

ZENER DIODES

RD2.0UM to RD39UM

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2PIN ULTRA SUPER MINI MOLD

DESCRIPTION

Type RD2.0UM to RD39UM Series are 2PIN Ultra Super Mini Mold Package zener diodes possessing an allowable power dissipation of 150 mW.

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

- Sharp Breakdown characteristics
- Vz; Applied E24 standard

APPLICATIONS

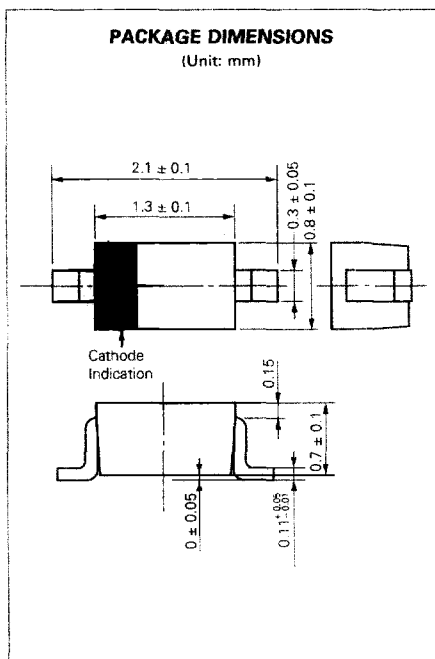
Circuits for Constant Voltage, Constant Current, Waveform clipper, Surge absorber, etc.

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)



ELECTRICAL CHARACTERISTICS ($T_a = 25 \pm 2^\circ\text{C}$)

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_a (V)
RD2.0UM	B	1.90	2.20	5	100	5	120	0.5
RD2.2UM	B	2.10	2.40	5	100	5	120	0.7
RD2.4UM	B	2.30	2.60	5	100	5	120	1.0
RD2.7UM	B	2.50	2.90	5	110	5	120	1.0
	B1	2.50	2.75					
	B2	2.65	2.90					
RD3.0UM	B	2.80	3.20	5	120	5	50	1.0
	B1	2.80	3.05					
	B2	2.95	3.20					
RD3.3UM	B	3.10	3.50	5	130	5	20	1.0
	B1	3.10	3.35					
	B2	3.25	3.50					
RD3.6UM	B	3.40	3.80	5	130	5	10	1.0
	B1	3.40	3.65					
	B2	3.55	3.80					
RD3.9UM	B	3.70	4.10	5	130	5	10	1.0
	B1	3.70	3.97					
	B2	3.87	4.10					
RD4.3UM	B	4.00	4.49	5	130	5	10	1.0
	B1	4.00	4.22					
	B2	4.14	4.35					
	B3	4.27	4.49					
RD4.7UM	B	4.40	4.92	5	130	5	10	1.0
	B1	4.40	4.63					
	B2	4.53	4.77					
	B3	4.67	4.92					
RD5.1UM	B	4.82	5.39	5	130	5	5	1.5
	B1	4.82	5.06					
	B2	4.96	5.22					
	B3	5.12	5.39					
RD5.6UM	B	5.29	5.94	5	80	5	5	2.5
	B1	5.29	5.57					
	B2	5.47	5.75					
	B3	5.65	5.94					
RD6.2UM	B	5.84	6.55	5	50	5	2	3.0
	B1	5.84	6.14					
	B2	6.04	6.35					
	B3	6.24	6.55					
RD6.8UM	B	6.44	7.17	5	30	5	2	3.5
	B1	6.44	6.76					
	B2	6.62	6.96					
	B3	6.83	7.17					
RD7.5UM	B	7.03	7.87	5	30	5	2	4.0
	B1	7.03	7.39					
	B2	7.25	7.63					
	B3	7.49	7.87					
RD8.2UM	B	7.73	8.67	5	30	5	2	5.0
	B1	7.73	8.13					
	B2	7.98	8.39					
	B3	8.25	8.67					
RD9.1UM	B	8.53	9.58	5	30	5	2	6.0
	B1	8.53	8.96					
	B2	8.81	9.26					
	B3	9.12	9.58					

ELECTRICAL CHARACTERISTICS ($T_a = 25 \pm 2^\circ\text{C}$)

