DATA SHEET

NEC

ZENER DIODES
RD2.0S to RD120S

ZENER DIODES
200 mW 2 PINS SUPER MINI MOLD

DESCRIPTION

Type RD2.0S to RD120S Series are 2 PIN Super Mini Mold Package zener diodes possessing an allowable power dissipation of 200 mW.

FEATURES

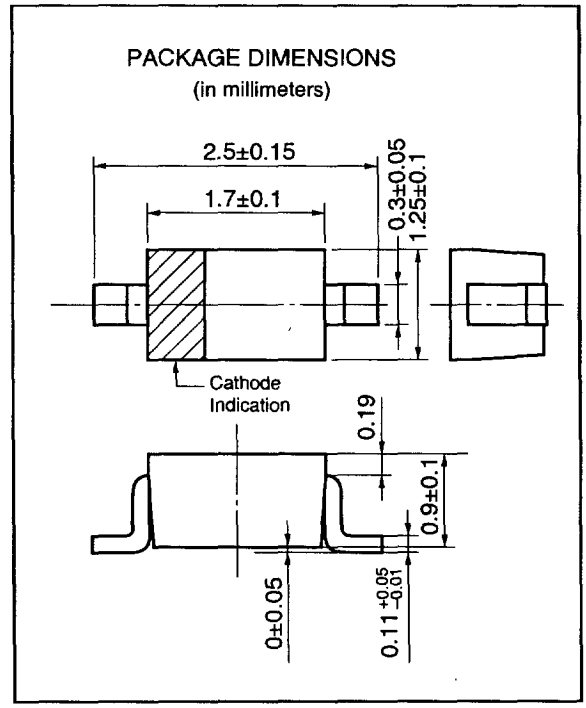
- Sharp Breakdown characteristic.
- Vz: Applied E24 standard.

APPLICATIONS

Circuit for Constant Voltage, Constant Current, Wave form Clipper, Surge absorber, etc.

PACKAGE DIMENSIONS

(in millimeter)



ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C)

Power Dissipation	P	200 mW
Forward Current	I_F	100 mA
Reverse Surge Power	P_{RSM}	85 W (at t=10 μs/1 pulse) Show Fig. 12
Junction Temperature	T_j	150 °C
Storage Temperature	T_{stg}	–55 to +150 °C

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ELECTRICAL CHARACTERISTICS (T_A = 25 ± 2 °C)

Type Number	Class	Zener Voltage V_Z (V)[Note 1]			Dynamic Impedance Z_Z (Ω)[Note 2]		Reverse Current I_R (μA)	
		MIN.	MAX.	I_Z (mA)	MAX.	I_Z (mA)	MAX.	V_R (V)
RD2.0S	B	1.90	2.20	5	100	5	120	0.5
RD2.2S	B	2.10	2.40	5	100	5	120	0.7
RD2.4S	B	2.30	2.60	5	100	5	120	1.0
RD2.7S	B	2.50	2.90	5	110	5	120	1.0
	B1	2.50	2.75					
	B2	2.65	2.90					
RD3.0S	B	2.80	3.20	5	120	5	50	1.0
	B1	2.80	3.05					
	B2	2.95	3.20					
RD3.3S	B	3.10	3.50	5	130	5	20	1.0
	B1	3.10	3.35					
	B2	3.25	3.50					
RD3.6S	B	3.40	3.80	5	130	5	10	1.0
	B1	3.40	3.65					
	B2	3.55	3.80					
RD3.9S	B	3.70	4.10	5	130	5	10	1.0
	B1	3.70	3.97					
	B2	3.87	4.10					
RD4.3S	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					
RD4.7S	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					
RD5.1S	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					
RD5.6S	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					
RD6.2S	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					

ELECTRICAL CHARACTERISTICS (T_A = 25 ± 2 °C)

