 25^\circ\text{C}$) (Sheet 3 of 3)

Part no.	Zener voltage subdivision ¹			Operating resistance ²		Rising operating resistance		Reverse current		
	Class ³	V _Z (V)		I _Z (mA)	Z _Z (Ω) Max	I _Z (mA)	Z _{ZK} (Ω) Max	I _Z (mA)	I _R (μA) Max	V _R (V)
		Min	Max							
RLZ 24	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							
RLZ 27	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							
RLZ 30	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							
RLZ 33	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							
RLZ 36	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							
RLZ 39	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							
RLZ 43		40.00	45.00	5	90	5	—	—	0.2	33
RLZ 47		44.00	49.00	5	90	5	—	—	0.2	36
RLZ 51		48.00	54.00	5	100	5	—	—	0.2	39
RLZ 56		53.00	60.00	5	110	5	—	—	0.2	43

¹ The Zener voltage subdivision (V_Z) is measured 40 ms after the diode is powered up.

² Operating resistance (Z_Z & Z_{ZK}) is measured by superimposing a minute alternating current in the regulated current (I_Z).

³ When ordering, please specify class A, B, C, D, E, F, or G.

Electrical characteristic curves

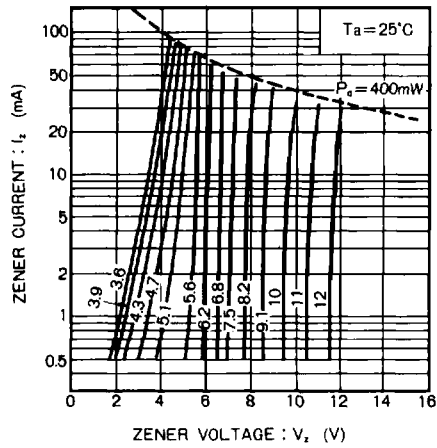


Figure 1

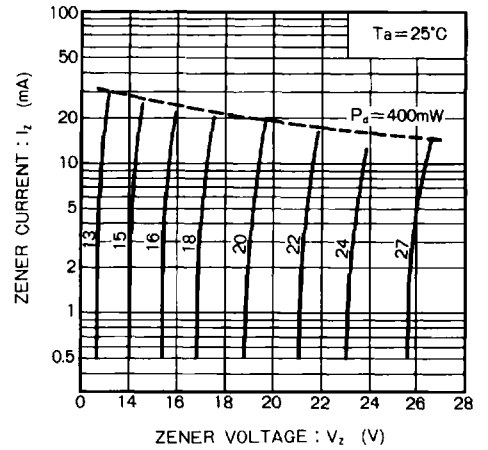


Figure 2

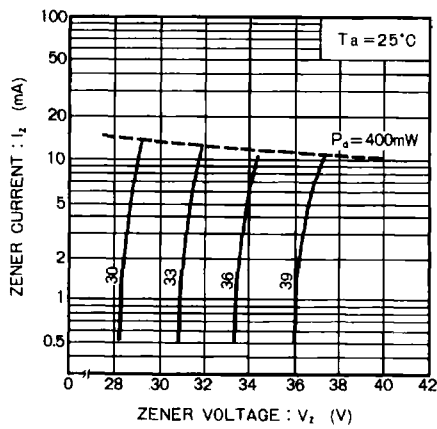


Figure 3

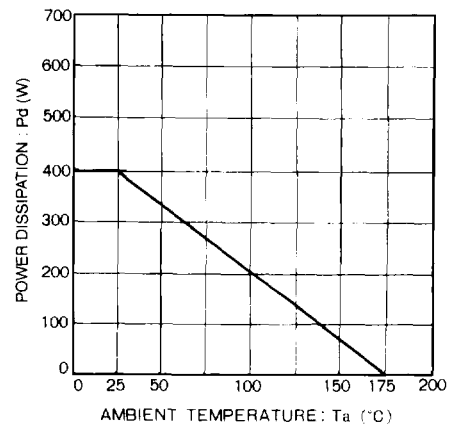


Figure 4