

10KP-Q Series

Axial Leaded — 10000W



AUTOMOTIVE GRADE **HF** **RoHS**



Additional Information



Maximum Ratings and Characteristics (T_A=25°C)

Rating	Symbol	Value
Peak pulse power dissipation at 10/1000µs waveform(Note1, Note2, Fig.1)	P _{PPM}	10000W
Peak pulse current of at 10/1000 µs waveform (Note 1, Fig.3)	I _{PPM}	See Table(A)
Steady state power dissipation at T _L =75°C (Fig.5)	P _{M(AV)}	8.0W
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load, (JEDEC Method) (Note3, Fig.6)	I _{FSM}	400A
Operating junction and Storage Temperature Ranges	T _J , T _{STG}	-55°C to +150°C
Typical thermal resistance junction to lead	R _{θJL}	8°C/W
Typical thermal resistance junction to ambient	R _{θJA}	40°C/W

Notes:

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

Description

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

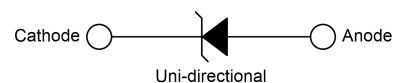
Features

- 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 3µA
- High Temperature soldering guaranteed: 265°C/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
- AEC-Q101 Qualified

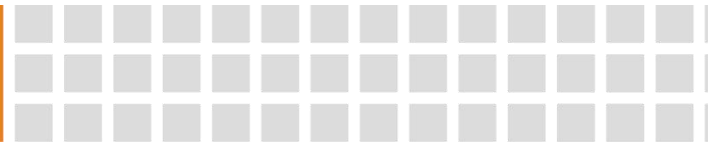
Applications

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.

Functional Diagram



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Electrical Characteristics (T_A=25°C)

Part Number		Type	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)
10KP22A	10KP22CA	Q	22.0	24.4	26.9	5	35.5	281.7	3
10KP24A	10KP24CA	Q	24.0	26.7	29.5	5	38.9	257.1	2
10KP26A	10KP26CA	Q	26.0	28.9	31.9	5	42.1	237.5	2
10KP28A	10KP28CA	Q	28.0	31.1	34.4	5	45.4	220.3	2
10KP30A	10KP30CA	Q	30.0	33.3	36.8	5	48.4	206.6	2
10KP33A	10KP33CA	Q	33.0	36.7	40.6	5	53.3	187.6	2
10KP36A	10KP36CA	Q	36.0	40.0	44.2	5	58.1	172.1	2
10KP40A	10KP40CA	Q	40.0	44.4	49.1	5	64.5	155	2

