



High-reliability discrete products
and engineering services since 1977

RT100KP33A- RT100KP400CA

100 kW TRANSIENT VOLTAGE SUPPRESSOR

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Peak pulse power dissipation @ 25°C	100kW @ 6.49/69µs waveform
Impulse repetition rate	0.005%
t _{clamping} (0 volts to V _{BR} min)	< 100 ps theoretical for unidirectional and <5 ns for bidirectional
Operating and storage temperatures	-65 to +150°C
Thermal resistance	17.5C/W junction to lead, or 77.5C/W junction to ambient when mounted on FR4 PC board with 4mm2 copper pads and track width 1mm, length 25mm
Steady-state power dissipation	7 Watts @ T _L = 27.5°C or 1.61 Watts @ T _A = 25°C when mounted on FR4 PC board with 4mm2 copper pads and track width 1mm, length 25mm
Forward surge	250 Amps 8.3 ms half-sine wave for unidirectional devices only
Solder temperatures	260°C for 10s maximum

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Part number (1)	Rated stand-off voltage V _{WM} Volts	Breakdown voltage			Maximum clamping @ I _{PP} (2)	Maximum reverse leakage @ V _{WM}	Maximum peak pulse current ⁽³⁾ @ 6.4/69µs	Maximum V _(BR) temperature coefficient
		V _(BR)		I _(BR)	V _C	I _D	I _{PP}	α _{V(BR)}
		Volts		mA	Volts	µAmps	Amps	mV/°C
		Min	Max					
RT100KP33A	33	36.7	40.6	50	58.6	5000	1825	38
RT100KP36A	36	40.0	44.2	50	61.8	5000	1672	41
RT100KP40A	40	44.4	49.1	20	68.6	1500	1518	46
RT100KP43A	43	47.8	52.8	10	71.0	500	1432	50
RT100KP45A	45	50.0	55.3	5	73.0	150	1365	52
RT100KP48A	48	53.3	58.9	5	77.7	150	1285	56
RT100KP51A	51	56.7	62.7	5	82.8	50	1205	60
RT100KP54A	54	60.0	66.3	5	87.5	25	1139	63
RT100KP58A	58	64.4	71.2	5	94.0	15	1066	68
RT100KP60A	60	66.7	73.7	5	97.3	15	1012	71
RT100KP64A	64	71.1	78.6	5	104	10	959	76
RT100KP70A	70	77.8	86.0	5	114	10	879	83
RT100KP75A	75	83.3	92.1	5	122	10	819	89
RT100KP78A	78	86.7	95.8	5	126	10	793	93
RT100KP85A	85	94.4	104	5	137	10	726	102
RT100KP90A	90	100	111	5	146	10	686	109
RT100KP100A	100	111	123	5	162	10	619	121
RT100KP110A	110	122	135	5	178	10	559	133
RT100KP120A	120	133	147	5	193	10	519	145
RT100KP130A	130	144	159	5	209	10	473	157
RT100KP150A	150	167	185	5	243	10	413	183
RT100KP160A	160	178	197	5	259	10	386	195

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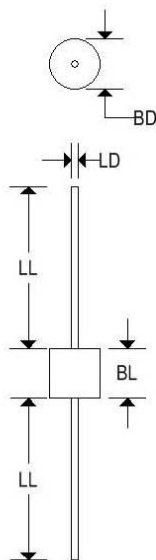
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Part number (1)	Rated stand-off voltage	Breakdown voltage			Maximum clamping @ I_{PP} (2)	Maximum reverse leakage @ V_{WM}	Maximum peak pulse current ⁽³⁾ @ 6.4/69 μs	Maximum $V_{(BR)}$ temperature coefficient
	V_{WM}	$V_{(BR)}$		$I_{(BR)}$	V_C	I_D	I_{PP}	$\alpha_{V(BR)}$
	Volts	Volts		mA	Volts	μAmps	Amps	mV/ $^\circ\text{C}$
		Min	Max					
RT100KP170A	170	189	209	5	275	10	366	207
RT100KP180A	180	200	221	5	291	10	346	219
RT100KP200A	200	222	245	5	322	10	313	243
RT100KP220A	220	245	271	5	356	10	280	269
RT100KP250A	250	278	308	5	403	10	246	306
RT100KP260A	260	289	320	5	419	10	236	318
RT100KP280A	280	311	345	5	451	10	220	344
RT100KP300A	300	333	369	5	483	10	206	368
RT100KP350A	350	389	431	5	564	10	176	430
RT100KP400A	400	444	492	5	644	10	153	490

- For bidirectional construction, indicate a CA suffix (instead of A) after the part number.
- Clamping voltage does not include any variable parasitic lead inductance effects observed during the 6.4 μs rise time due to lead length.
- The maximum peak pulse current (I_{PP}) shown represents the performance capabilities by design.