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)
RD10UM	B	9.42	10.58	5	30	5	2	7.0
	B1	9.42	9.90					
	B2	9.74	10.24					
	B3	10.08	10.58					
RD11UM	B	10.40	11.60	5	30	5	2	8.0
	B1	10.40	10.92					
	B2	10.72	11.26					
	B3	11.06	11.60					
RD12UM	B	11.38	12.64	5	30	5	2	9.0
	B1	11.38	11.94					
	B2	11.69	12.28					
	B3	12.04	12.64					
RD13UM	B	12.43	14.00	5	35	5	2	10
	B1	12.43	13.07					
	B2	12.87	13.53					
	B3	13.33	14.00					
RD15UM	B	13.80	15.56	5	40	5	2	11
	B1	13.80	14.50					
	B2	14.30	15.02					
	B3	14.81	15.56					
RD16UM	B	15.31	17.14	5	40	5	2	12
	B1	15.31	16.07					
	B2	15.78	16.58					
	B3	16.30	17.14					
RD18UM	B	16.89	19.08	5	45	5	2	13
	B1	16.89	17.75					
	B2	17.51	18.40					
	B3	18.16	19.08					
RD20UM	B	18.80	21.14	5	50	5	2	15
	B1	18.80	19.76					
	B2	19.46	20.45					
	B3	20.15	21.14					
RD22UM	B	20.81	23.25	5	55	5	2	17
	B1	20.81	21.84					
	B2	21.46	22.55					
	B3	22.15	23.25					
RD24UM	B	22.86	25.66	5	60	5	2	19
	B1	22.86	24.03					
	B2	23.65	24.85					
	B3	24.45	25.66					
RD27UM	B	25.10	28.90	2	70	2	2	21
RD30UM	B	28.00	32.00	2	80	2	2	23
RD33UM	B	31.00	35.00	2	80	2	2	25
RD36UM	B	34.00	38.00	2	90	2	2	27
RD39UM	B	37.00	41.00	2	100	2	2	30

* Tested with pulse (40 ms)

** Z_z is measured at I_z given a very small A. C. current signal

TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

Fig. 1 P - T_a RATING

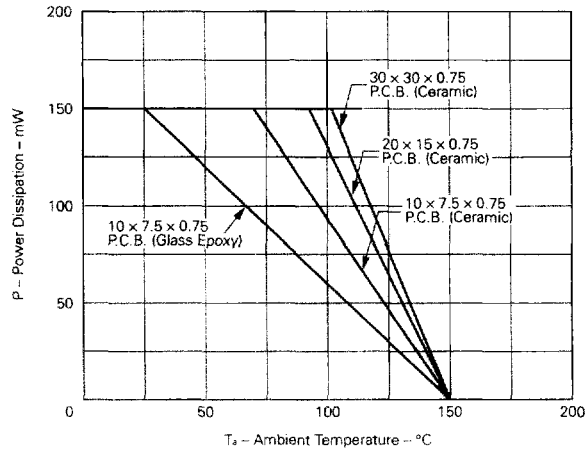
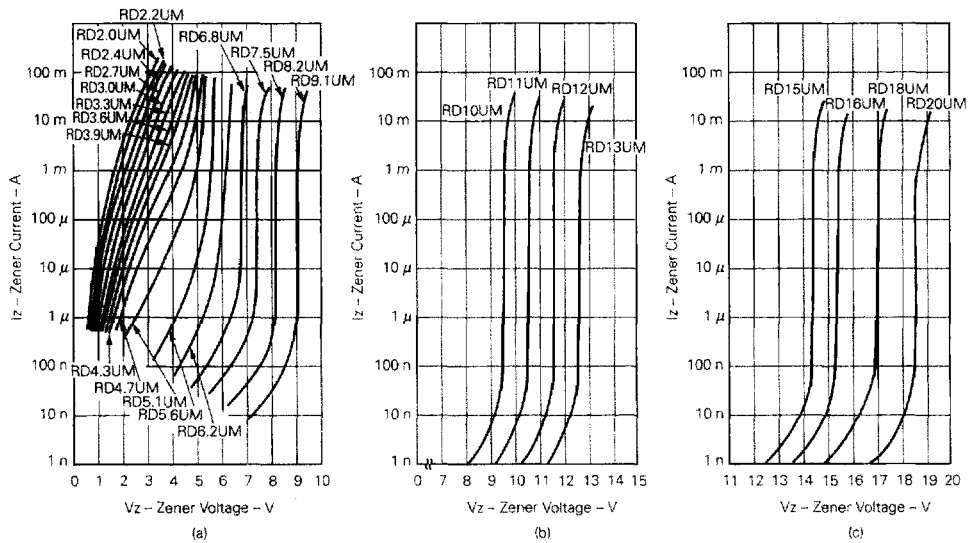


