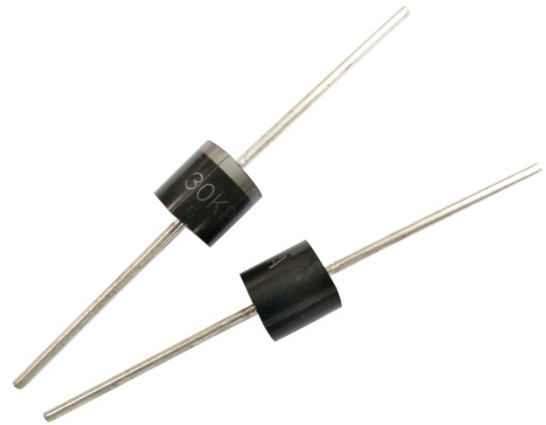


Description

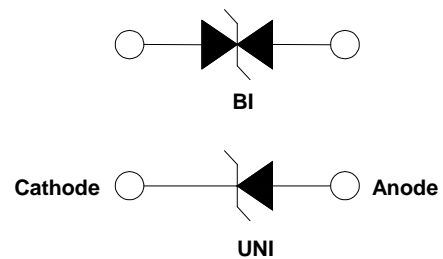
The 30KPA Series is designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.

Features

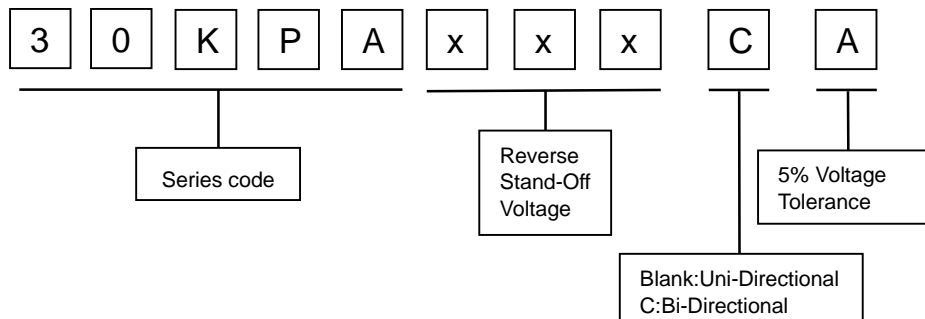
- I Fast response time
- I Matte tin lead-free Plated
- I Low incremental surge resistance
- I Halogen free and RoHS compliant
- I Typical I_R less than $2\mu A$ above 64V
- I Compatible with industrial standard package P600
- I For surface mounted applications to optimize board space
- I 30000W peak pulse power capability with at 10/1000 μs waveform, repetition rate (duty cycle): 0.01%
- I High temperature soldering guaranteed:260°C/10 seconds



Electrical symbol



Part Number Code



Mechanical Characteristics

Rating	Symbol	Value	Units
Peak Pulse Power Dissipation by 10x1000 μs test Waveform (Note1)(Fig. 2)	P_{PP}	30000	W
Steady State Power Dissipation on infinite heat sink at $T_L=75^\circ C$ (Fig. 6)	P_D	8	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Unidirectional only (Note 2)	I_{FSM}	500	A
Maximum instantaneous forward voltage at 25A for unidirectional only	V_F	3.5/5.0	V
Operating junction and Storage Temperature Range.	T_J, T_{STG}	-55 to 150	$^\circ C$

Notes:

1. Non-repetitive current pulse , per Fig. 4 and derated above $T_A = 25^\circ C$ per Fig. 3.
2. Measured on 8.3ms single half sine wave or equivalent square wave, duty cycle=4 pulses per minute maximum.



