NEC

ZENER DIODES
RD4.7UJ to RD39UJ

LOW NOISE SHARP BREAKDOWN CHARACTERISTICS
ZENER DIODES
2PIN ULTRA SUPER MINI MOLD

DESCRIPTION

Type RD4.7UJ to RD39UJ Series are 2PIN Ultra Super Mini Mold Package zener diodes possessing an allowable power dissipation of 150 mW featuring low noise and sharp breakdown characteristic. They are intended for use in audio equipment, instrument equipment.

QUALITY GRADE

Standard

Please refer to "Quality grade on NEC Semiconductor Devices" (Document number IEI-1209) published by NEC Corporation to know the specification of quality grade on the devices and its recommended applications.

FEATURES

- Low Noise
- Sharp Breakdown characteristics
- Vz; Applied E24 standard

APPLICATIONS

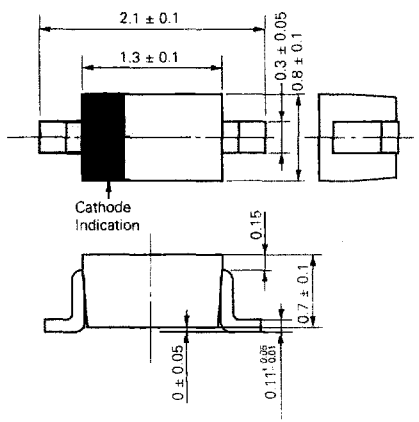
Circuits for Constant Voltage, Constant Current, Waveform clipper, Surge absorber, etc.

MAXIMUM RATINGS (T_a = 25 °C)

Power Dissipation	P	150 mW
Forward Current	I_F	100 mA
Junction Temperature	T_j	150 °C
Storage Temperature	T_{stg}	−55 to +150 °C

PACKAGE DIMENSIONS

(Unit: mm)



Document No. DC-2135
Date Published September 1993 M
Printed in Japan

ELECTRICAL CHARACTERISTICS (T_a = 25 ± 2 °C)

Type Number	Class	Zener Voltage V_Z (V) *			Dynamic Impedance Z_Z (Ω) **		Reverse Current I_R (μA)	
		MIN.	MAX.	I_Z (mA)	MAX.	I_Z (mA)	MAX.	V_R(V)
RD4.7UJ	N	4.39	4.91	0.5	800	0.5	2	1.0
	N1	4.39	4.62					
	N2	4.52	4.76					
	N3	4.66	4.91					
RD5.1UJ	N	4.81	5.36	0.5	500	0.5	2	1.5
	N1	4.81	5.05					
	N2	4.95	5.20					
	N3	5.10	5.36					
RD5.6UJ	N	5.26	5.91	0.5	200	0.5	1	2.5
	N1	5.26	5.54					
	N2	5.44	5.73					
	N3	5.63	5.91					
RD6.2UJ	N	5.81	6.53	0.5	100	0.5	1	3.0
	N1	5.81	6.11					
	N2	6.01	6.32					
	N3	6.21	6.53					
RD6.8UJ	N	6.41	7.14	0.5	60	0.5	0.5	3.5
	N1	6.41	6.74					
	N2	6.60	6.94					
	N3	6.80	7.14					
RD7.5UJ	N	7.00	7.83	0.5	60	0.5	0.5	4.0
	N1	7.00	7.35					
	N2	7.21	7.60					
	N3	7.46	7.83					
RD8.2UJ	N	7.69	8.61	0.5	60	0.5	0.5	5.0
	N1	7.69	8.08					
	N2	7.94	8.34					
	N3	8.20	8.61					
RD9.1UJ	N	8.47	9.51	0.5	60	0.5	0.5	6.0
	N1	8.47	8.91					
	N2	8.76	9.21					
	N3	9.06	9.51					
RD10UJ	N	9.35	10.51	0.5	60	0.5	0.1	7.0
	N1	9.35	9.82					
	N2	9.66	10.16					
	N3	10.00	10.51					
RD11UJ	N	10.32	11.50	0.5	60	0.5	0.1	8.0
	N1	10.32	10.84					
	N2	10.64	11.17					
	N3	10.97	11.50					
RD12UJ	N	11.28	12.52	0.5	80	0.5	0.1	9.0
	N1	11.28	11.83					
	N2	11.59	12.17					
	N3	11.93	12.52					
RD13UJ	N	12.29	13.86	0.5	80	0.5	0.1	10.0
	N1	12.29	12.95					
	N2	12.72	13.40					
	N3	13.17	13.86					

