DATA SHEET

ZENER DIODES
RD2.0FS to RD120FS

ZENER DIODES
1.0 W PLANAR TYPE 2-PIN SMALL POWER MINI MOLD

DESCRIPTION

Type RD2.0FS to RD120FS series are 2-pin small power mini mold package Zener diodes possessing an allowable power dissipation of 1.0 W.

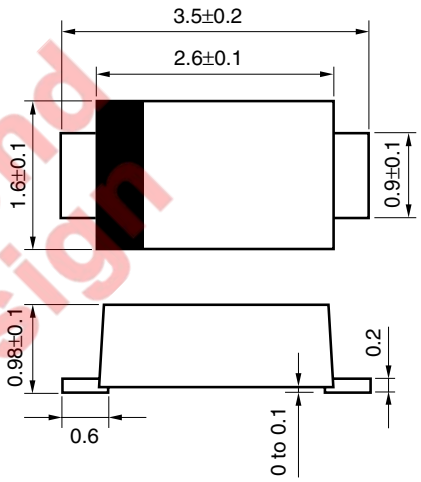
FEATURES

- Approximately 50% reduction in surface mount area (compared to existing RD**FM)
- Lineup of a wide variety of zener voltage, from 2.0 to 120 V
- High surge rating, high power dissipation

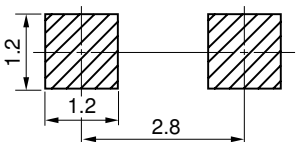
APPLICATIONS

- Surge absorption application
- Constant-voltage and constant-current circuits
- Waveform clippers and limiter circuits

PACKAGE DIMENSION (Unit: mm)



MOUNTING PAD REFERENCE EXAMPLE (Unit: mm)



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ABSOLUTE MAXIMUM RATINGS (T_A = 25°C)

Parameter	Symbol	Ratings	Unit	Remarks
Power dissipation	P	1.0	W	When surface mounting on 50 mm x 50 mm x 1.6 mmt P.C.B. (Glass Epoxy, Cu 100%)
Forward current	I_F	200	mA	
Surge reverse power	P_{RSM}	400	W	t = 10 μs, 1 pulse
Junction temperature	T_j	150	°C	
Storage temperature	T_{stg}	−55 to +150	°C	

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ELECTRICAL CHARACTERISTICS (T_A = 25°C)

Type Number	Class	Zener Voltage V_Z (V) Note1			Dynamic Impedance Z_Z (Ω) Note2		Reverse Current I_R (μA)	
		MIN.	MAX.	I_Z (mA)	MAX.	I_Z (mA)	MAX.	V_R (V)
RD2.0FS	B	1.9	2.2	5	140	5	200	0.5
RD2.2FS	B	2.1	2.4	5	140	5	200	0.7
RD2.4FS	B	2.3	2.6	5	140	5	200	1.0
RD2.7FS	B	2.5	2.9	5	140	5	150	1.0
RD3.0FS	B	2.8	3.2	5	140	5	100	1.0
RD3.3FS	B	3.1	3.5	5	140	5	80	1.0
RD3.6FS	B	3.4	3.8	5	140	5	60	1.0
RD3.9FS	B	3.7	4.1	5	120	5	40	1.0
RD4.3FS	B	4.0	4.5	5	120	5	20	1.0
RD4.7FS	B	4.4	4.9	5	100	5	20	1.0
RD5.1FS	B	4.8	5.4	5	100	5	20	1.0
RD5.6FS	B	5.3	6.0	5	70	5	20	1.5
RD6.2FS	B	5.8	6.6	5	40	5	20	3.0
RD6.8FS	B	6.4	7.2	5	25	5	20	3.5
RD7.5FS	B	7.0	7.9	5	25	5	20	4.0
RD8.2FS	B	7.7	8.7	5	25	5	20	5.0
RD9.1FS	B	8.5	9.6	5	25	5	20	6.0
RD10FS	B	9.4	10.6	5	20	5	10	7.0
RD11FS	B	10.4	11.6	5	20	5	10	8.0
RD12FS	B	11.4	12.6	5	25	5	10	9.0
RD13FS	B	12.4	14.1	5	30	5	10	10
RD15FS	B	13.8	15.6	5	30	5	10	11
RD16FS	B	15.3	17.1	5	40	5	10	12
RD18FS	B	16.8	19.1	5	45	5	10	13
RD20FS	B	18.8	21.2	5	55	5	10	15
RD22FS	B	20.8	23.3	5	55	5	10	17
RD24FS	B	22.8	25.6	5	70	5	10	19
RD27FS	B	25.1	28.9	2	80	2	10	21
RD30FS	B	28.0	32.0	2	80	2	10	23
RD33FS	B	31.0	35.0	2	80	2	10	25
RD36FS	B	34.0	38.0	2	90	2	10	27
RD39FS	B	37.0	41.0	2	130	2	10	30
RD43FS	B	40.0	45.0	2	150	2	5	33
RD47FS	B	44.0	49.0	2	170	2	5	36
RD51FS	B	48.0	54.0	2	220	2	5	39
RD56FS	B	53	60	2	220	2	5	43
RD62FS	B	58	66	2	220	2	5	47
RD68FS	B	64	72	2	230	2	5	52
RD75FS	B	70	79	2	250	2	5	57
RD82FS	B	77	87	2	270	2	5	63
RD91FS	B	85	96	2	340	2	5	69
RD100FS	B	94	106	2	430	2	5	76
RD110FS	B	104	116	2	530	2	5	84
RD120FS	B	114	126	2	620	2	5	91

