

Transient Voltage Suppressor

Breakdown Voltage 33 to 400V
Peak Pulse Power 100KW

Features

- Breakdown Voltages (V_{BR}) from 33 to 400V
- 100KW peak pulse power capability with a 6.4/69 μ s waveform, repetitive rate (duty cycle):0.005%
- Fast Response Time
- Low incremental surge resistance
- Excellent clamping capability
- Available in uni-directional and bi-directional
- High temperature soldering guaranteed: 265°C /10 seconds, 0.375" (9.5mm) lead length, 5lbs. (2.3kg) tension

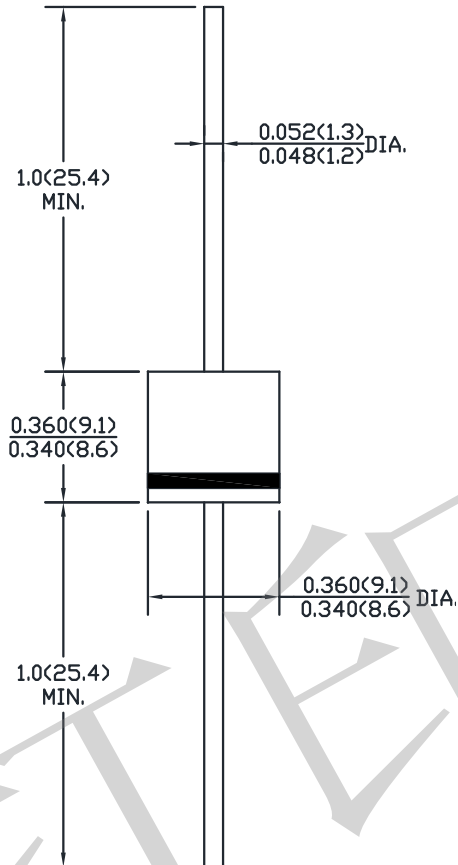
Application

- Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFE, signal lines of sensor units for consumer, computer, industrial, automotive and telecommunication

Mechanical Data

- **Case:** Void-free transfer molded thermosetting epoxy body meeting UL94V-O
- **Terminals:** Tin-Lead or ROHS Compliant annealed matte-Tin plating readily solderable per MIL-STD-750, Method 2026
- **Marking:** Body marked with part number
- **Polarity:** Band denotes cathode. Bidirectional not marked.
- **Weight:** 2.1g (Approximately)

CASE: R-6



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics @ 25°C unless otherwise specified

Symbol	Conditions	Value	Unit
P_{PPM}	Peak pulse power capability with a 6.4/69 μ s	100	KW
I_{PPM}	Peak pulse current with a 6.4/69 μ s	SEE TABLE 1	A
$P_{M(AV)}$	Steady state power dissipation at $T_L=27.5^\circ\text{C}$, Lead lengths 0.375" (10mm)	7	W
	Steady state power dissipation at $T_A=25^\circ\text{C}$ when mounted on FR4 PC described for thermal resistance	1.61	W
$R_{\theta JL}$	Thermal resistance junction to lead	17.5	°C/W
$R_{\theta JA}$	Thermal resistance junction to ambient	77.5	°C/W
T_J, T_{STG}	Operating and Storage Temperature	-65 to +150	°C



