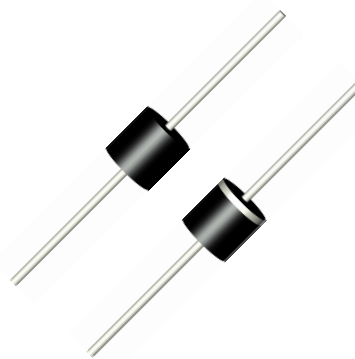


Description

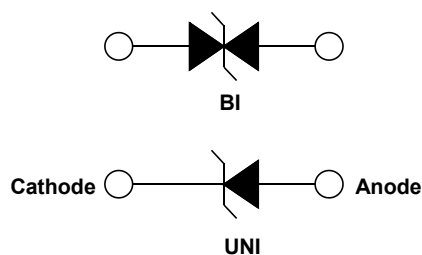
The 10KPA Series is designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.

Features

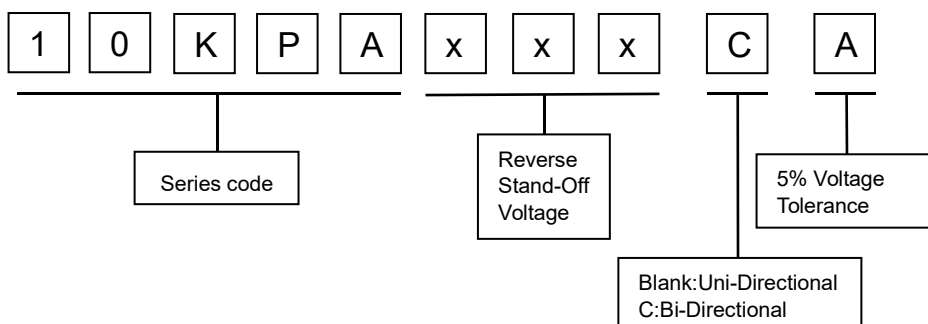
- Fast response time
- Matte tin lead-free Plated
- Low incremental surge resistance
- Halogen free and RoHS compliant
- Meet MSL level1, per J-STD-020
- Storage Period: 2 years
- Compatible with industrial standard package P600
- For surface mounted applications to optimize board space
- 10000W peak pulse power capability with at 10/1000 μ s waveform, repetition rate (duty cycle): 0.01%
- 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 μ s test Waveform (Note1)(Fig. 2)	P _{PP}	10000	W
Steady State Power Dissipation on infinite heat sink at T _L =75°C(Fig. 6)	P _D	8	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Unidirectional only (Note 3)	I _{FSM}	500	A
Operating junction and Storage Temperature Range.	T _J , T _{STG}	-55 to 150	°C

Notes:

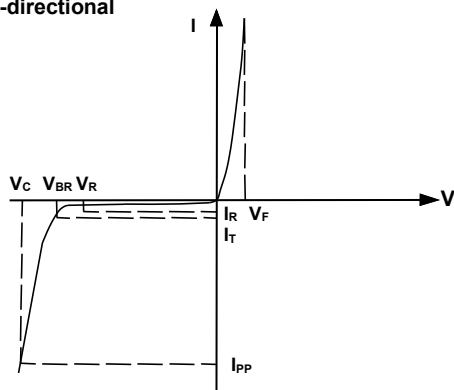
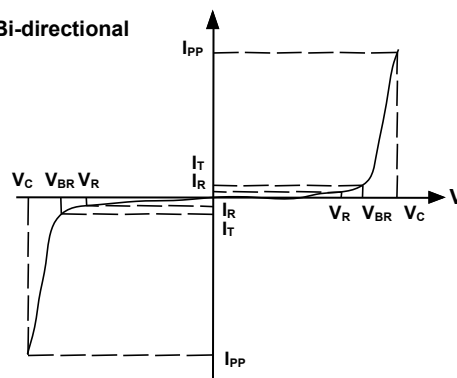
1. Non-repetitive current pulse, per Fig. 3 and derated above T_A = 25°C per Fig. 2.
2. Mounted on 5.0mm x 5.0mm (0.03mm thick) Copper Pads to each terminal.
3. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.
4. V_F < 3.5V for V_{BR} < 200V and V_F < 6.5V for V_{BR} > 201V.

