

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSORS

FEATURES

- Plastic package.
- Glass passivated chip junction.
- 5000W Peak Pulse Power capability on 10/1000 μ s waveform.
- Excellent clamping capability.
- Repetition rate (duty cycle):0.05%.
- Low incremental surge resistance.
- Fast response time: typically less than 1.0ps from 0 Volts to BV min.
- Typical IR less than 2 μ A for VBR $\geq$ 10V.
- High temperature soldering guaranteed: 265°C/10 seconds/.375", (9.5mm) lead length, 5lbs., (2.3kg) tension.



P600

MECHANICAL DATA

- Case: Molded plastic over glass passivated junction.
- Terminals: Plated Axial leads, solderable per MIL-STD-750, Method 2026.
- Polarity: Color band denotes positive end (cathode) except Bipolar.
- Mounting Position: Any.
- Weight: 0.07 ounce, 2.1grams.

DEVICES FOR BIPOLAR APPLICATION

- For bidirectional use C or CA suffix for types 5KP5.0 thru types 5KP250 (e.g. 5KP5.0C, 5KP190CA), electrical characteristics apply in both directions.

MAXIMUM RATINGS AND CHARACTERISTICS

- Ratings at 25 °C ambient temperature unless otherwise specified

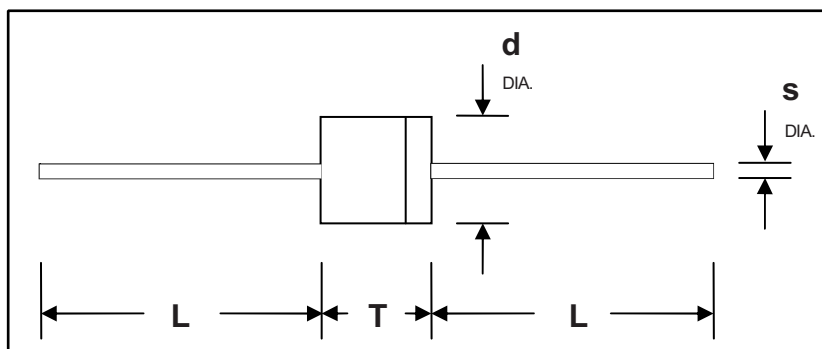
RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000 μ s waveform (Note1, Fig.1).	PPPM	Minimum 5000	Watts
Peak Pulse Current of on 10/1000 μ s waveform (Note 1, Fig.3).	IPPM	See Table	Amps
Steady State Power Dissipation at TL = 75°C, Lead lengths.375", (9.5mm) (Fig.5).	PM(AV)	8	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load, (JEDEC Method) (Note 2, Fig.6).	IFSM	400	Amps
Operating junction and Storage Temperature Range.	TJ,TSTG	-55 to +175	°C

Notes: 1. Non-repetitive current pulse, per Fig. 3 and derated above TA = 25°C per Fig. 2.

2. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.

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PACKAGE DIMENSIONS



P600

Item	Millimeters		Inches	
	Min.	Max.	Min.	Max.
L	25.40	-	1.000	-
T	8.60	9.10	0.340	0.360
d	8.60	9.10	0.340	0.360
s	1.22	1.32	0.048	0.052

ELECTRICAL CHARACTERISTICS

Part Number		Reverse Stand-Off Voltage	Breakdown Voltage MIN.@I T	Breakdown Voltage MAX.@I T	Test Current	Maximum Clamping Voltage @IPP	Peak Pulse Current	Reverse Leakage @V RWM
UNI-POLAR	BI-POLAR	V _{RWM} (V)	V _{BR} MIN. (V)	V _{BR} MAX.(V)	I T(mA)	V _c (V)	I _{PP} (A)	I _r (μA)
5KP5.0A	5KP5.0CA	5.0	6.40	7.00	50	9.2	554.3	5000
5KP6.0A	5KP6.0CA	6.0	6.67	7.37	50	10.3	495.1	5000
5KP6.5A	5KP6.5CA	6.5	7.22	7.98	50	11.2	455.4	2000
5KP7.0A	5KP7.0CA	7.0	7.78	8.60	50	12.0	425.0	1000
5KP7.5A	5KP7.5CA	7.5	8.33	9.21	5	12.9	395.3	250
5KP8.0A	5KP8.0CA	8.0	8.89	9.83	5	13.6	375.0	150
5KP8.5A	5KP8.5CA	8.5	9.44	10.40	5	14.4	354.2	50
5KP9.0A	5KP9.0CA	9.0	10.00	11.10	5	15.4	331.2	20
5KP10A	5KP10CA	10.0	11.10	12.30	5	17.0	300.0	15
5KP11A	5KP11CA	11.0	12.20	13.50	5	18.2	280.2	2
5KP12A	5KP12CA	12.0	13.30	14.70	5	19.9	256.3	2
5KP13A	5KP13CA	13.0	14.40	15.90	5	21.5	237.2	2
5KP14A	5KP14CA	14.0	15.60	17.20	5	23.2	219.8	2
5KP15A	5KP15CA	15.0	16.70	18.50	5	24.4	209.0	2
5KP16A	5KP16CA	16.0	17.80	19.70	5	26.0	196.2	2
5KP17A	5KP17CA	17.0	18.90	20.90	5	27.6	184.8	2

