Description

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

Features

- Halogen free and RoHS compliant
- Glass passivated junction
- Low incremental surge resistance
- Excellent clamping capability
- 10000W peak pulse power capability at 10/1000μs waveform, repetition rate (duty cycle): 0.05%
- Fast response time
- Typical I_R less than 2μA above 22V devices
- High Temperature soldering guaranteed: 265℃/10 seconds/.375″, (9.5mm) lead length, 5lbs (2.3kg) tension
- Plastic package has underwriters laboratory flammability 94V-0
- Meet MSL level1, per J-STD-020
- IEC-61000-4-2 ESD 30kV(Air), 30kV (Contact)
- Unit Weight: 2.1g

Applications

TVS components are ideal for the protection of I/O Interfaces, VCC bus and other vulnerable circuits used in telecom, computer, Industrial and consumer electronic applications.

Maximum Ratings and Characteristics (T_A=25℃)

Rating	Symbol	Value
Peak pulse power dissipation at 10/1000μs waveform (Note1, Fig.1)	P_{PPM}	10000W
Peak pulse current of at 10/1000μs waveform (Note 1, Fig.3)	I_{PPM}	See Table(A)
Steady state power dissipation at T_L=75℃ (Fig.5)	$P_{M(AV)}$	8.0W
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load, (JEDEC Method) (Note2, Fig.6)	I_{FSM}	400A
Operating junction and Storage Temperature Ranges	T_J,T_{STG}	-55℃ to +150℃
Typical thermal resistance junction to lead	$R_{\theta JL}$	8℃/W
Typical thermal resistance junction to ambient	$R_{\theta JA}$	40℃/W

Notes:1. Non-repetitive current pulse, per Fig.3 and derating above T_A=25℃ per Fig.2.
2. 8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minutes maximum.

Electrical Characteristics (T_A=25℃)

Part Number		Reverse Stand-Off Voltage	Breakdown Voltage @I_T		Test Current	Maximum Clamping Voltage @I_{PP}	Peak Pulse Current	Reverse Leakage @V_R
Uni.	Bi.	V_R(V)	$V_{B\ Min.}$(V)	$V_{B\ Max.}$(V)	I_T(mA)	V_C(V)	I_{PP}(A)	I_R(μA)
10KP11A	10KP11CA	11	12.2	13.5	50	18.2	549.5	3000
10KP12A	10KP12CA	12	13.3	14.7	50	19.9	502.5	2000
10KP13A	10KP13CA	13	14.4	15.9	50	21.5	465.1	1000
10KP14A	10KP14CA	14	15.6	17.2	50	23.2	431	800
10KP15A	10KP15CA	15	16.7	18.5	5	24.4	409.8	500
10KP16A	10KP16CA	16	17.8	19.7	5	26	384.6	100
10KP17A	10KP17CA	17	18.9	20.9	5	27.6	362.3	45
10KP18A	10KP18CA	18	20	22.1	5	29.2	342.5	20
10KP20A	10KP20CA	20	22.2	24.5	5	32.4	308.6	5
10KP22A	10KP22CA	22	24.4	26.9	5	35.5	281.7	3
10KP24A	10KP24CA	24	26.7	29.5	5	38.9	257.1	2
10KP26A	10KP26CA	26	28.9	31.9	5	42.1	237.5	2
10KP28A	10KP28CA	28	31.1	34.4	5	45.4	220.3	2
10KP30A	10KP30CA	30	33.3	36.8	5	48.4	206.6	2
10KP33A	10KP33CA	33	36.7	40.6	5	53.3	187.6	2
10KP36A	10KP36CA	36	40	44.2	5	58.1	172.1	2
10KP40A	10KP40CA	40	44.4	49.1	5	64.5	155	2
10KP43A	10KP43CA	43	47.8	52.8	5	69.4	144.1	2
10KP45A	10KP45CA	45	50	55.3	5	72.7	137.6	2
10KP48A	10KP48CA	48	53.3	58.9	5	77.4	129.2	2
10KP51A	10KP51CA	51	56.7	62.7	5	82.4	121.4	2
10KP54A	10KP54CA	54	60	66.3	5	87.1	114.8	2
10KP58A	10KP58CA	58	64.4	71.2	5	93.6	106.8	2
10KP60A	10KP60CA	60	66.7	73.7	5	96.8	103.3	2
10KP64A	10KP64CA	64	71.1	78.6	5	103	97.1	2