ELECTRICAL CHARACTERISTICS (T_a = 25 ± 2 °C)

Type Number	Class	Zener Voltage Vz (V) *			Dynamic Impedance Zz (Ω) **		Reverse Current I_R (μA)	
		MIN.	MAX.	Iz (mA)	MAX.	Iz (mA)	MAX.	V_R(V)
RD15UJ	N	13.63	15.38	0.5	80	0.5	0.1	11
	N1	13.63	14.35					
	N2	14.12	14.85					
	N3	14.62	15.38					
RD16UJ	N	15.13	16.91	0.5	80	0.5	0.1	12
	N1	15.13	15.87					
	N2	15.58	16.36					
	N3	16.07	16.91					
RD18UJ	N	16.63	18.81	0.5	80	0.5	0.1	13
	N1	16.63	17.52					
	N2	17.24	18.15					
	N3	17.87	18.81					
RD20UJ	N	18.51	20.79	0.5	100	0.5	0.1	15
	N1	18.51	19.42					
	N2	19.14	20.12					
	N3	19.80	20.79					
RD22UJ	N	20.46	22.82	0.5	100	0.5	0.1	17
	N1	20.46	21.47					
	N2	21.09	22.15					
	N3	21.76	22.82					
RD24UJ	N	22.42	25.17	0.5	120	0.5	0.1	19
	N1	22.42	23.59					
	N2	23.19	24.38					
	N3	23.98	25.17					
RD27UJ	N	24.75	27.95	0.5	150	0.5	0.1	21
	N1	24.75	26.04					
	N2	25.56	26.96					
	N3	26.46	27.95					
RD30UJ	N	27.38	31.04	0.5	200	0.5	0.1	23
	N1	27.38	29.00					
	N2	28.35	30.04					
	N3	29.37	31.04					
RD33UJ	N	30.30	33.97	0.5	250	0.5	0.1	25
	N1	30.30	32.02					
	N2	31.21	32.98					
	N3	32.14	33.97					
RD36UJ	N	33.08	36.83	0.5	300	0.5	0.1	27
	N1	33.08	34.92					
	N2	33.95	36.85					
	N3	34.87	36.83					
RD39UJ	N	35.78	39.67	0.5	360	0.5	0.1	30
	N1	35.78	37.75					
	N2	36.63	38.69					
	N3	37.56	39.67					

* Tested with pulse (40 ms)

** Zz is measured at Iz given a very small A.C. current signal

TYPICAL CHARACTERISTICS (T_a = 25°C)

Fig. 1 P – T_a RATING

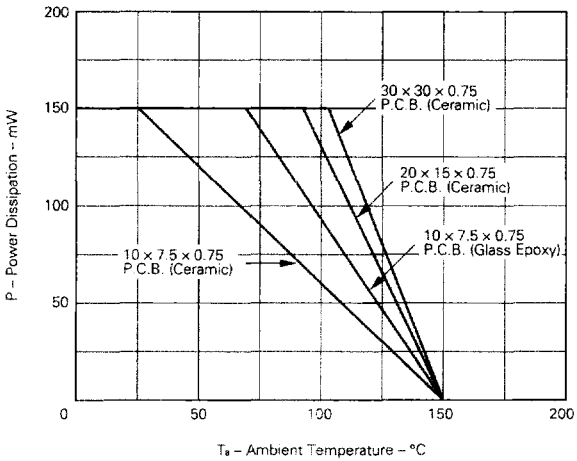
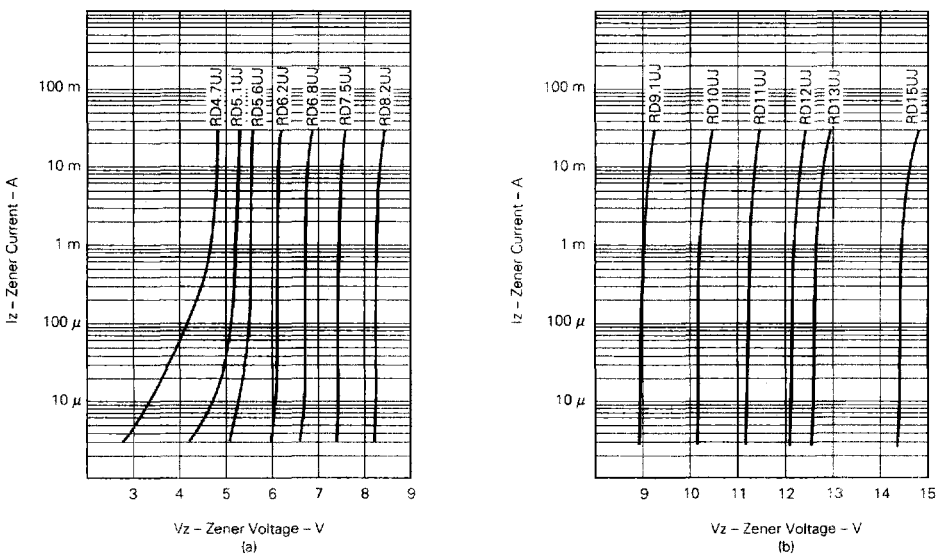
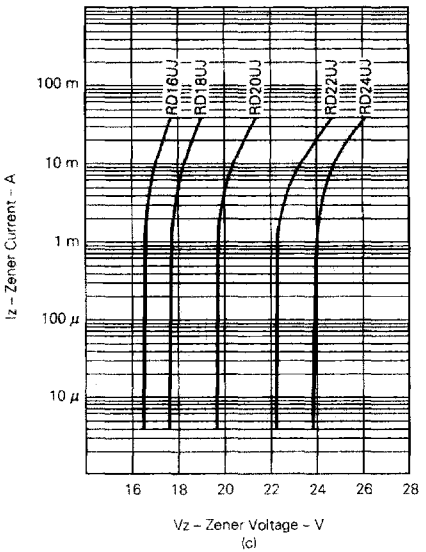