Type Number	Class	Zener Voltage Vz (V)[Note 1]			Dynamic Impedance Zz (Ω)[Note 2]		Reverse Current I_R (μA)	
		MIN.	MAX.	Iz (mA)	MAX.	Iz (mA)	MAX.	V_R (V)
RD6.8S	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					
RD7.5S	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					
RD8.2S	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					
RD9.1S	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					
RD10S	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					
RD11S	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					
RD12S	B	11.38	12.64	5	35	5	2	9.0
	B1	11.38	11.94					
	B2	11.69	12.28					
	B3	12.04	12.64					
RD13S	B	12.43	14.00	5	35	5	2	10
RD15S	B	13.80	15.56	5	40	5	2	11
RD16S	B	15.31	17.14	5	40	5	2	12
RD18S	B	16.89	19.08	5	45	5	2	13
RD20S	B	18.80	21.14	5	50	5	2	15
RD22S	B	20.81	23.25	5	55	5	2	17
RD24S	B	22.86	25.66	5	60	5	2	19
RD27S	B	25.10	28.90	2	70	2	2	21
RD30S	B	28.00	32.00	2	80	2	2	23
RD33S	B	31.00	35.00	2	80	2	2	25
RD36S	B	34.00	38.00	2	90	2	2	27

ELECTRICAL CHARACTERISTICS (T_A = 25 ± 2 °C)

Type Number	Class	Zener Voltage Vz (V)[Note 1]			Dynamic Impedance Zz (Ω)[Note 2]		Reverse Current I_R (μA)	
		MIN.	MAX.	Iz (mA)	MAX.	Iz (mA)	MAX.	V_R (V)
RD39S	B	37.00	41.00	2	100	2	2	30
RD43S	B	40.00	45.00	2	130	2	2	33
RD47S	B	44.00	49.00	2	150	2	2	36
RD51S	B	48.00	54.00	2	180	2	1	39
RD56S	B	53.00	60.00	2	180	2	1	43
RD62S	B	58.00	66.00	2	200	2	0.2	47
RD68S	B	64.00	72.00	2	250	2	0.2	52
RD75S	B	70.00	79.00	2	300	2	0.2	57
RD82S	B	77.00	87.00	2	300	2	0.2	63
RD91S	B	85.00	96.00	1	700	1	0.2	69
RD100S	B	94.00	106.0	1	700	1	0.2	76
RD110S	B	104.0	116.0	1	800	1	0.2	84
RD120S	B	114.0	126.0	1	900	1	0.2	91

Note 1. Vz is tested with pulsed (40 ms).

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

TYPICAL CHARACTERISTICS (T_A = 25 °C)