Electrical Characteristics @ 25°C (Unless Otherwise Noted) TABLE1

Part Number (Note1)	Breakdown Voltage V_{BR} @ I_{BR}			Rated Stand Off Voltage	Maximum Reverse Leakage I_D @ V_{WM}	Maximum Peak Pulse Current (Note3) @6.4/69 μ s	Maximum Clamping Voltage V_C @ I_{PP} (Note2)	Maximum Temperature Coefficient of $V_{(BR)}$
	MIN	MAX						
	V_{BR} (V)		I_{BR} (mA)					
RT100KP33A	36.7	40.6	50	33.0	5000	1825	58.6	38
RT100KP36A	40.0	44.2	50	36.0	5000	1672	61.8	41
RT100KP40A	44.4	49.1	20	40.0	1500	1518	68.6	46
RT100KP43A	47.8	52.8	10	43.0	500	1432	71.0	50
RT100KP45A	50.0	55.3	5	45.0	150	1365	73.0	52
RT100KP48A	53.3	58.9	5	48.0	150	1285	77.7	56
RT100KP51A	56.7	62.7	5	51.0	50	1205	82.8	60
RT100KP54A	60.0	66.3	5	54.0	25	1139	87.5	63
RT100KP58A	64.4	71.2	5	58.0	15	1066	94.0	68
RT100KP60A	66.7	73.7	5	60.0	15	1012	97.3	71
RT100KP64A	71.1	78.6	5	67.0	10	959	104.0	76
RT100KP70A	77.8	86.0	5	70.0	10	879	114.0	83
RT100KP75A	83.3	92.1	5	75.0	10	819	122.0	89
RT100KP78A	86.7	95.8	5	78.0	10	793	126.0	93
RT100KP85A	94.4	104.0	5	85.0	10	726	137.0	102
RT100KP90A	100.0	111.0	5	95.0	10	686	146.0	109
RT100KP100A	111.0	123.0	5	100.0	10	619	162.0	121
RT100KP110A	122.0	135.0	5	110.0	10	559	178.0	133
RT100KP120A	133.0	147.0	5	120.0	10	519	193.0	145
RT100KP130A	144.0	159.0	5	130.0	10	473	209.0	157
RT100KP150A	167.0	185.0	5	150.0	10	413	243.0	183
RT100KP160A	178.0	197.0	5	160.0	10	386	259.0	195
RT100KP170A	189.0	209.0	5	170.0	10	366	275.0	207
RT100KP180A	200.0	221.0	5	180.0	10	346	291.0	219
RT100KP200A	222.0	245.0	5	200.0	10	313	322.0	243
RT100KP220A	245.0	271.0	5	220.0	10	280	356.0	269
RT100KP250A	278.0	308.0	5	250.0	10	246	403.0	306
RT100KP260A	289.0	320.0	5	260.0	10	236	419.0	318
RT100KP280A	311.0	345.0	5	280.0	10	220	451.0	344
RT100KP300A	333.0	369.0	5	300.0	10	206	483.0	368
RT100KP350A	389.0	431.0	5	350.0	10	176	564.0	430
RT100KP400A	444.0	492.0	5	400.0	10	153	644.0	490

Note1. For bidirectional construction, indicate a CA suffix (instead of A) after the part number, i.e. RT100KP400CA.

Note2. Clamping voltage does not include any variable parasitic lead inductance effects observed during the 6.4 μ s rise time due to lead length.

Note3. The Maximum Peak Pulse Current (I_{PP}) shown represents the performance capabilities by design.

Characteristic Curve

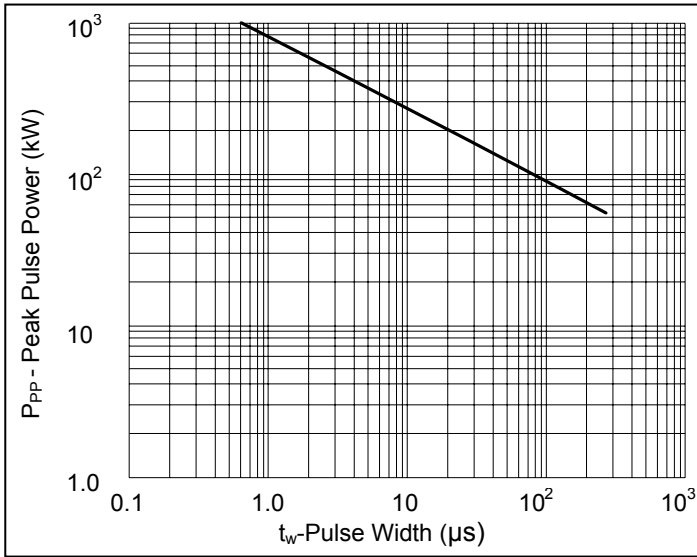


Fig. 1 Peak Pulse Power vs. Pulse Time To 50% of Exponentially Decaying Pulse

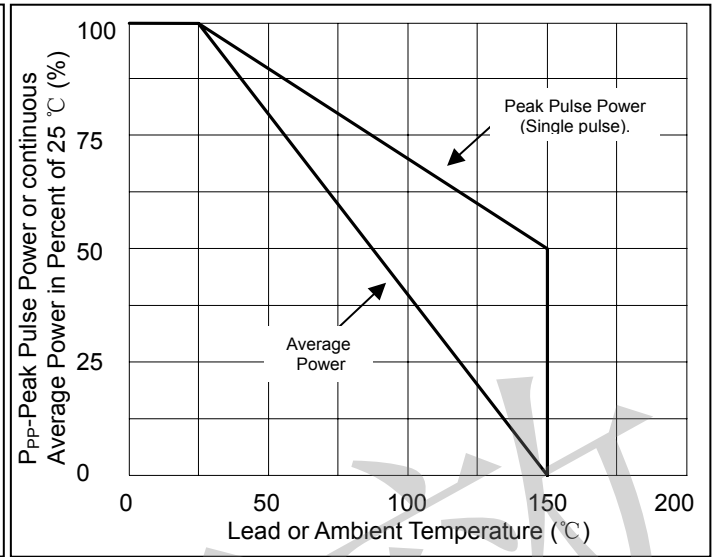


Fig.2 Derating Curve