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					
		V _{RWM}	Min	Max	I _T	V _C @IPP	I _{PP}	I _R @V _{RWM}
UNI	BI	V	V	V	mA	V	A	μA
10KPA10A	10KPA10CA	10	11.1	12.3	50	18.4	548.9	800
10KPA12A	10KPA12CA	12	13.3	14.7	50	20.6	490.3	800
10KPA13A	10KPA13CA	13	14.4	15.9	50	22.4	450.9	500
10KPA14A	10KPA14CA	14	15.6	17.2	50	24	420.8	350
10KPA16A	10KPA16CA	16	17.8	19.7	10	27.2	371.3	300
10KPA17A	10KPA17CA	17	18.9	20.9	5	27.6	365.9	50
10KPA18A	10KPA18CA	18	20	22.1	5	29.2	345.9	20
10KPA20A	10KPA20CA	20	22.2	24.5	5	32.4	311.7	10
10KPA22A	10KPA22CA	22	24.4	26.9	5	35.5	284.5	10
10KPA24A	10KPA24CA	24	26.7	29.5	5	38.9	259.6	10
10KPA26A	10KPA26CA	26	28.9	31.9	5	42.1	239.9	5
10KPA28A	10KPA28CA	28	31.1	34.4	5	45.4	222.5	5
10KPA30A	10KPA30CA	30	33.3	36.8	5	48.4	208.7	5
10KPA33A	10KPA33CA	33	36.7	40.6	5	53.3	189.5	5
10KPA36A	10KPA36CA	36	40	44.2	5	58.1	173.8	5
10KPA40A	10KPA40CA	40	44.4	49.1	5	64.5	156.6	5
10KPA43A	10KPA43CA	43	47.8	52.8	5	69.4	145.5	5
10KPA45A	10KPA45CA	45	50	55.3	5	72.7	138.9	5
10KPA48A	10KPA48CA	48	53.3	58.90	5	77.4	130.5	5
10KPA51A	10KPA51CA	51	56.7	62.7	5	82.4	122.6	5
10KPA54A	10KPA54CA	54	60	66.3	5	87.1	116	5
10KPA58A	10KPA58CA	58	64.4	71.2	5	93.6	107.9	5
10KPA60A	10KPA60CA	60	66.7	73.7	5	96.8	104.3	5
10KPA64A	10KPA64CA	64	71.1	78.6	5	103	98.1	5
10KPA70A	10KPA70CA	70	77.8	86	5	113	89.4	5
10KPA75A	10KPA75CA	75	83.3	92.1	5	121	83.5	5
10KPA78A	10KPA78CA	78	86.7	95.8	5	126	80.2	5
10KPA85A	10KPA85CA	85	94.4	104	5	137	73.7	5
10KPA90A	10KPA90CA	90	100	111	5	146	69.2	5
10KPA100A	10KPA100CA	100	111	123	5	162	62.3	5
10KPA110A	10KPA110CA	110	122	135	5	177	57.1	5
10KPA120A	10KPA120CA	120	133	147	5	193	52.3	5
10KPA130A	10KPA130CA	130	144	159	5	209	48.3	5
10KPA150A	10KPA150CA	150	167	185	5	243	41.6	5
10KPA160A	10KPA160CA	160	178	197	5	259	39	5
10KPA170A	10KPA170CA	170	189	209	5	275	36.7	5

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
			Min	Max	I _T	V _C @I _{PP}	I _{PP}	I _R @V _{RWM}
UNI	BI	V	V	V	mA	V	A	μA
10KPA180A	10KPA180CA	180	200	221	5	289	34.9	5
10KPA190A	10KPA190CA	190	211	233	5	310	32.6	5
10KPA200A	10KPA200CA	200	222	246	5	329.2	30.7	5
10KPA210A	10KPA210CA	210	233	258	5	349.5	28.9	5
10KPA220A	10KPA220CA	220	244	270	5	371.1	27.2	5
10KPA240A	10KPA240CA	240	267.4	293.9	5	386	26.1	5