Electrical Characteristics (T_A=25℃)

Part Number		Reverse Stand-Off Voltage	Breakdown Voltage @I_T		Test Current	Maximum Clamping Voltage @I_{PP}	Peak Pulse Current	Reverse Leakage @V_R
Uni.	Bi.	V_R(V)	$V_{B\ Min.}$(V)	$V_{B\ Max.}$(V)	I_T(mA)	V_C(V)	I_{PP}(A)	I_R(μA)
10KP70A	10KP70CA	70	77.8	86	5	113	88.5	2
10KP75A	10KP75CA	75	83.3	92.1	5	121	82.6	2
10KP78A	10KP78CA	78	86.7	95.8	5	126	79.4	2
10KP85A	10KP85CA	85	94.4	104	5	137	73	2
10KP90A	10KP90CA	90	100	111	5	146	68.5	2
10KP100A	10KP100CA	100	111	123	5	162	61.7	2
10KP110A	10KP110CA	110	122	135	5	177	56.5	2
10KP120A	10KP120CA	120	133	147	5	193	51.8	2
10KP130A	10KP130CA	130	144	159	5	209	47.8	2
10KP150A	10KP150CA	150	167	185	5	243	41.2	2
10KP160A	10KP160CA	160	178	197	5	259	38.6	2
10KP170A	10KP170CA	170	189	209	5	275	36.4	2
10KP180A	10KP180CA	180	201	221	5	292	34.2	2
10KP190A	10KP190CA	190	211	233	5	310	32.3	2
10KP200A	10KP200CA	200	224	246	5	329.2	30.4	2
10KP210A	10KP210CA	210	237	258	5	349.5	28.6	2
10KP220A	10KP220CA	220	246	270	5	371.1	26.9	2
10KP250A	10KP250CA	250	279	306	5	425	23.5	2

Ratings and Characteristic Curves (T_A=25℃)

