

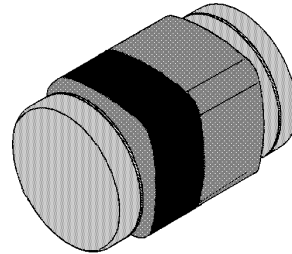
# ZMC RD2.0UM~RD39UM

## ZENER DIODES

LS-31

### Features

- Sharp Breakdown Characteristics
- Vz: Applied E24 standard

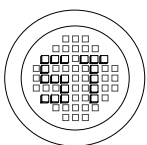


### Applications

- Circuits for Constant Voltage, Constant Current  
Wave form clipper, Surge absorber, etc.

### Absolute Maximum Ratings (Ta = 25°C)

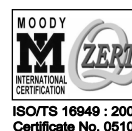
	Symbol	Value	Unit
Power Dissipation	$P_{tot}$	150	mW
Forward Current	$I_F$	100	mA
Reverse Surge Power At t = 10 $\mu$ s/1 pulse	$P_{RSM}$	85	W
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_S$	-55 to +155	°C



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ISO 14001:2004  
Certificate No. 7116

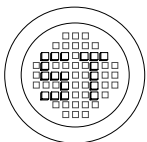
ISO 9001:2000  
Certificate No. 0506098

Dated : 22/01/2005

# ZMC RD2.0UM~RD39UM

Characteristics at Ta = 25 °C

TYPE	Zener Voltage			Dynamic Impedance		Reverse Current	
	V <sub>Z</sub> (V) <sup>Note1</sup>			Z <sub>Z</sub> (Ω) <sup>Note2</sup>		I <sub>R</sub> (μA)	
	Min.	Max.	I <sub>Z</sub> (mA)	Max.	I <sub>Z</sub> (mA)	Max.	V <sub>R</sub> (V)
ZMCRD2.0UMB	1.80	2.15	5	100	5	120	0.5
ZMCRD2.2UMB	2.10	2.40	5	100	5	120	0.7
ZMCRD2.4UMB	2.30	2.60	5	100	5	120	1.0
ZMCRD2.7UMB	2.50	2.90	5	110	5	120	1.0
ZMCRD2.7UMB1	2.50	2.75					
ZMCRD2.7UMB2	2.65	2.90					
ZMCRD3.0UMB	2.80	3.20	5	120	5	50	1.0
ZMCRD3.0UMB1	2.80	3.05					
ZMCRD3.0UMB2	2.95	3.20					
ZMCRD3.3UMB	3.10	3.50	5	130	5	20	1.0
ZMCRD3.3UMB1	3.10	3.35					
ZMCRD3.3UMB2	3.25	3.50					
ZMCRD3.6UMB	3.40	3.80	5	130	5	10	1.0
ZMCRD3.6UMB1	3.40	3.65					
ZMCRD3.6UMB2	3.55	3.80					
ZMCRD3.9UMB	3.70	4.10	5	130	5	10	1.0
ZMCRD3.9UMB1	3.70	3.97					
ZMCRD3.9UMB2	3.87	4.10					
ZMCRD4.3UMB	4.00	4.49	5	130	5	10	1.0
ZMCRD4.3UMB1	4.00	4.22					
ZMCRD4.3UMB2	4.14	4.35					
ZMCRD4.3UMB3	4.27	4.49					
ZMCRD4.7UMB	4.40	4.92	5	130	5	10	1.0
ZMCRD4.7UMB1	4.40	4.63					
ZMCRD4.7UMB2	4.53	4.77					
ZMCRD4.7UMB3	4.67	4.92					
ZMCRD5.1UMB	4.82	5.39	5	130	5	5	1.5
ZMCRD5.1UMB1	4.82	5.06					
ZMCRD5.1UMB2	4.96	5.22					
ZMCRD5.1UMB3	5.12	5.39					
ZMCRD5.6UMB	5.29	5.94	5	80	5	5	2.5
ZMCRD5.6UMB1	5.29	5.57					
ZMCRD5.6UMB2	5.47	5.75					
ZMCRD5.6UMB3	5.65	5.94					
ZMCRD6.2UMB	5.84	6.55	5	50	5	2	3.0
ZMCRD6.2UMB1	5.84	6.14					
ZMCRD6.2UMB2	6.04	6.35					
ZMCRD6.2UMB3	6.24	6.55					
ZMCRD6.8UMB	6.44	7.17	5	30	5	2	3.5
ZMCRD6.8UMB1	6.44	6.76					
ZMCRD6.8UMB2	6.62	6.96					
ZMCRD6.8UMB3	6.83	7.17					
ZMCRD7.5UMB	7.03	7.87	5	30	5	2	4.0
ZMCRD7.5UMB1	7.03	7.39					
ZMCRD7.5UMB2	7.25	7.63					
ZMCRD7.5UMB3	7.49	7.87					
ZMCRD8.2UMB	7.73	8.67	5	30	5	2	5.0
ZMCRD8.2UMB1	7.73	8.13					
ZMCRD8.2UMB2	7.98	8.39					
ZMCRD8.2UMB3	8.25	8.67					