Fig. 1 POWER DISSIPATION vs. AMBIENT TEMPERATURE

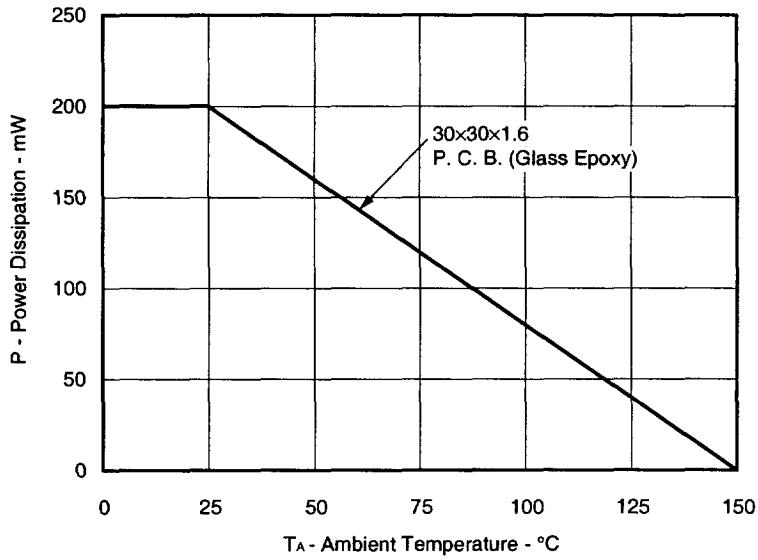


Fig. 2 ZENER CURRENT vs. ZENER VOLTAGE

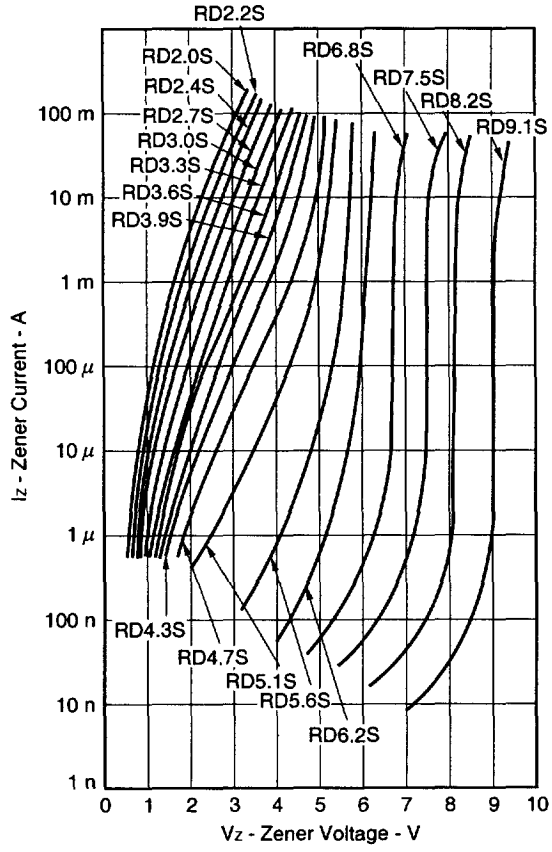


Fig. 3 ZENER CURRENT vs. ZENER VOLTAGE

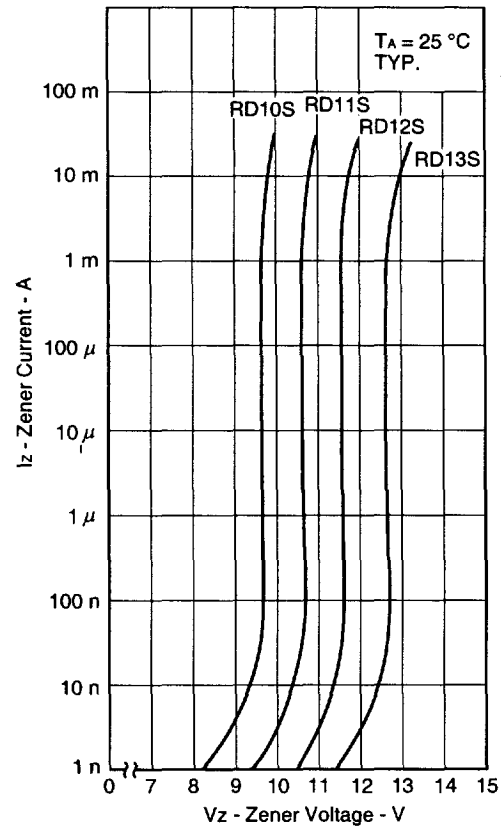


Fig. 4 ZENER CURRENT vs. ZENER VOLTAGE

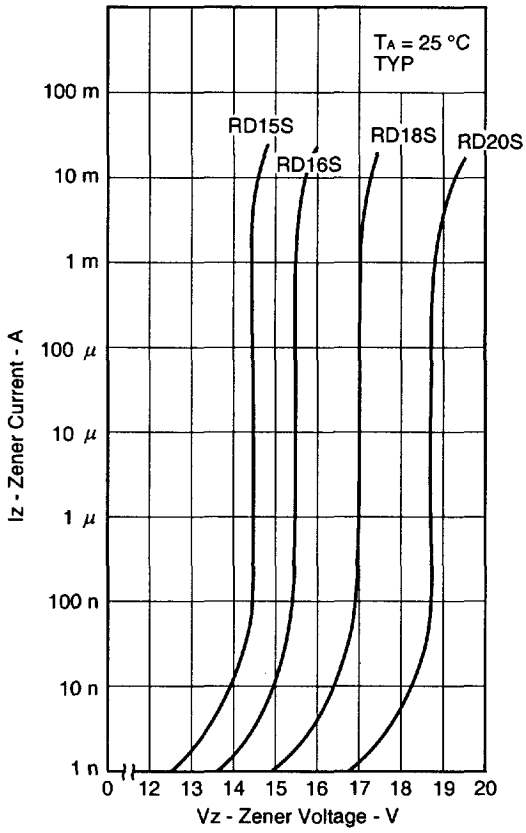


Fig. 5 ZENER CURRENT vs. ZENER VOLTAGE

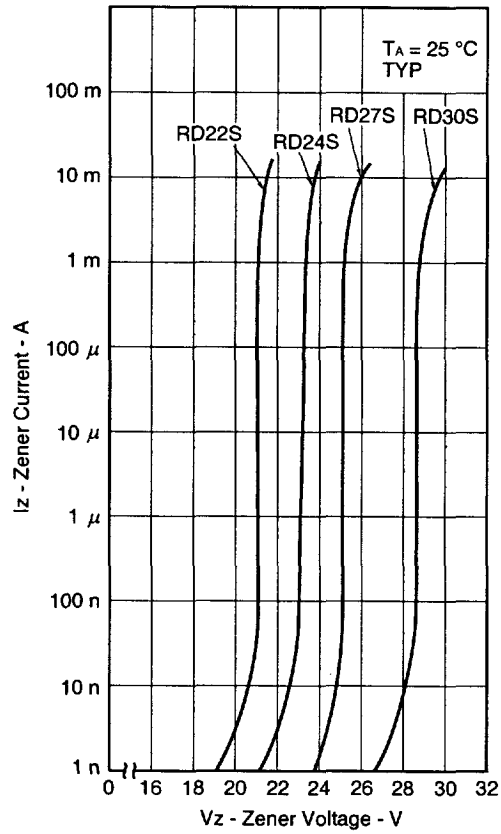


Fig. 6 ZENER CURRENT vs. ZENER VOLTAGE

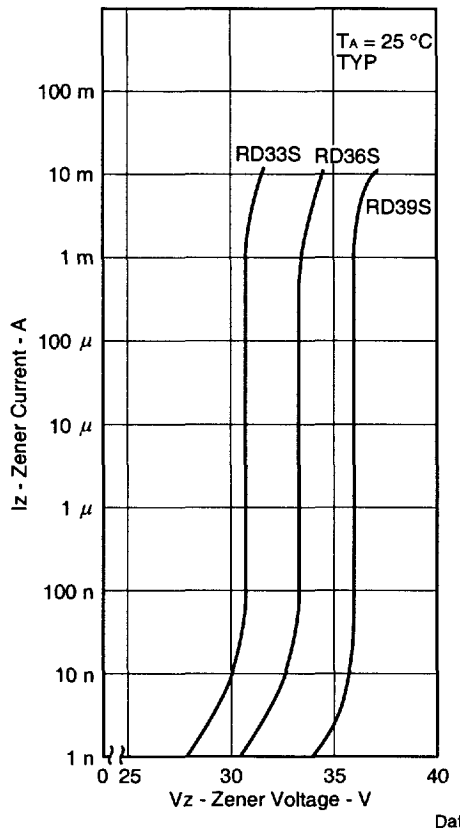