Not recommend for new design

Notes 1. V_Z is tested with pulsed (40 ms).

2. Z_Z is measured at I_Z by given a very small A.C. signal.

TYPICAL CHARACTERISTICS (T_A = 25°C)

Fig.1 P – T_A RATING

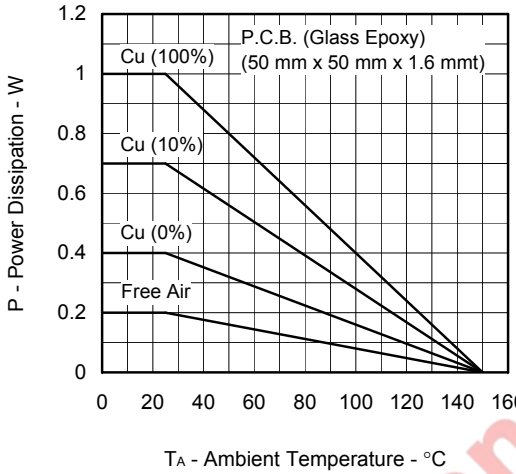

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Fig.2 I_Z – V_Z CHARACTERISTICS (1/3)

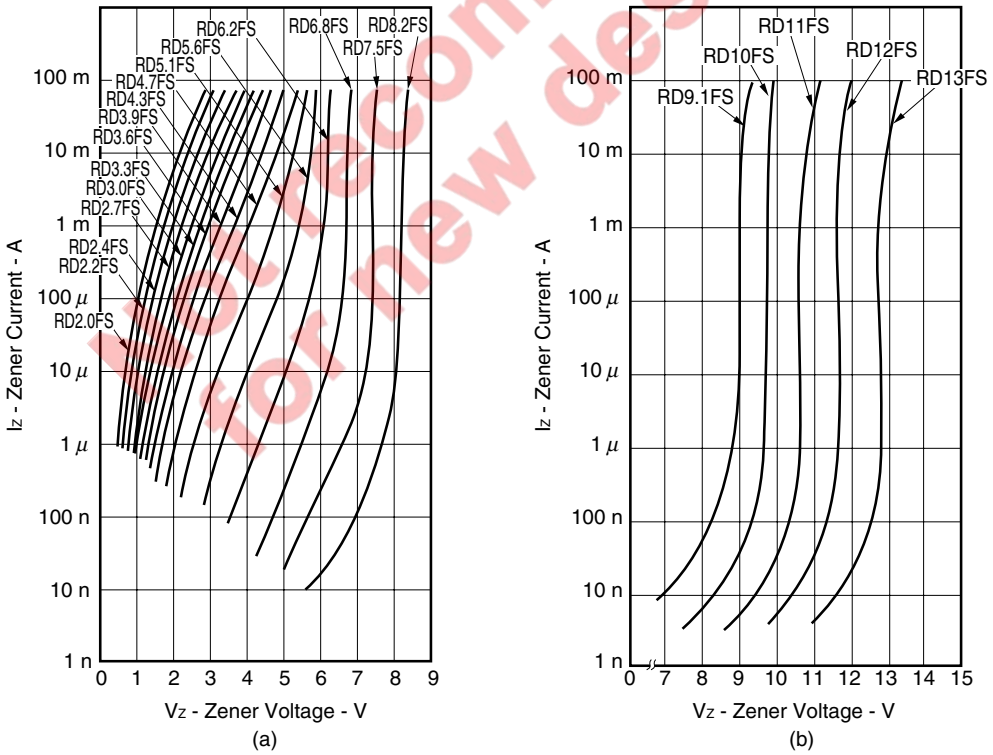

Fig.2 I_Z – V_Z CHARACTERISTICS (2/3)