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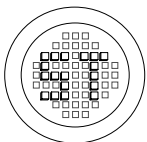
# ZMC RD2.0UM~RD39UM

## Characteristics at Ta = 25°C

TYPE	Zener Voltage			Dynamic Impedance		Reverse Current	
	V <sub>Z</sub> (V) <sup>Note1</sup>			Z <sub>Z</sub> (Ω) <sup>Note2</sup>		I <sub>R</sub> (μA)	
	Min.	Max.	I <sub>Z</sub> (mA)	Max.	I <sub>Z</sub> (mA)	Max.	V <sub>R</sub> (V)
ZMCRD9.1UMB	8.53	9.58	5	30	5	2	6.0
ZMCRD9.1UMB1	8.53	8.96					
ZMCRD9.1UMB2	8.81	9.26					
ZMCRD9.1UMB3	9.12	9.58					
ZMCRD10UMB	9.42	10.58	5	30	5	2	7.0
ZMCRD10UMB1	9.42	9.90					
ZMCRD10UMB2	9.74	10.24					
ZMCRD10UMB3	10.08	10.58					
ZMCRD11UMB	10.40	11.60	5	30	5	2	8.0
ZMCRD11UMB1	10.40	10.92					
ZMCRD11UMB2	10.72	11.26					
ZMCRD11UMB3	11.06	11.60					
ZMCRD12UMB	11.38	12.64	5	30	5	2	9.0
ZMCRD12UMB1	11.38	11.94					
ZMCRD12UMB2	11.69	12.28					
ZMCRD12UMB3	12.04	12.64					
ZMCRD13UMB	12.43	14.00	5	35	5	2	10
ZMCRD13UMB1	12.43	13.07					
ZMCRD13UMB2	12.87	13.53					
ZMCRD13UMB3	13.33	14.00					
ZMCRD15UMB	13.80	15.56	5	40	5	2	11
ZMCRD15UMB1	13.80	14.50					
ZMCRD15UMB2	14.30	15.02					
ZMCRD15UMB3	14.81	15.56					
ZMCRD16UMB	15.31	17.14	5	40	5	2	12
ZMCRD16UMB1	15.31	16.07					
ZMCRD16UMB2	15.78	16.58					
ZMCRD16UMB3	16.30	17.14					
ZMCRD18UMB	16.89	19.08	5	45	5	2	13
ZMCRD18UMB1	16.89	17.75					
ZMCRD18UMB2	17.51	18.40					
ZMCRD18UMB3	18.16	19.08					
ZMCRD20UMB	18.80	21.14	5	50	5	2	15
ZMCRD20UMB1	18.80	19.76					
ZMCRD20UMB2	19.46	20.45					
ZMCRD20UMB3	20.15	21.14					
ZMCRD22UMB	20.81	23.25	5	55	5	2	17
ZMCRD22UMB1	20.81	21.84					
ZMCRD22UMB2	21.46	22.55					
ZMCRD22UMB3	22.15	23.25					
ZMCRD24UMB	22.86	25.66	5	60	5	2	19
ZMCRD24UMB1	22.86	24.03					
ZMCRD24UMB2	23.65	24.85					
ZMCRD24UMB3	24.45	25.66					
ZMCRD27UMB	25.10	28.90	2	70	2	2	21
ZMCRD30UMB	28.00	32.00	2	80	2	2	23
ZMCRD33UMB	31.00	35.00	2	80	2	2	25
ZMCRD36UMB	34.00	38.00	2	90	2	2	27
ZMCRD39UMB	37.00	41.00	2	100	2	2	30

Note 1. V<sub>Z</sub> is tested with pulse (20ms).