Fig. 7 ZENER CURRENT vs. ZENER VOLTAGE

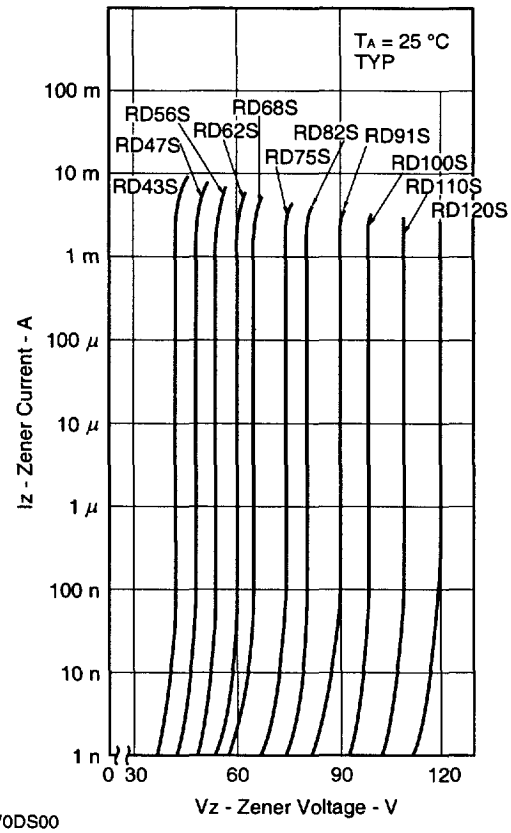


Fig. 8 DYNAMIC IMPEDANCE vs. ZENER CURRENT

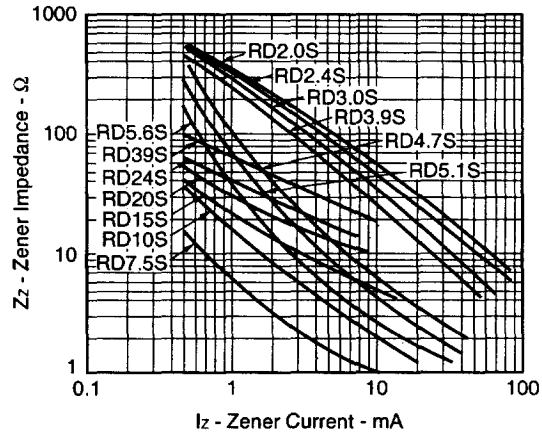


Fig. 9 ZENER VOLTAGE TEMPERATURE COEFFICIENT vs. ZENER VOLTAGE

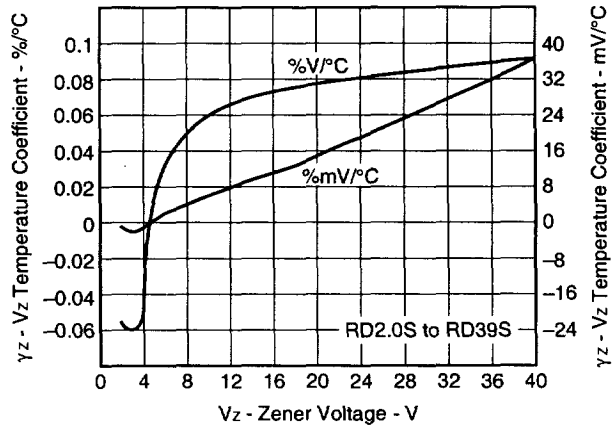


Fig. 10 ZENER VOLTAGE TEMPERATURE COEFFICIENT vs. ZENER VOLTAGE

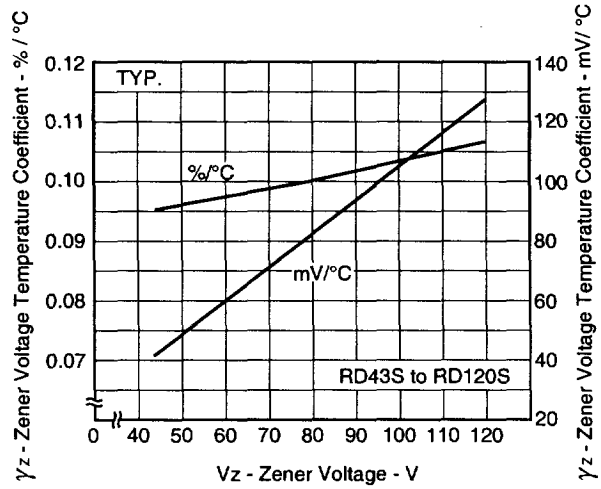


Fig. 11 TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS

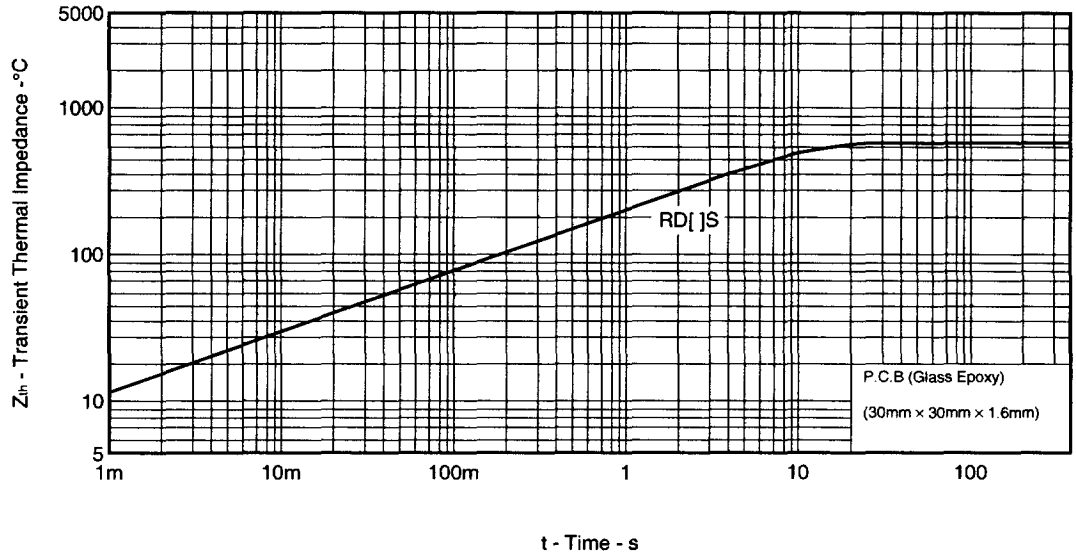