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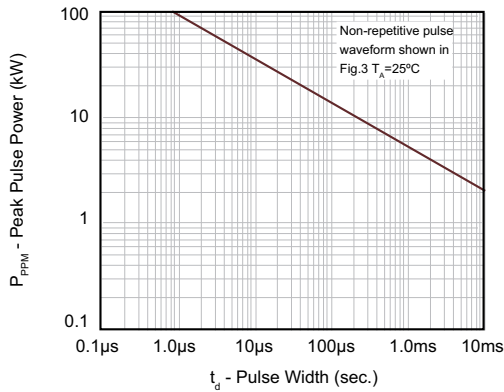
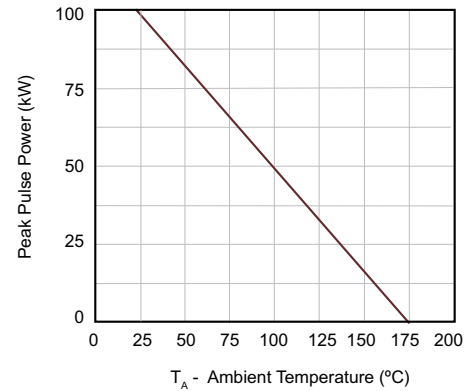
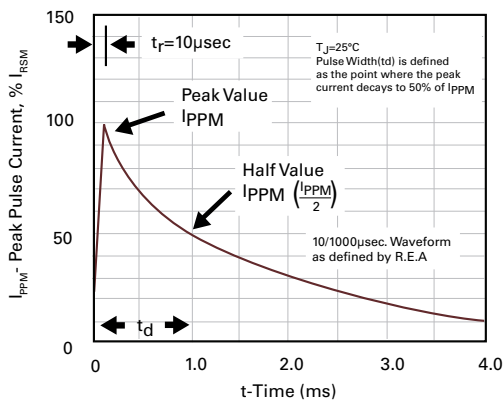
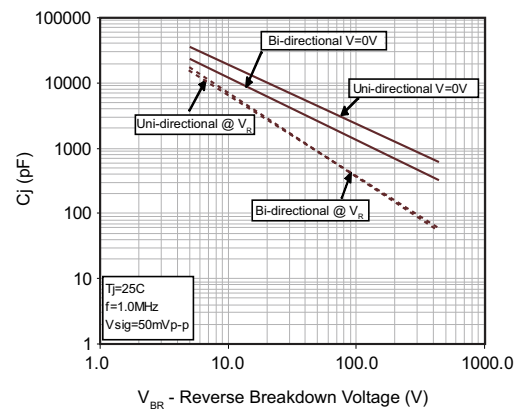
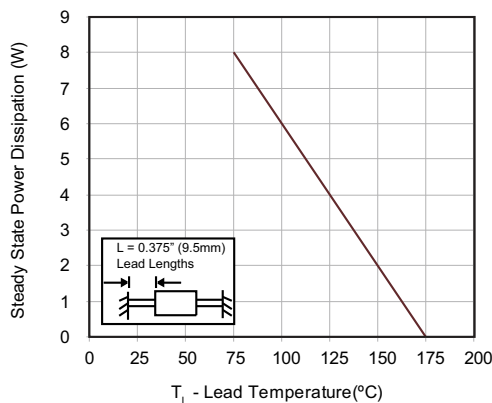
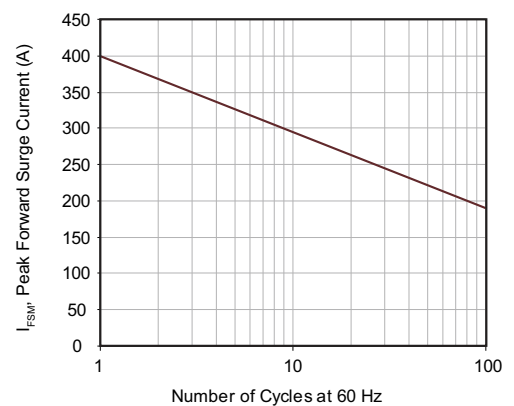
ELECTRICAL CHARACTERISTICS