Figure 1. Peak Pulse Power Rating Curve

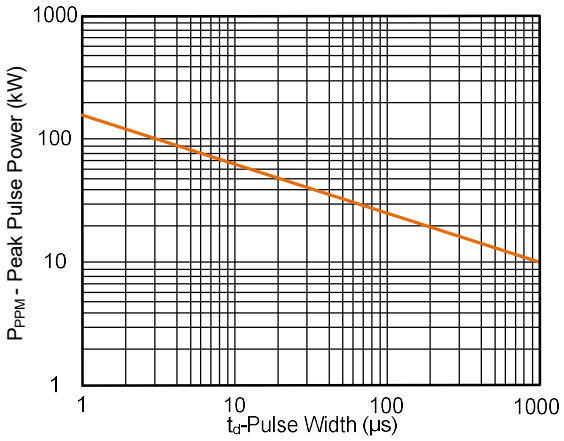


Figure 2. Pulse Derating Curve

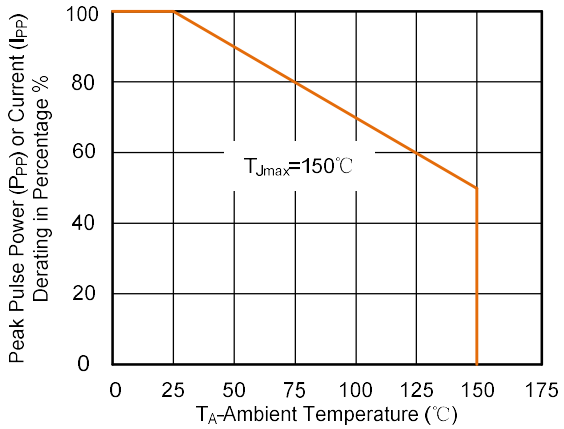


Figure 3. Pulse Waveform

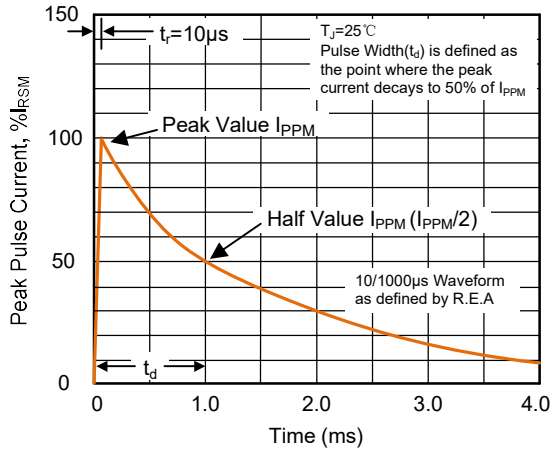


Figure 4. Typical Junction Capacitance

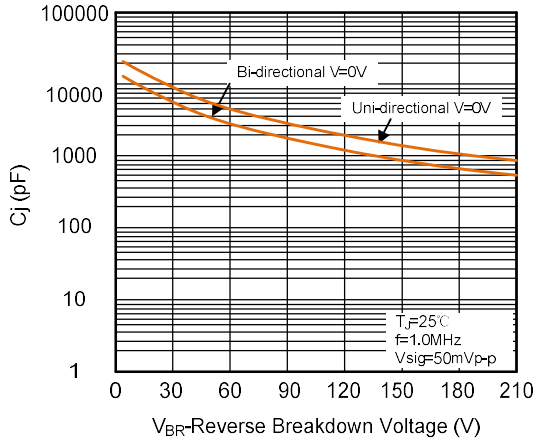


Figure 5. Steady State Power Dissipation Derating Curve

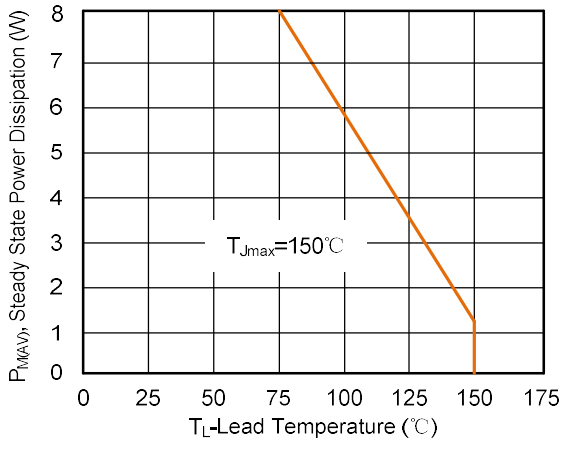
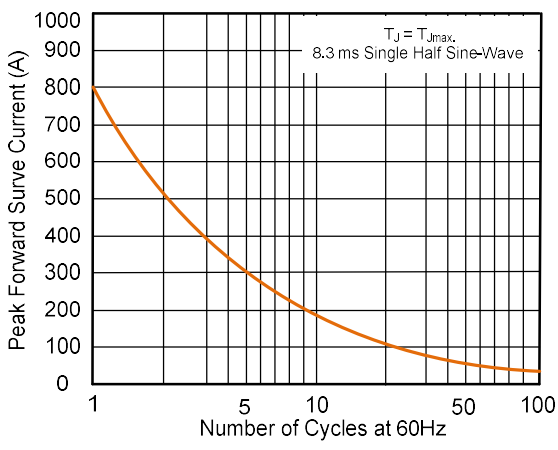
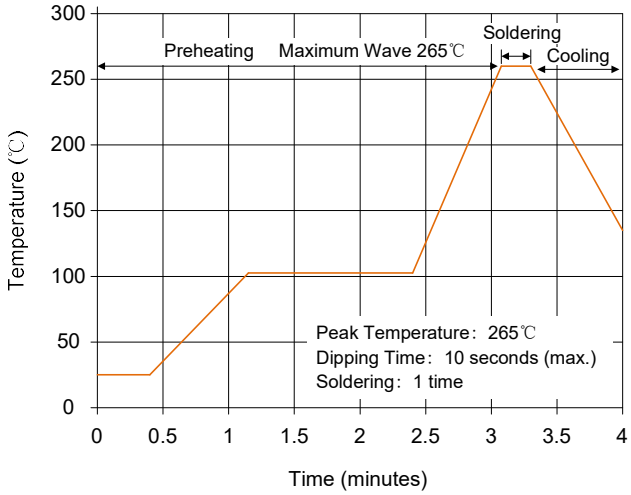