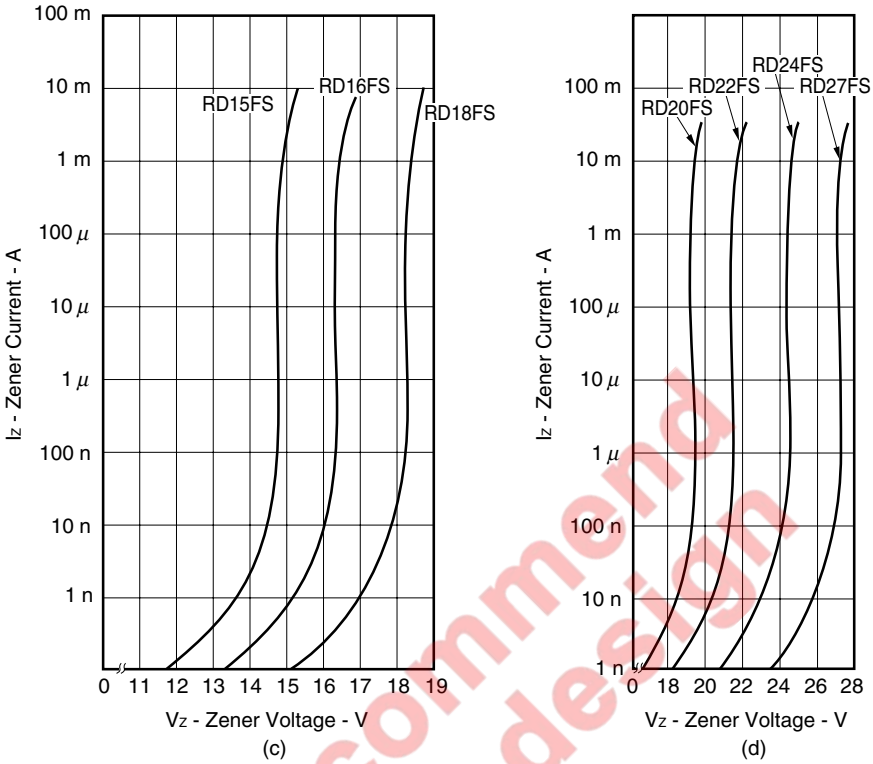

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Fig.2 I_Z – V_Z CHARACTERISTICS (3/3)