Electrical Characteristics

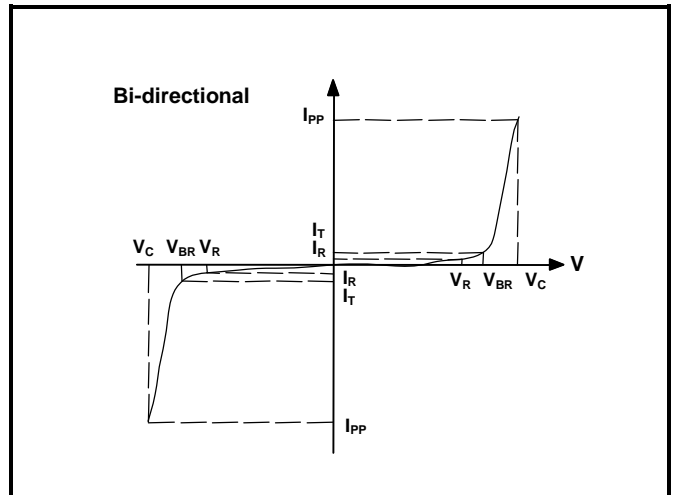
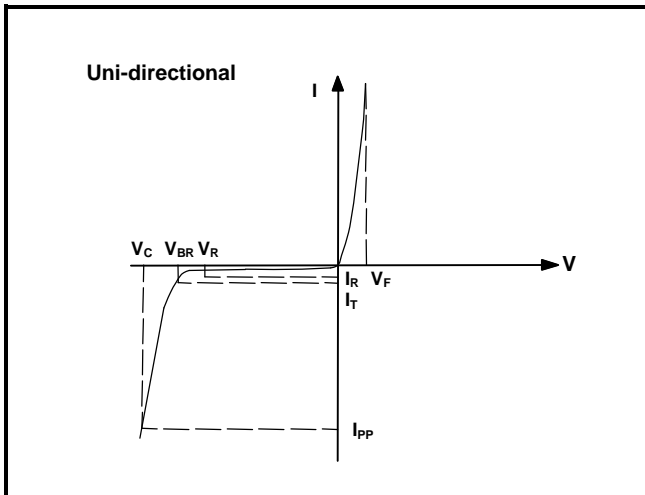
Type Number		Reverse Stand-Off Voltage	Breakdown Voltage		Test Current	Max. Clamping Voltage 10/1000µs	Max. Peak Pulse Current 10/1000µs	Reverse Leakage
			$V_{BR} @ I_T$					
		UNI	BI	V_{RWM}	Min	Max	I_T	$V_C @ IPP$
		V	V	V	mA	V	A	µA
30KPA28A	30KPA28CA	28.0	31.28	34.41	50	50.0	606.0	5000
30KPA30A	30KPA30CA	30.0	33.51	36.86	50	55.2	548.9	5000
30KPA33A	30KPA33CA	33.0	36.90	50.59	50	58.5	517.9	5000
30KPA36A	30KPA36CA	36.0	40.20	44.22	50	61.8	490.3	5000
30KPA39A	30KPA39CA	39.0	43.60	47.96	20	67.2	450.9	2000
30KPA42A	30KPA42CA	42.0	46.90	51.59	10	72.0	420.8	1000
30KPA43A	30KPA43CA	43.0	48.00	52.80	10	73.0	415.1	1000
30KPA45A	30KPA45CA	45.0	50.30	55.33	5	77.4	391.5	250
30KPA48A	30KPA48CA	48.0	53.60	58.96	5	81.6	371.3	150
30KPA51A	30KPA51CA	51.0	57.00	62.70	5	86.4	350.7	50
30KPA54A	30KPA54CA	54.0	60.30	66.33	5	91.4	331.5	20
30KPA58A	30KPA58CA	58.0	64.80	71.28	5	92.4	327.9	20
30KPA60A	30KPA60CA	60.0	67.00	73.70	5	102.0	297.1	15
30KPA64A	30KPA64CA	64.0	71.50	78.65	5	104.0	291.3	10
30KPA66A	30KPA66CA	66.0	73.70	81.07	5	107.0	283.2	2
30KPA70A	30KPA70CA	70.0	78.20	86.02	5	109.0	278.0	2
30KPA71A	30KPA71CA	71.0	79.30	87.23	5	111.5	271.7	2
30KPA72A	30KPA72CA	72.0	80.40	88.44	5	114.0	265.8	2
30KPA75A	30KPA75CA	75.0	83.80	92.18	5	119.4	253.8	2
30KPA78A	30KPA78CA	78.0	87.10	95.81	5	129.0	234.9	2
30KPA84A	30KPA84CA	84.0	93.80	103.18	5	139.2	217.7	2
30KPA90A	30KPA90CA	90.0	100.50	110.55	5	146.4	207.0	2
30KPA96A	30KPA96CA	96.0	107.20	117.92	5	156.0	194.2	2
30KPA102A	30KPA102CA	102.0	113.90	125.29	5	165.6	183.0	2
30KPA108A	30KPA108CA	108.0	120.60	132.66	5	175.2	172.9	2
30KPA120A	30KPA120CA	120.0	134.00	147.40	5	194.4	155.9	2
30KPA132A	30KPA132CA	132.0	147.40	162.14	5	213.0	142.3	2
30KPA144A	30KPA144CA	144.0	160.80	176.88	5	223.2	135.8	2
30KPA150A	30KPA150CA	150.0	167.60	184.36	5	233.4	129.8	2
30KPA156A	30KPA156CA	156.0	174.30	191.73	5	245.0	123.7	2