MECHANICAL CHARACTERISTICS

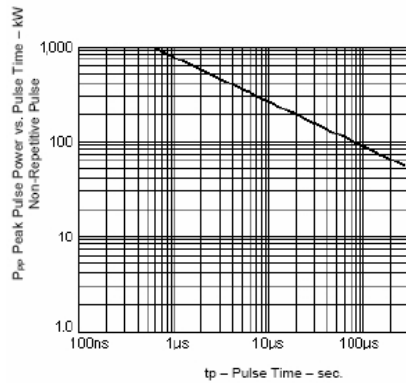
Case	Digi I
Marking	Body-painted, alpha-numeric
Polarity	Cathode band (no band required for bidirectional)



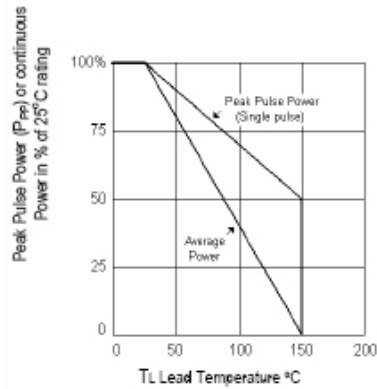
	Digi I			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	0.340	0.360	8.600	9.100
BL	0.340	0.360	8.600	9.100
LD	0.047	0.053	1.194	1.346
LL	1.000	-	25.400	-

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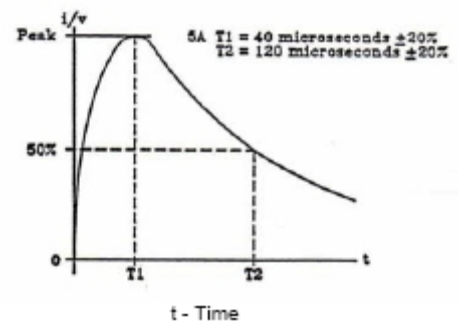
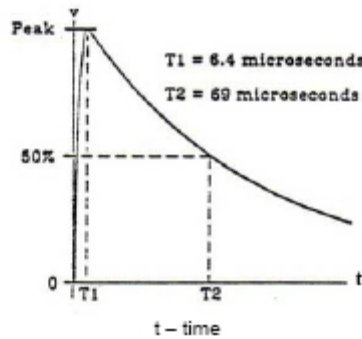
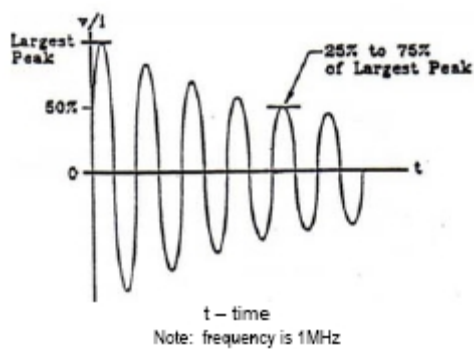
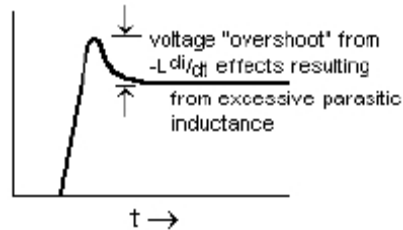
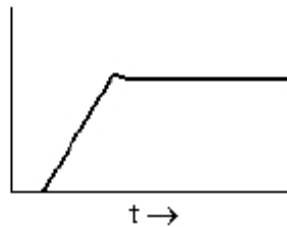
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Peak Pulse Power vs. Pulse Time
To 50% of Exponentially Decaying Pulse



POWER DERATING



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