Fig. 2 Iz – Vz CHARACTERISTICS (a to d)





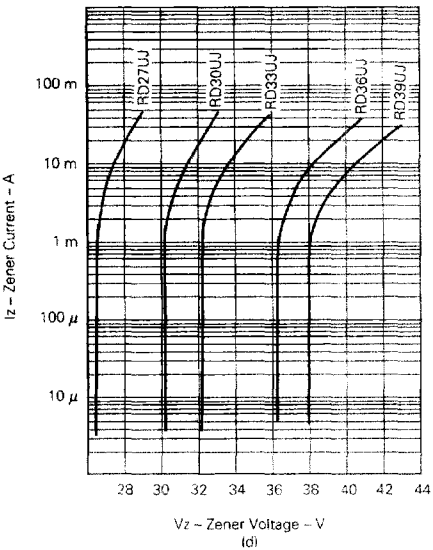


Fig. 3 γz – Vz CHARACTERISTICS

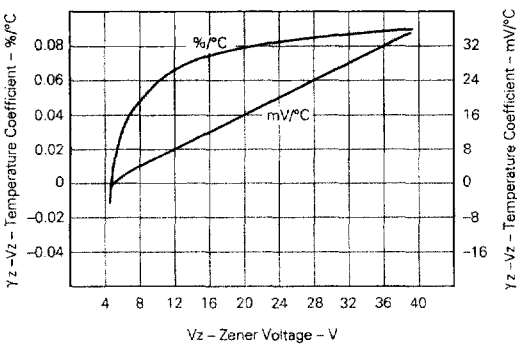


Fig. 5 TRANSIENT THERMAL IMPEDANCE CHARACTERISTIC

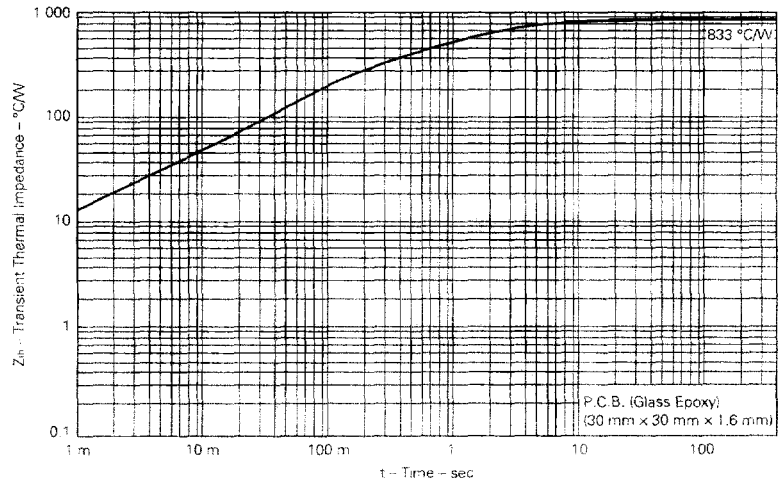


Fig. 6 SURGE REVERSE POWER RATINGS