Electrical Characteristics

Type Number		Reverse Stand-Off Voltage	Breakdown Voltage		Test Current	Max. Clamping Voltage 10/1000µs	Max. Peak Pulse Current 10/1000µs	Reverse Leakage
			$V_{BR} @ I_T$					
		UNI	BI	V_{RWM}	Min	Max	I_T	$V_C @ I_{PP}$
		V	V	V	mA	V	A	µA
30KPA160A	30KPA160CA	160.0	178.70	196.57	5	252.6	120.0	2
30KPA168A	30KPA168CA	168.0	187.70	206.47	5	272.4	111.2	2
30KPA170A	30KPA170CA	170.0	189.90	208.89	5	275.0	110.2	2
30KPA180A	30KPA180CA	180.0	201.10	221.21	5	290.4	104.3	2
30KPA198A	30KPA198CA	198.0	221.20	243.32	5	319.8	94.7	2
30KPA216A	30KPA216CA	216.0	241.30	265.43	5	348.6	86.9	2
30KPA240A	30KPA240CA	240.0	268.10	294.91	5	387.0	78.3	2
30KPA258A	30KPA258CA	258.0	288.20	317.02	5	416.0	72.8	2
30KPA260A	30KPA260CA	260.0	290.40	319.44	5	416.4	72.8	2
30KPA270A	30KPA270CA	270.0	301.60	331.76	5	436.2	69.5	2
30KPA280A	30KPA280CA	280.0	312.80	344.08	5	464.0	65.3	2
30KPA288A	30KPA288CA	288.0	321.70	353.87	5	469.9	64.5	2
30KPA300A	30KPA300CA	300.0	334.00	367.40	5	484.0	62.0	2

I-V Curve Characteristics



P_{PPM} Peak Pulse Power Dissipation -- Max power dissipation

V_R Stand-off Voltage -- Maximum voltage that can be applied to the TVS without operation

V_{BR} Breakdown Voltage -- Maximum voltage that flows though the TVS at a specified test current (I_T)

V_C Clamping Voltage -- Peak voltage measured across the TVS at a specified I_{ppm} (peak impulse current)