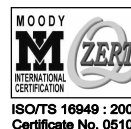
2. Z<sub>Z</sub> is measured at I<sub>Z</sub> by given a very small A.C. Current Signal.



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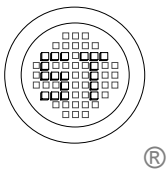
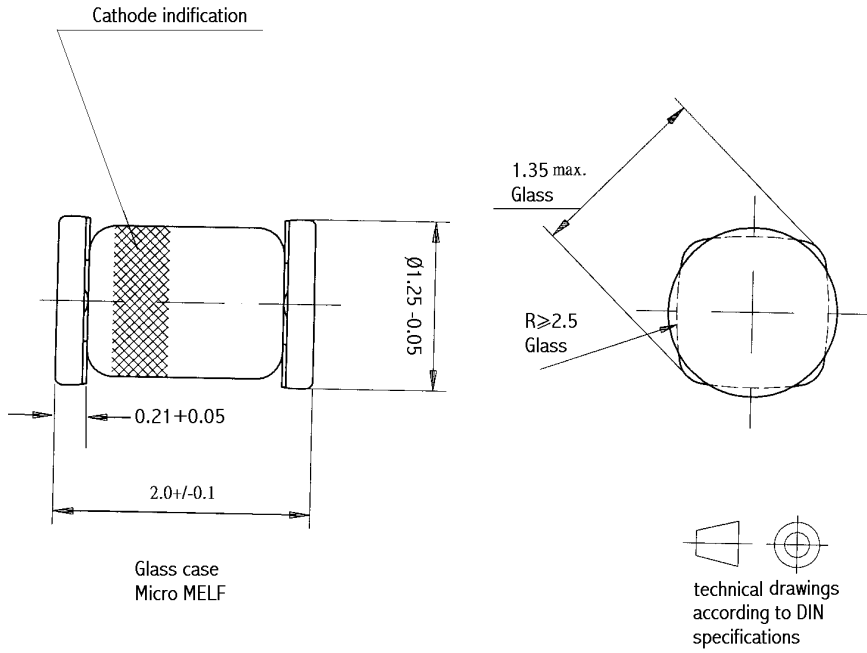
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# ZMC RD2.0UM~RD39UM