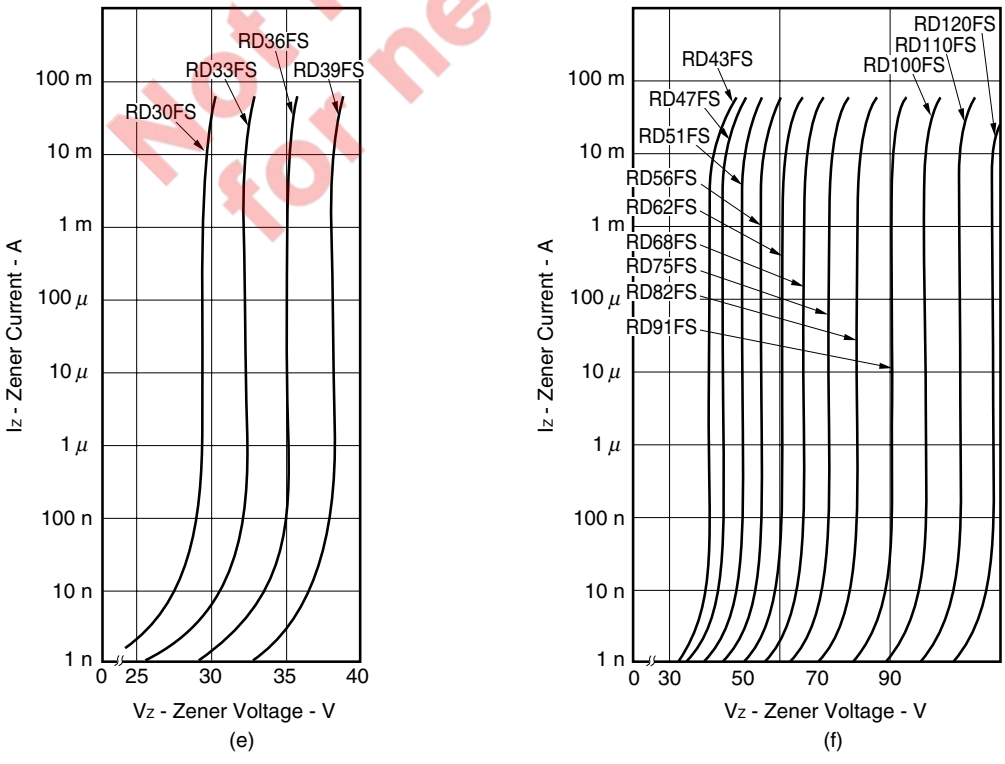

Fig.3 γ_Z – V_Z CHARACTERISTICS

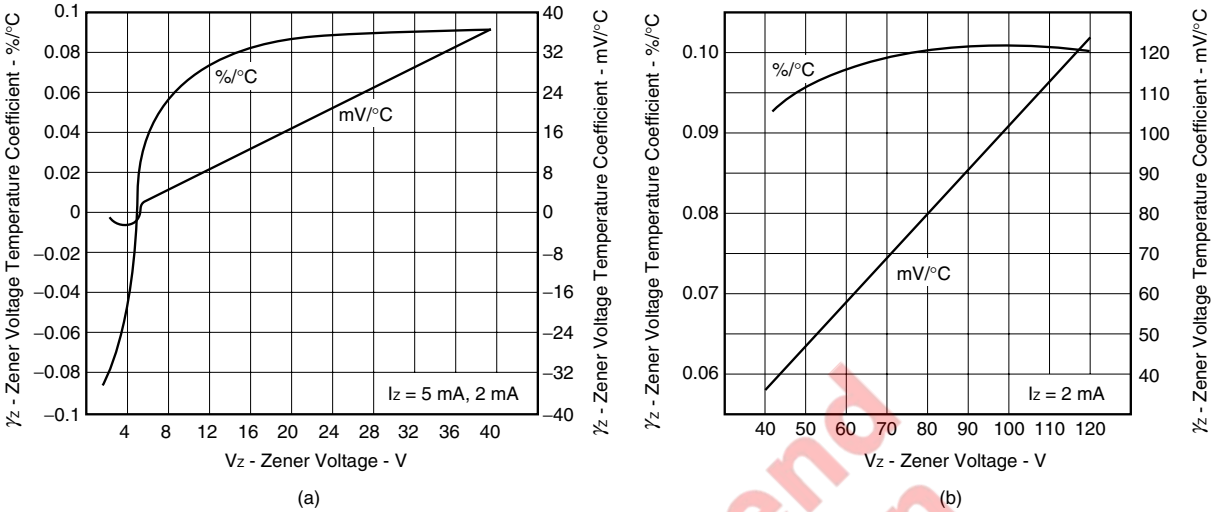

Fig.4 Z_Z – I_Z CHARACTERISTICS

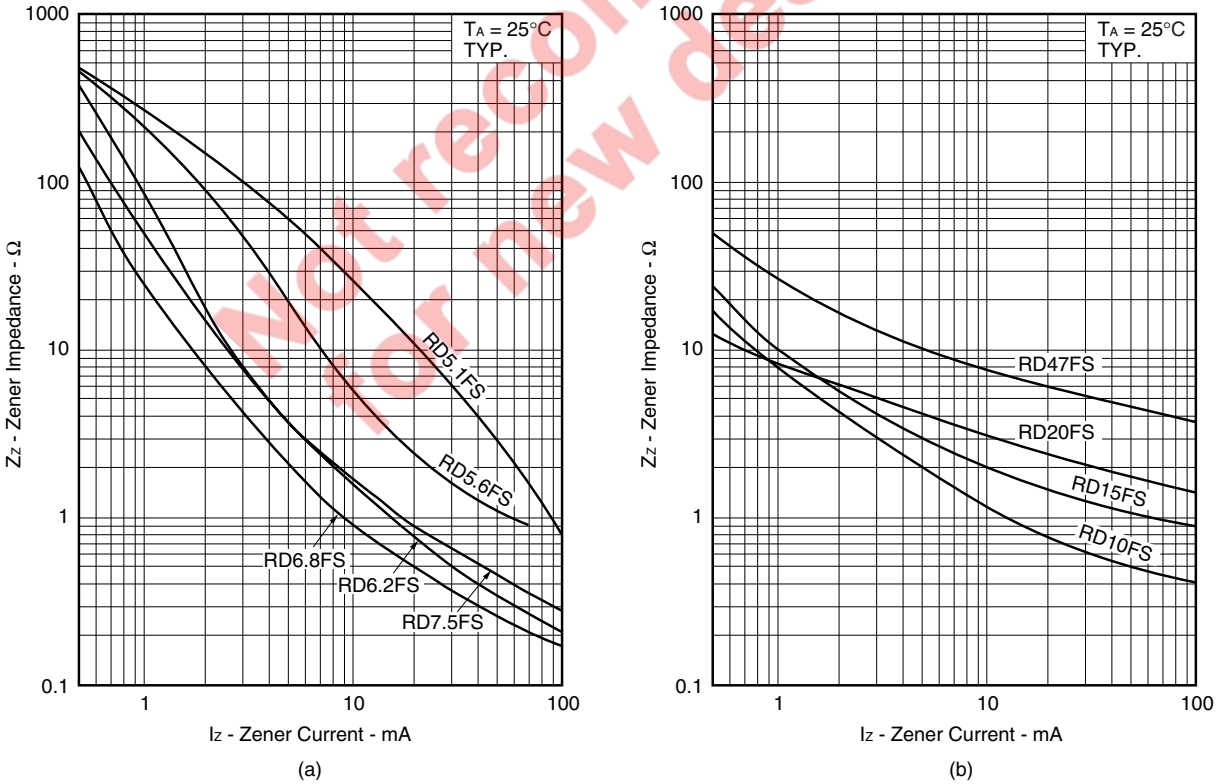

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Fig.5 TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS

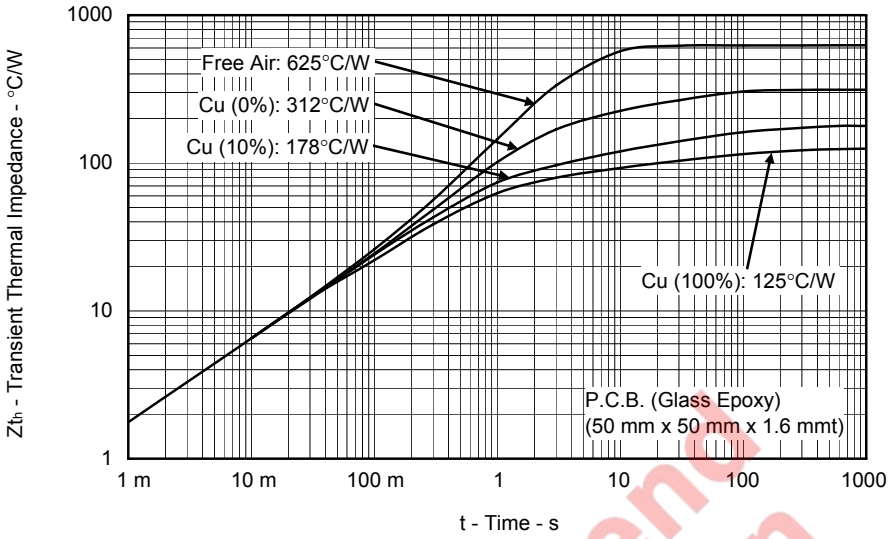
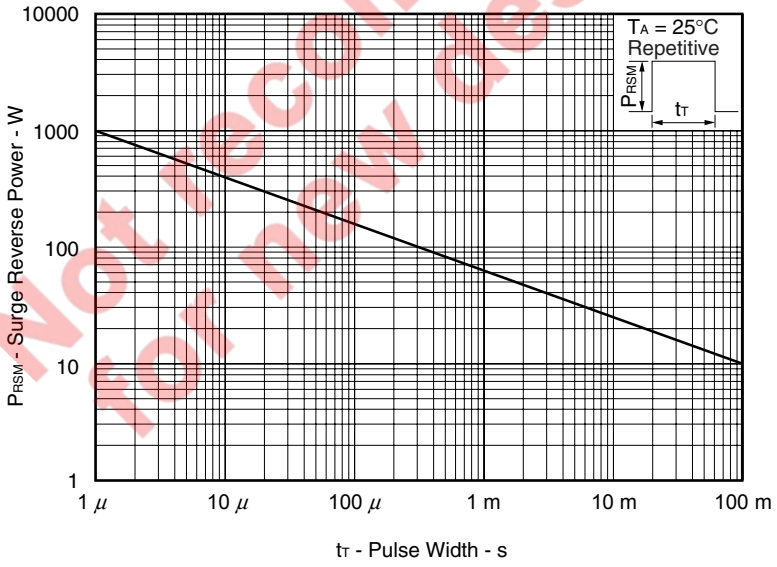


Fig.6 SURGE REVERSE POWER RATINGS



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