I_R Reverse Leakage Current – Current measured at V_R

V_F Forward Voltage Drop for Uni-directional



Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

Figure 1 - TVS Transients Clamping Waveform

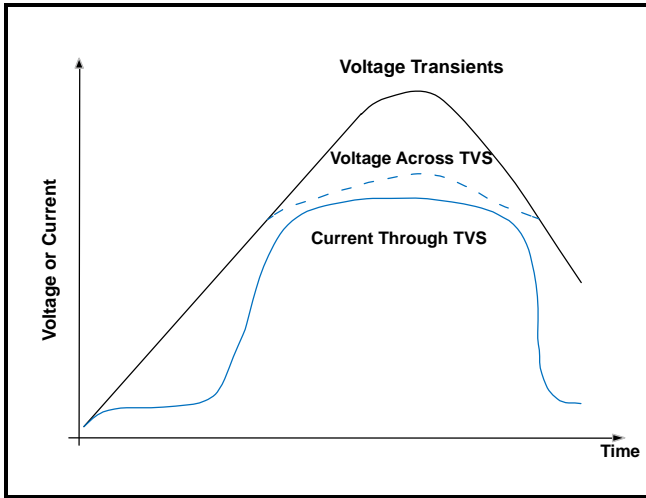


Figure 2 - Peak Pulse Power Rating Curve

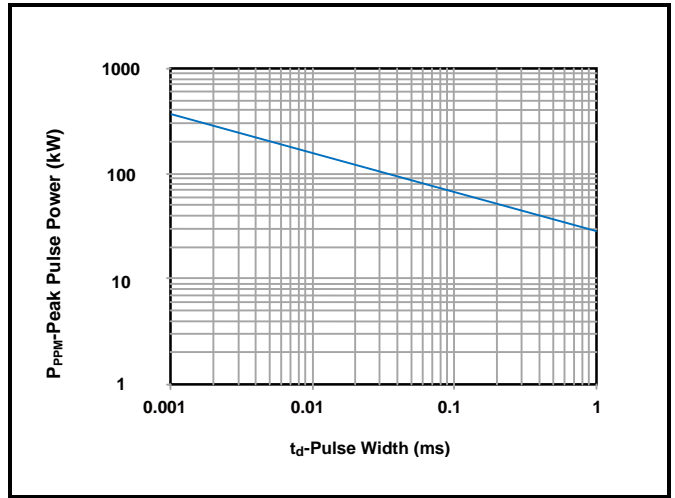


Figure 3 - Pulse Derating Curve

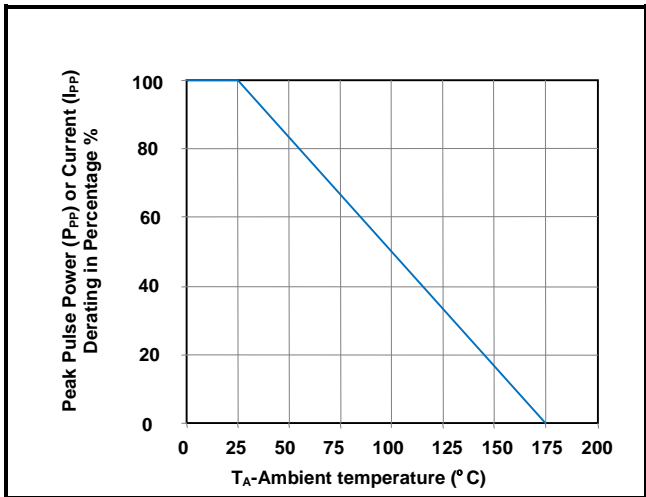


Figure 4 - Pulse Waveform

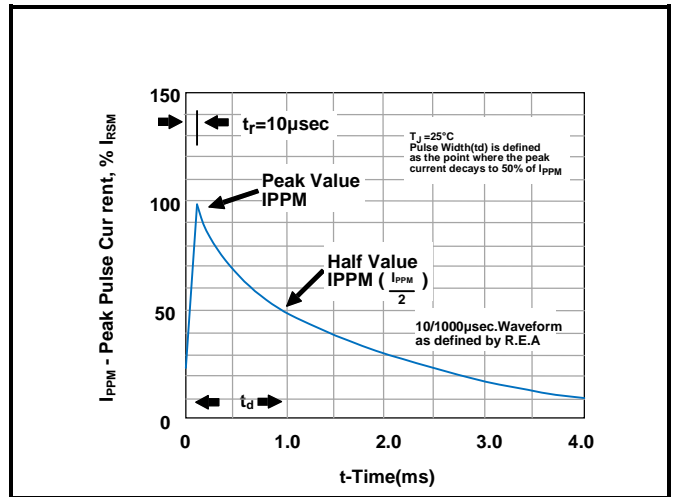


Figure 5 - Typical Junction Capacitance

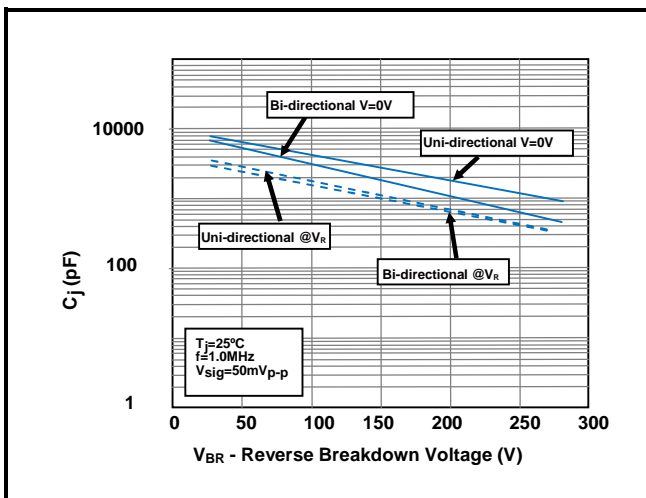


Figure 6 - Steady State Power Derating Curve

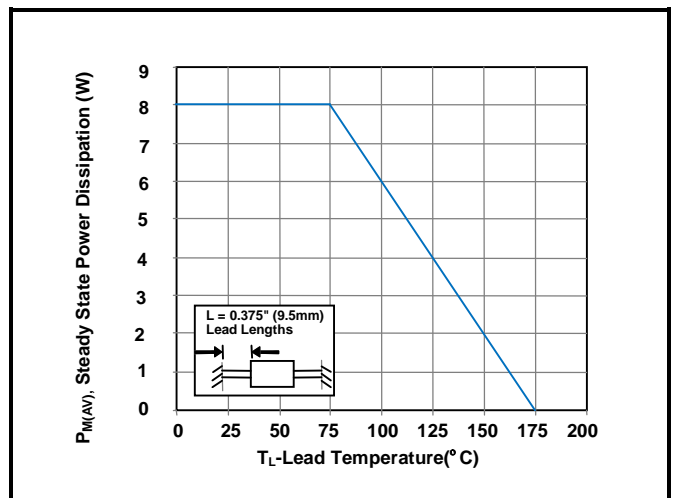
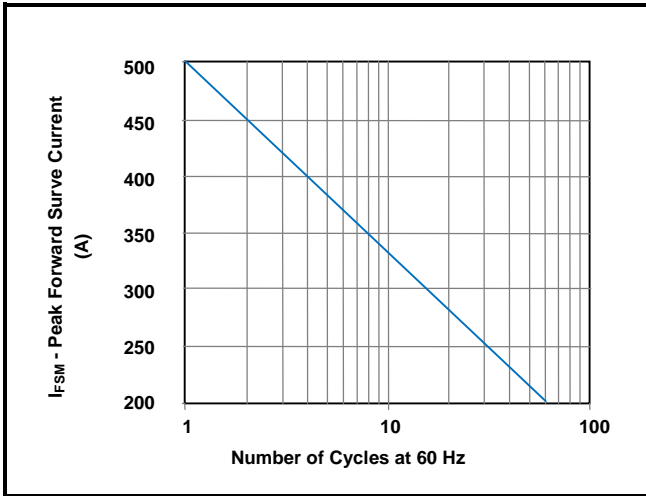