## Dimensions in mm



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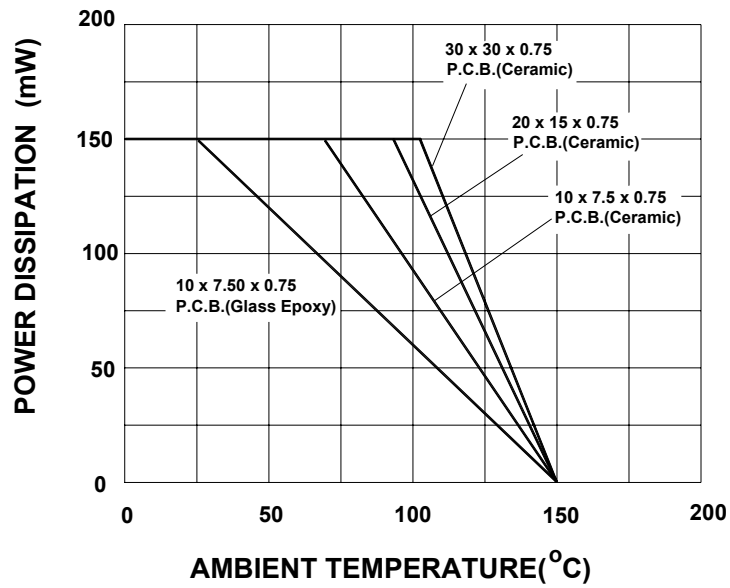
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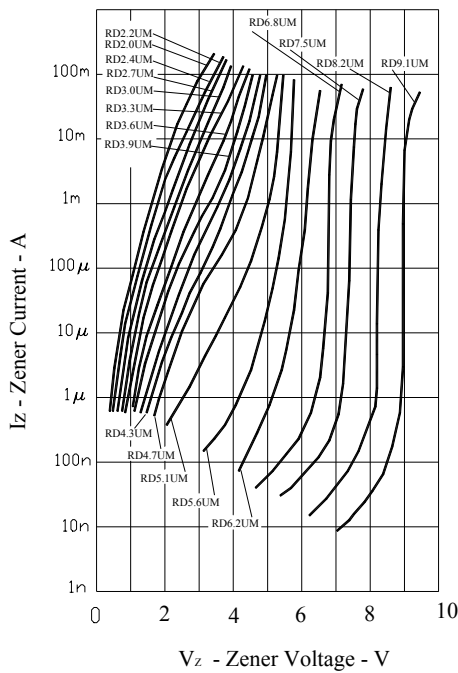
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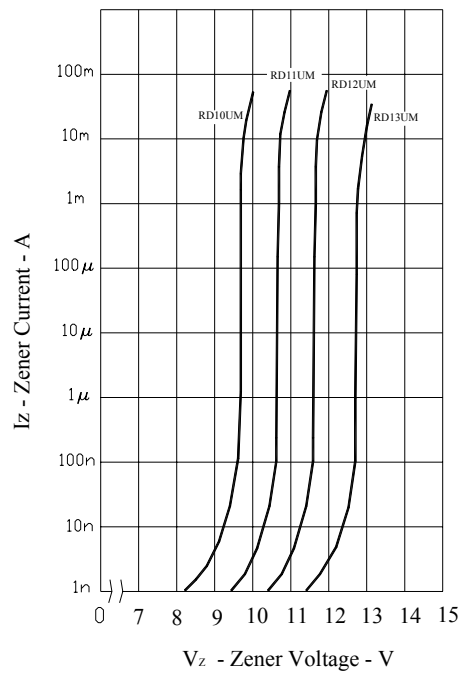
## P - Ta Rating



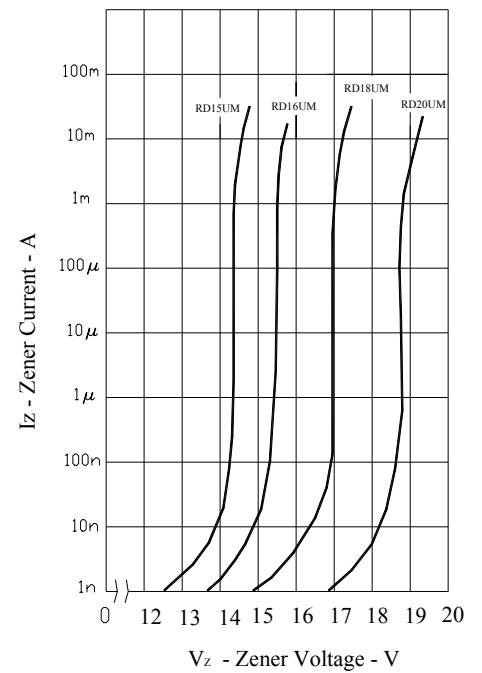
## Iz - Vz CHARACTERISTICS



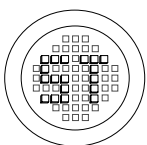
(a)



(b)