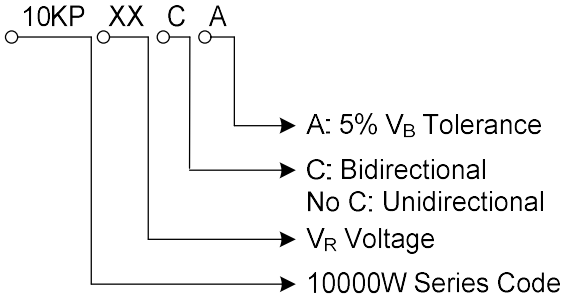
Figure 6. Maximum Non-Repetitive Forward Surge Current Uni-Directional Only

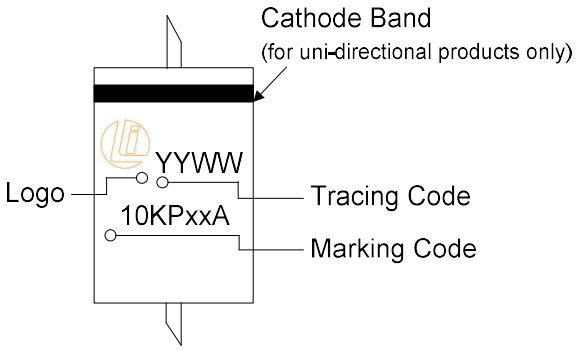


Wave Soldering

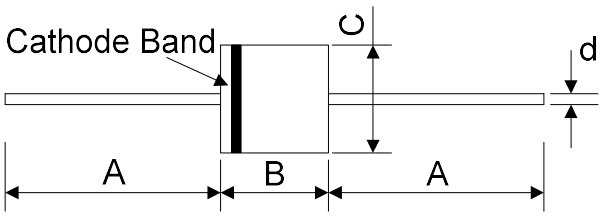


Part Number Code and Marking Code





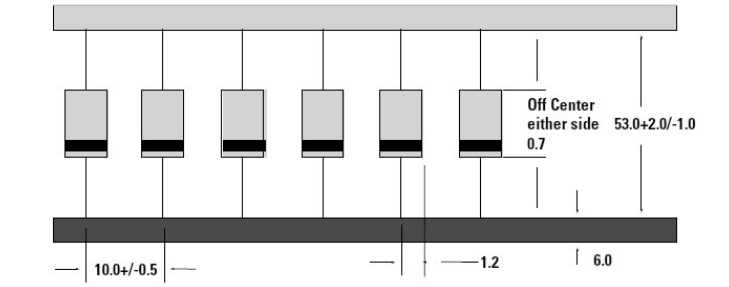
Dimensions (P600)

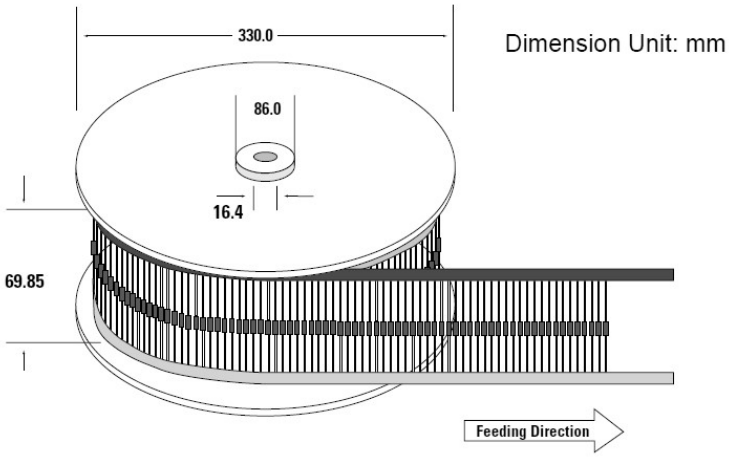


Symbol	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	25.40	-	1.000	-
B	8.60	9.10	0.340	0.360
C	8.60	9.10	0.340	0.360
d	1.19	1.35	0.047	0.053

Packaging Specification

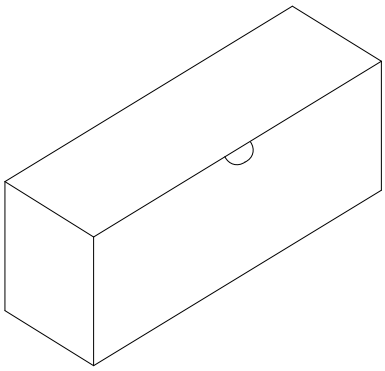
Tape





Quantity: 800pcs/reel

Box



Quantity：300pcs/box