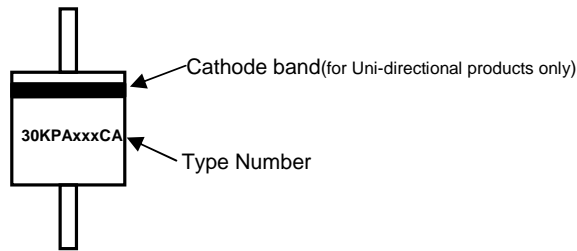


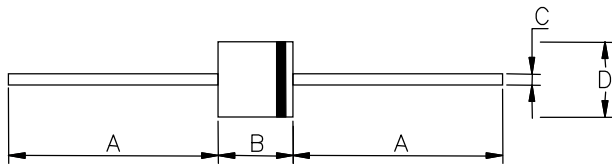
Figure 7 - Maximum Non-Repetitive Surge Current



Part Marking System



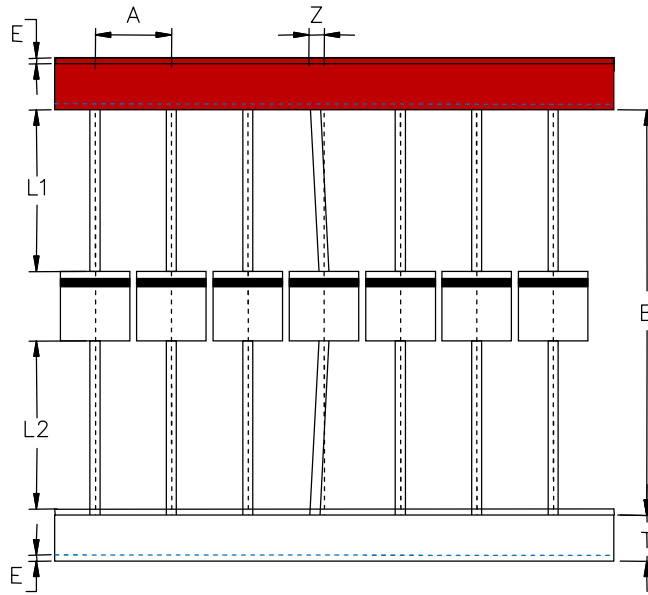
Dimensions



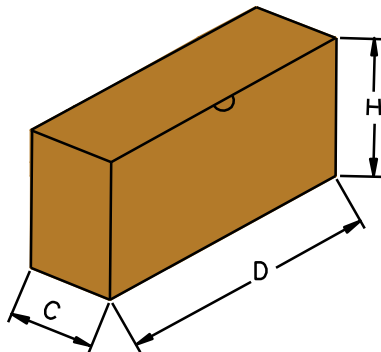
DIM	Millimeters		Inches	
	Min	Max	Min	Max
A	25.40	-	1.000	-
B	8.6	9.14	0.339	0.360
C	1.2	1.32	0.047	0.052
D	8.6	9.14	0.339	0.360



Packaging Information



Symbol	Millimeters	Inches
A	10±0.5	0.394±0.019
B	53.0±1.0	2.087±0.039
Z	1.2Max	0.047 Max
T	6.0±0.5	0.236±0.019
E	0.8Max	0.031 Max
L1-L2	1.0Max	0.039 Max



Symbol	Millimeters	Inches
D	250.0±5.0	9.843±0.197
C	75.0±5.0	2.953±0.197
H	114.0±5.0	4.488±0.197
Quantity	400PCS/ inner box	