I-V Curve Characteristics
Uni-directional

Bi-directional


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

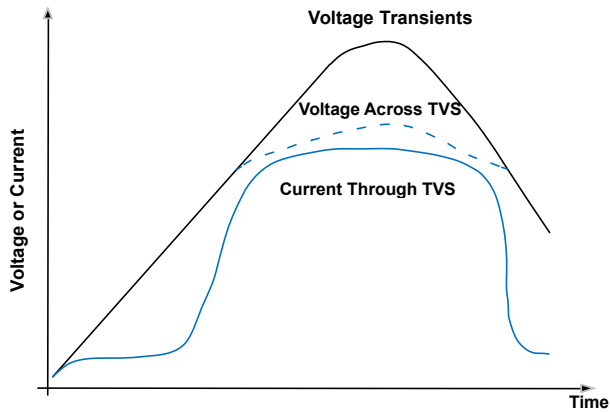


Figure 2 - Peak Pulse Power Rating Curve

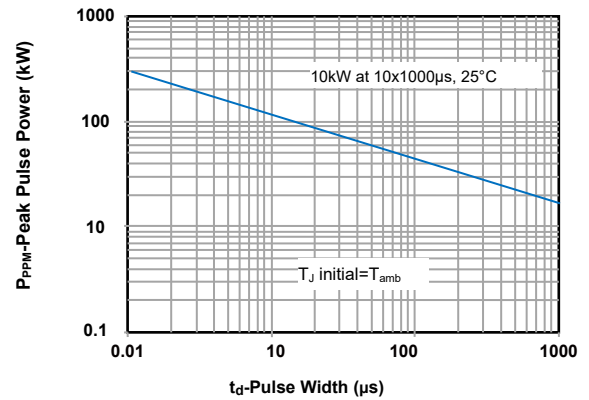


Figure 3 - Pulse Derating Curve

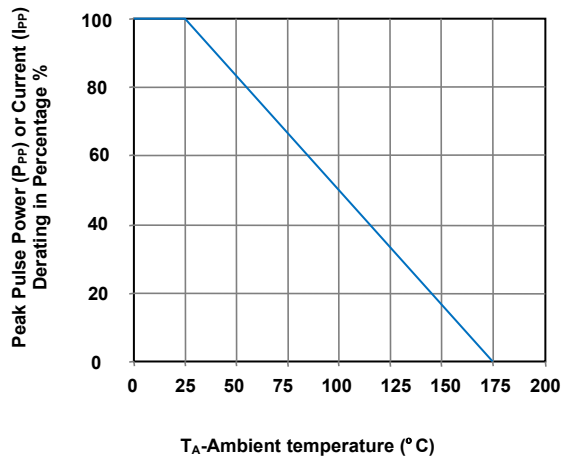


Figure 4 - Pulse Waveform

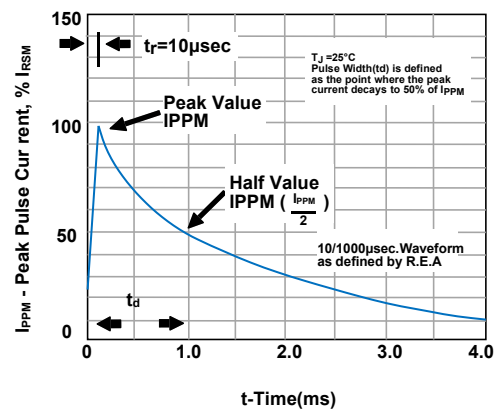


Figure 5 - Typical Junction Capacitance

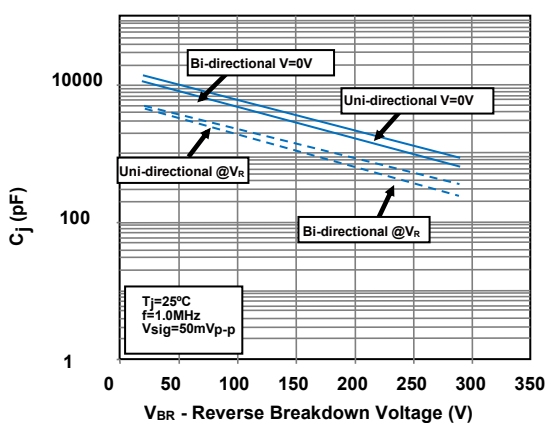


Figure 6 - Steady State Power Derating Curve

