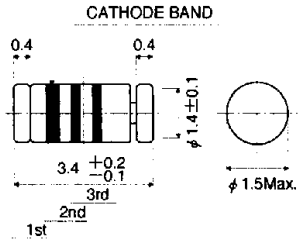
500mW Zener Leadless Diode
RLZ Series

●Applications
Constant voltage control

●Features
1)Designed for mounting on small surface areas (LLDS (LL-34))
2)High reliability

●Construction
Silicon epitaxial planar

●External dimensions (Units: mm)



* 3 color bands are printed on body
LLDS (LL-34)

●Cathode band colors

Type	1st Color Band	2nd Color Band	3rd Color Band
RLZ 2.0	Black	Brown	※ A : Yellow B : Green C : Blue D : White
RLZ 2.2	Black	Red	
RLZ 2.4	Black	Orange	
RLZ 2.7	Black	Yellow	
RLZ 3.0	Black	Green	
RLZ 3.3	Black	Blue	
RLZ 3.6	Black	Purple	
RLZ 3.9	Black	Gray	
RLZ 4.3	Black	White	
RLZ 4.7	Brown	Black	
RLZ 5.1	Brown	Brown	
RLZ 5.6	Brown	Red	
RLZ 6.2	Brown	Orange	
RLZ 6.8	Brown	Yellow	
RLZ 7.5	Brown	Green	
RLZ 8.2	Brown	Blue	
RLZ 9.1	Brown	Purple	
RLZ 10	Brown	Gray	
RLZ 11	Brown	White	
RLZ 12	Red	Black	
RLZ 13	Red	Brown	※ A : Yellow B : Green C : Blue D : White
RLZ 15	Red	Red	
RLZ 16	Red	Orange	
RLZ 18	Red	Yellow	
RLZ 20	Red	Green	
RLZ 22	Red	Blue	
RLZ 24	Red	Purple	
RLZ 27	Red	Gray	
RLZ 30	Red	White	
RLZ 33	Orange	Black	
RLZ 36	Orange	Brown	
RLZ 39	Orange	Red	
RLZ 39 E	Yellow	White	Yellow
RLZ 39 F	Yellow	White	Green
RLZ 39 G	Yellow	White	Blue
RLZ 43	Orange	Orange	—
RLZ 47	Orange	Yellow	—
RLZ 51	Orange	Green	—
RLZ 56	Orange	Blue	—

※Products are grouped into colors A, B, C, and D, and listed in order within each group.
For RLZ2.0A, 3rd color band is yellow.

●Absolute maximum ratings (Ta=25℃)

Parameter	Symbol	Limite	Unit
Power dissipation	P	500	mW
Junction temperature	Tj	175	℃
Storage temperature	Tstg	−65~175	℃

Zener diodes

●Electrical characteristics (Ta=25℃)

Type	Rank	Zener voltage Vz (V) Min.	Zener voltage Vz (V) Max.	Iz (mA)	Operating resistance Zz (Ω) Max.	Iz (mA)	Rising operating resistance Zzk (Ω) Max.	Iz (mA)	Reverse current IR (μA) Max.	VR (V)
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	5.07	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	8	20	120	0.5	0.5	4.0
	B	7.07	7.45							
	C	7.29	7.67							
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							

●Electrical characteristics (Ta=25℃)

Type	Rank	Zener voltage Vz (V) Min.	Zener voltage Vz (V) Max.	Iz (mA)	Operating resistance Zz (Ω) Max.	Iz (mA)	Rising operating resistance Zzk (Ω) Max.	Iz (mA)	Reverse current IR (μA) Max.	VR (V)
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 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 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							
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

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

Zener diodes

●Zener characteristic curves

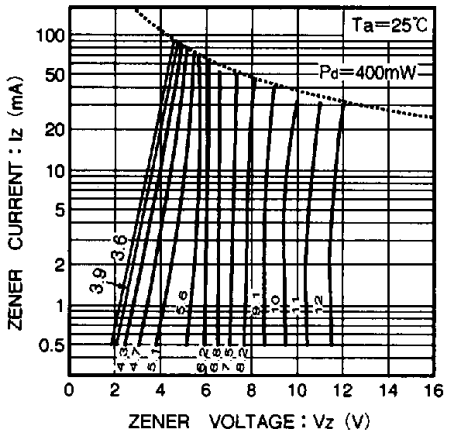


Fig. 1 RLZ3.9 ~ RLZ12 Zener characteristic

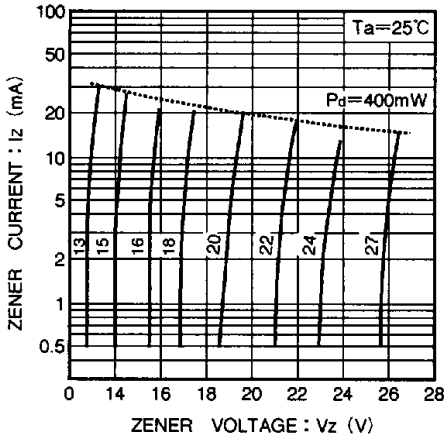


Fig. 2 RLZ13 ~ RLZ27 Zener characteristic

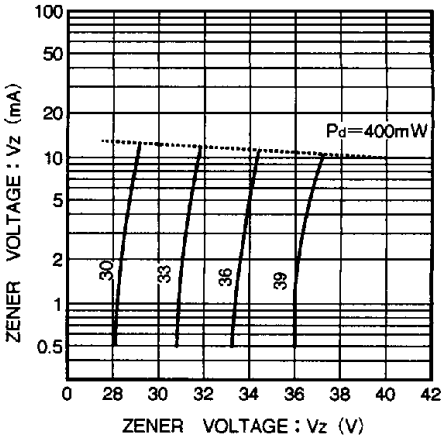


Fig. 3 RLZ30 ~ RLZ39 Zener characteristic

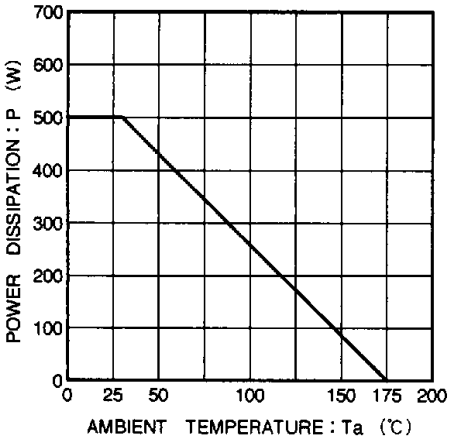


Fig. 4 Derating curve