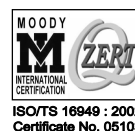
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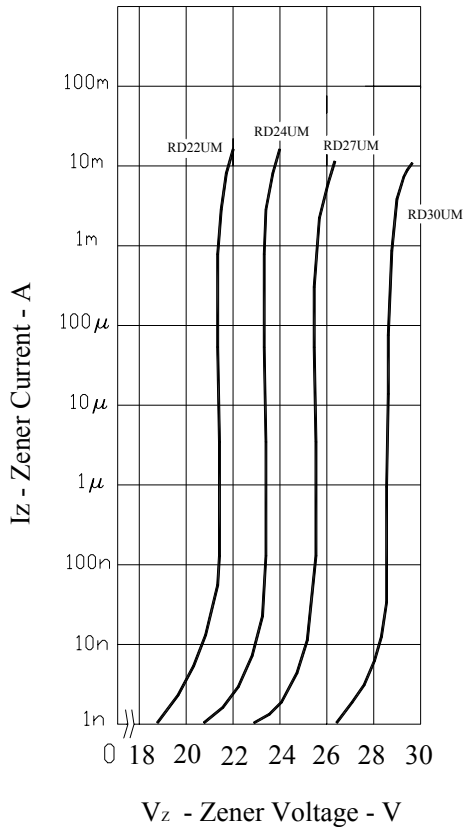
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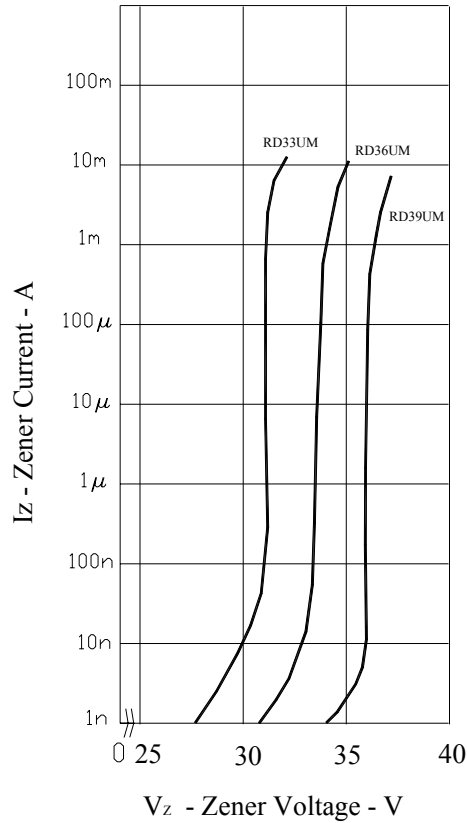


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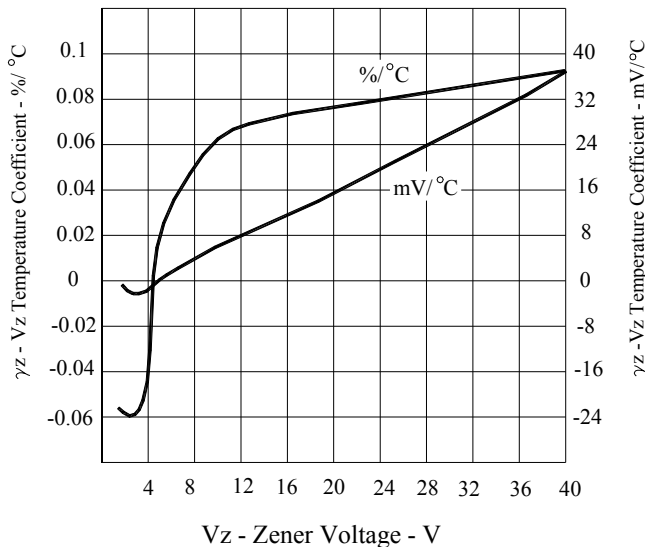


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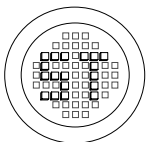
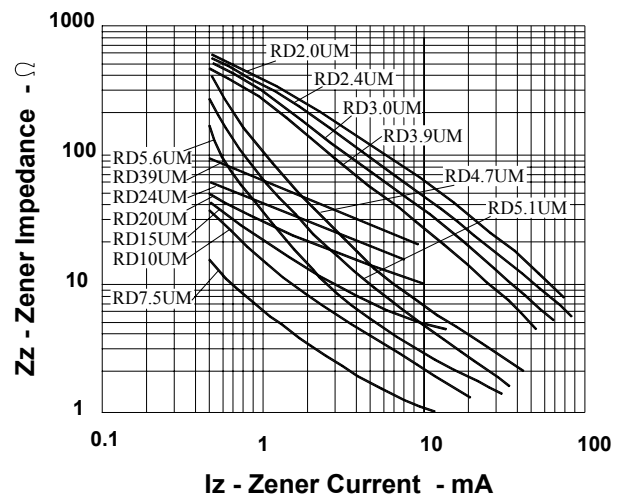


(e)