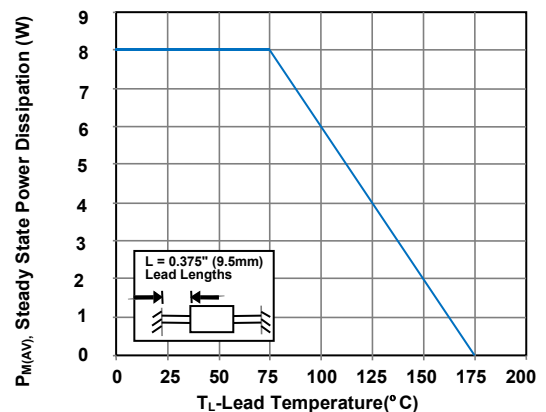
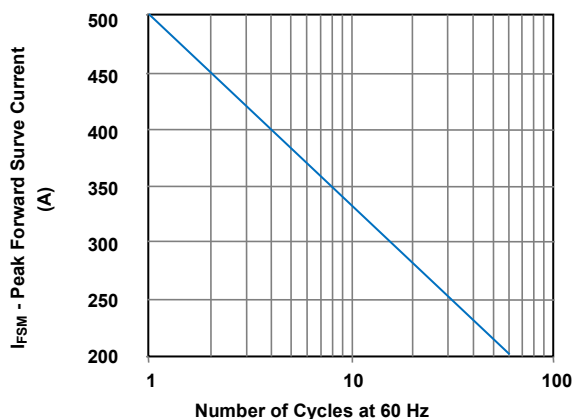
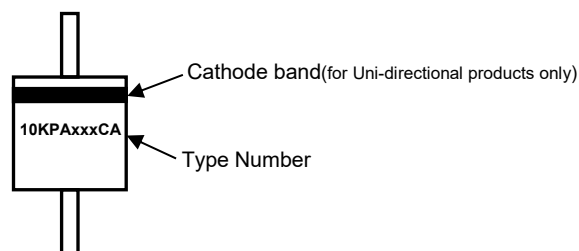


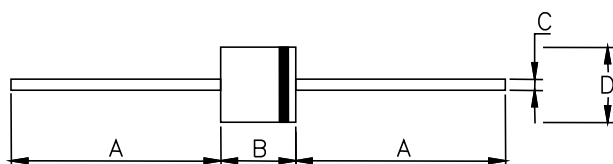
Figure 7 - Maximum Non-Repetitive Surge Current



Part Marking System

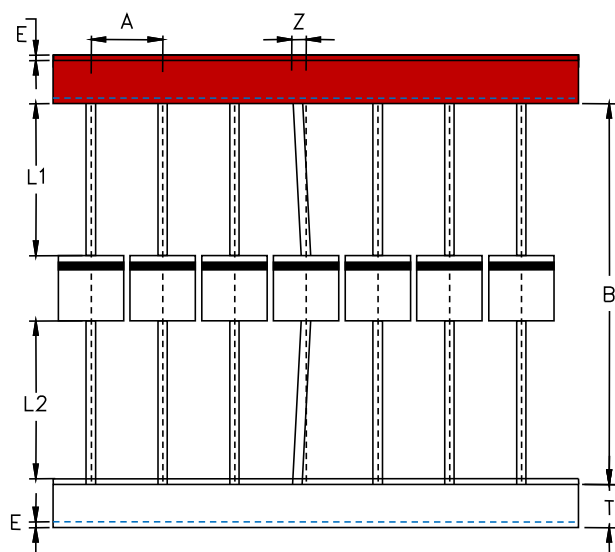


Dimensions

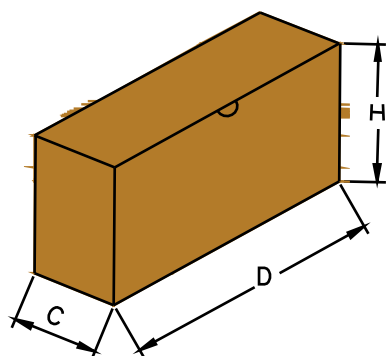


DIM	Millimeters		Inches	
	Min	Max	Min	Max
A	25.40	-	1.000	-
B	8.64	9.14	0.340	0.360
C	1.22	1.32	0.048	0.052
D	8.64	9.14	0.339	0.360

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	300PCS/ inner box	