Part Number		Reverse Stand-Off Voltage	Breakdown Voltage MIN.@IT	Breakdown Voltage MAX.@IT	Test Current	Maximum Clamping Voltage @IPP	Peak Pulse Current	Reverse Leakage @VRWM
UNI-POLAR	BI-POLAR	VRWM (V)	VBR MIN. (V)	VBR MAX.(V)	IT(mA)	VC(V)	IPP (A)	IR (μA)
5KP18A	5KP18CA	18.0	20.00	22.10	5	29.2	174.7	2
5KP20A	5KP20CA	20.0	22.20	24.50	5	32.4	157.4	2
5KP22A	5KP22CA	22.0	24.00	26.90	5	35.5	143.7	2
5KP24A	5KP24CA	24.0	26.70	29.50	5	38.9	131.1	2
5KP26A	5KP26CA	26.0	28.90	31.90	5	42.1	121.1	2
5KP28A	5KP28CA	28.0	31.10	34.40	5	45.4	112.3	2
5KP30A	5KP30CA	30.0	33.30	36.80	5	48.4	105.4	2
5KP33A	5KP33CA	33.0	36.70	40.60	5	53.3	95.7	2
5KP36A	5KP36CA	36.0	40.00	44.20	5	58.1	87.8	2
5KP40A	5KP40CA	40.0	44.40	49.10	5	64.5	79.1	2
5KP43A	5KP43CA	43.0	47.80	52.80	5	69.4	73.5	2
5KP45A	5KP45CA	45.0	50.00	55.30	5	72.7	70.2	2
5KP48A	5KP48CA	48.0	53.30	58.90	5	77.4	65.9	2
5KP51A	5KP51CA	51.0	56.70	62.70	5	82.4	61.9	2
5KP54A	5KP54CA	54.0	60.00	66.30	5	87.1	58.6	2
5KP58A	5KP58CA	58.0	64.40	71.20	5	93.6	54.5	2
5KP60A	5KP60CA	60.0	66.70	73.70	5	96.8	52.7	2
5KP64A	5KP64CA	64.0	71.10	78.60	5	103.0	49.5	2
5KP70A	5KP70CA	70.0	77.80	86.00	5	113.0	45.1	2
5KP75A	5KP75CA	75.0	83.30	92.10	5	121.0	42.1	2
5KP78A	5KP78CA	78.0	86.70	95.80	5	126.0	40.5	2
5KP85A	5KP85CA	85.0	94.40	104.00	5	137.0	37.2	2
5KP90A	5KP90CA	90.0	100.00	111.00	5	146.0	34.9	2
5KP100A	5KP100CA	100.0	110.00	123.00	5	162.0	31.5	2
5KP110A	5KP110CA	110.0	122.00	135.00	5	177.0	28.8	2
5KP120A	5KP120CA	120.0	133.00	147.00	5	193.0	26.4	2
5KP130A	5KP130CA	130.0	144.00	159.00	5	209.0	24.4	2
5KP150A	5KP150CA	150.0	167.00	185.00	5	243.0	21.0	2
5KP160A	5KP160CA	160.0	178.00	197.00	5	259.0	19.7	2
5KP170A	5KP170CA	170.0	189.00	209.00	5	275.0	18.5	2
5KP180A	5KP180CA	180.0	200.00	221.00	5	292.0	17.5	2
5KP190A	5KP190CA	190.0	211.00	233.00	5	310.0	16.5	2

Notes: For bidirectional type having VRWM of 10 volts and less, the IR limit is double.

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RATINGS AND CHARACTERISTIC CURVES $T_A=25^\circ\text{C}$

Fig 1 - Peak Pulse Power Rating Curve

Fig 2 - Pulse Derating Curve

Fig 3 - Pulse Waveform

Fig 4 - Typical Junction Capacitance

Fig 5 - Steady State Power Dissipation Derating Curve

Fig 6 - Maximum Non-Repetitive Forward Surge Current Uni-Directional Only


Disclaimer

All product, product specifications and data are subject to change without notice to improve reliability, function or design or otherwise.