## $\gamma_z - V_z$ CHARACTERISTICS

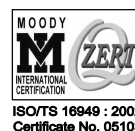


## $Z_z - I_z$ Characteristics



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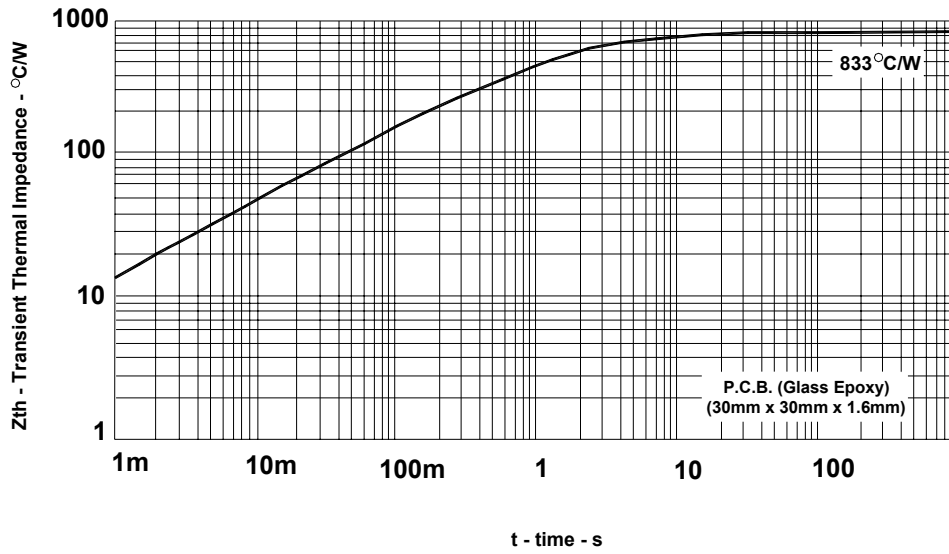
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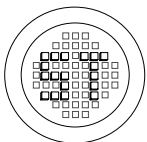
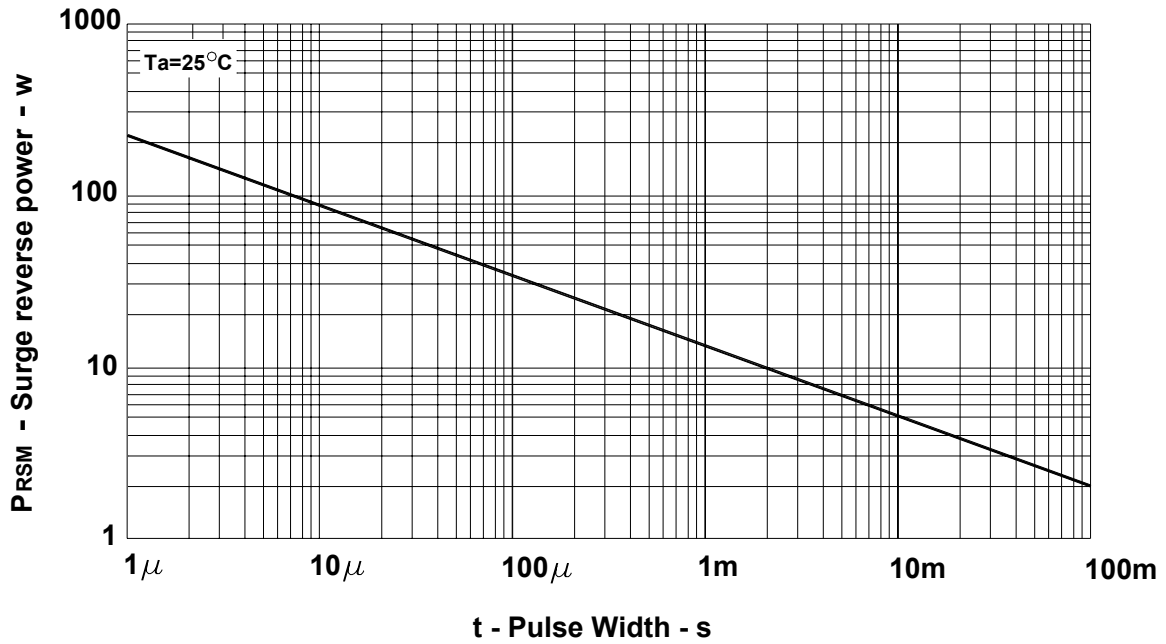
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## TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS



## SURGE REVERSE POWER RATINGS



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