Fig. 2 I_z - V_z CHARACTERISTICS (a to e)



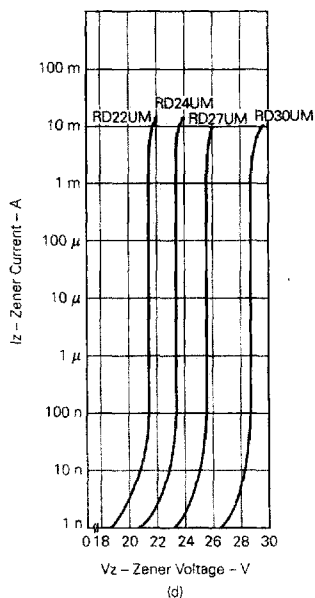


Fig. 3 $I_z - V_z$ CHARACTERISTICS

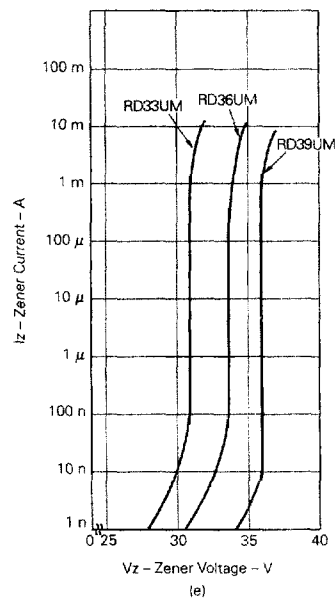


Fig. 4 $Z_z - I_z$ CHARACTERISTICS

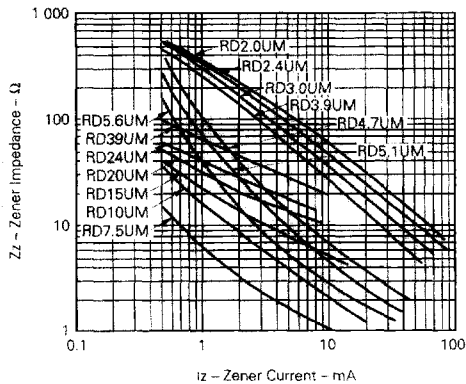
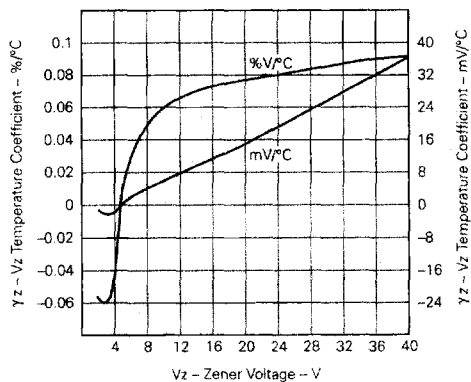


Fig. 5 TRANSIENT THERMAL IMPEDANCE CHARACTERISTIC

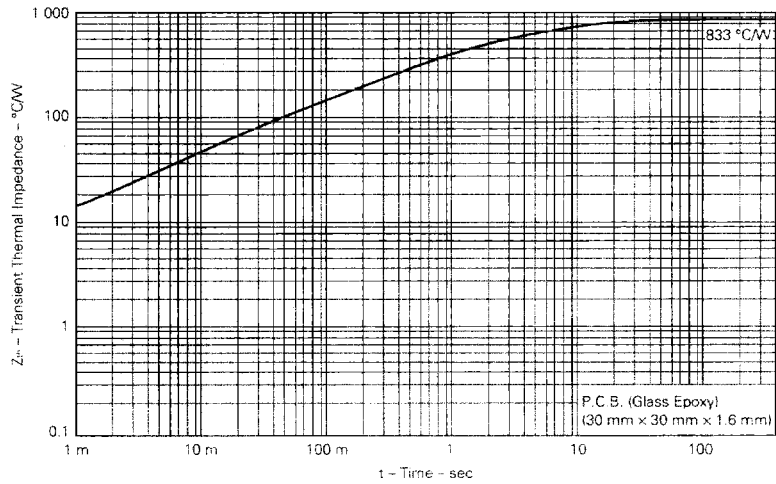


Fig. 6 SURGE REVERSE POWER RATINGS