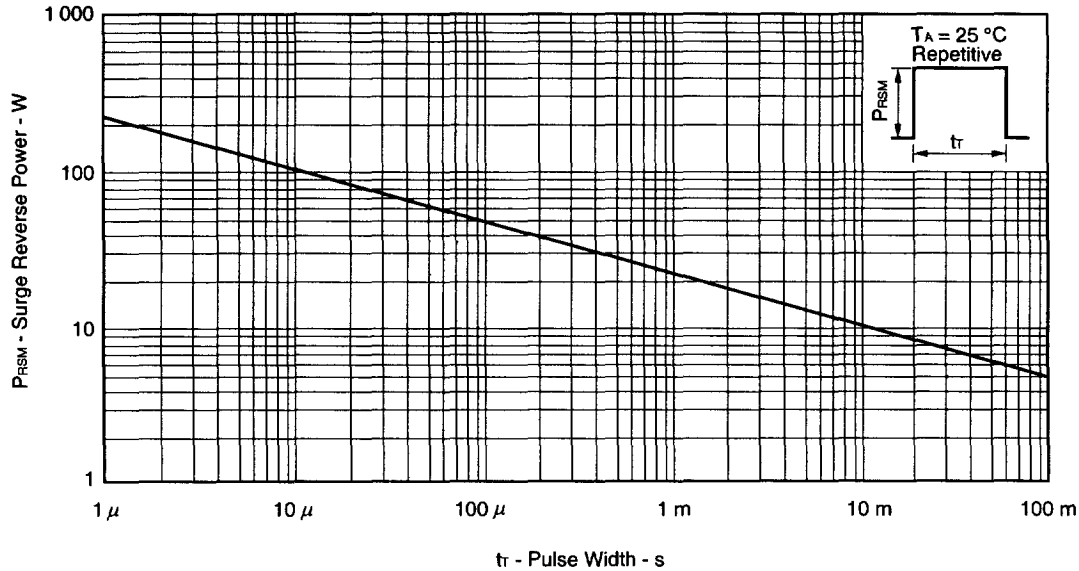


Fig. 12 SURGE REVERSE POWER RATINGS



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  Specific: Aircraft, aerospace equipment, submersible repeaters, nuclear reactor control systems, life support systems or medical equipment for life support, etc.

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[NEC Corporation]

Discrete

What's

FET

Bipolar

Diode

Japanese

Taping Specification

SC-76 (SSP)

There are two types (-T1, -T2) of taping depending on the direction of the device.

-T1, -T2

Devices are taped in the direction as shown in the figure above, 3000 devices are w
one reel, as shown below.

Figure of Reel

You can get information about the dimensions of the taping and the reel by downlo
the PDF files below.

- Taping drawing
- Reel drawing

Caution

The part number consists of a device name and a taping specification.
For example, if you want to buy a RD6.2S in -T1 taping, the part number is: **RD6.2**

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