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

Figure 1. Peak Pulse Power Rating Curve

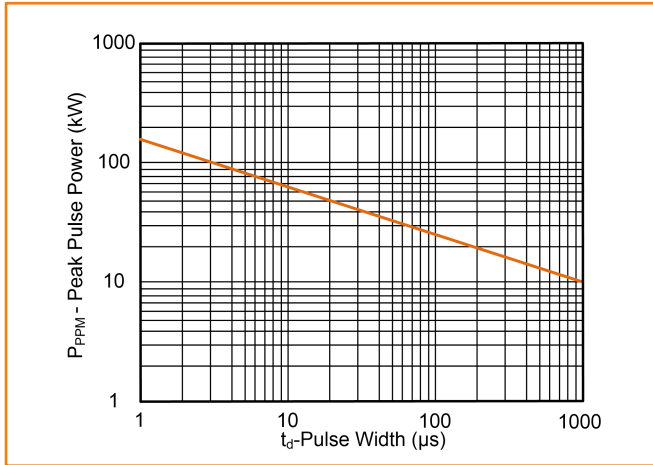


Figure 2. Pulse Derating Curve

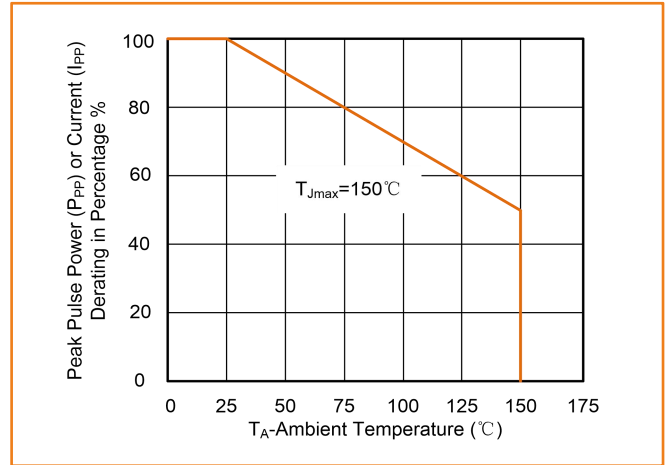


Figure 3. Pulse Waveform

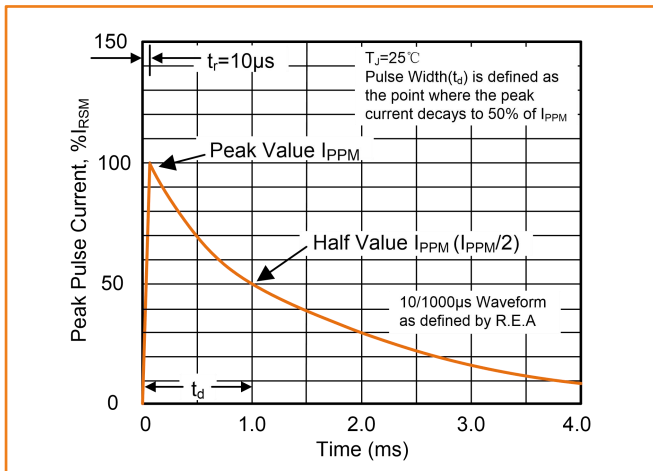


Figure 4. Typical Junction Capacitance

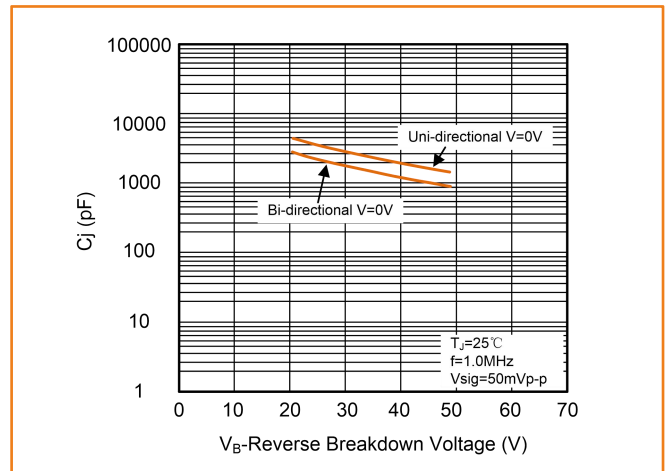


Figure 5. Steady State Power Dissipation Derating Curve

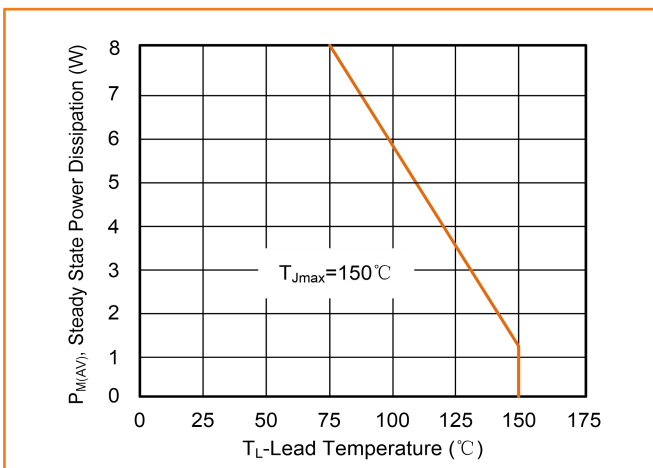
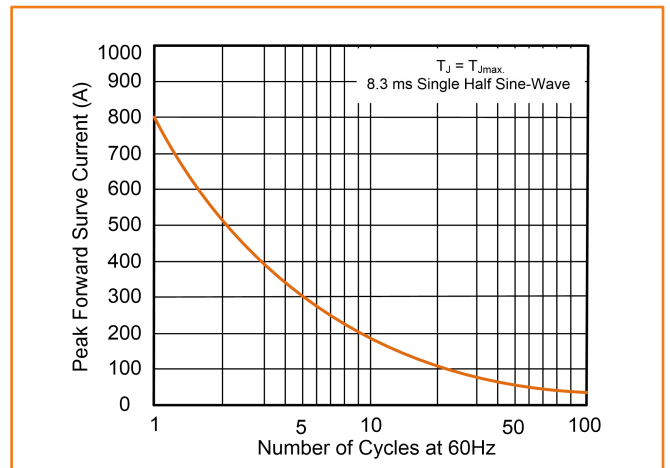


Figure 6. Maximum Non-Repetitive Forward Surge Current Uni-Directional



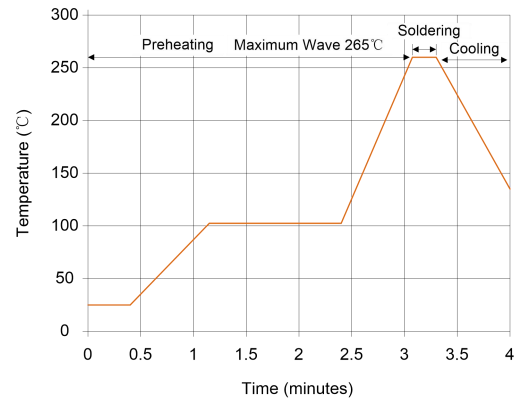
10KP-Q Series

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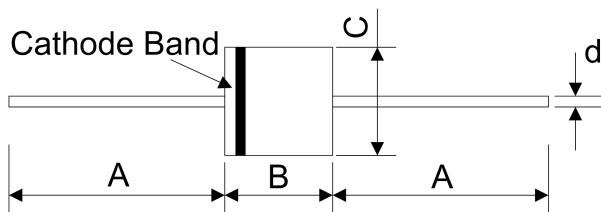
Soldering Parameters

Peak Temperature :	265°C
Dipping Time :	10 seconds (max.)
Soldering :	1 time

Wave Soldering

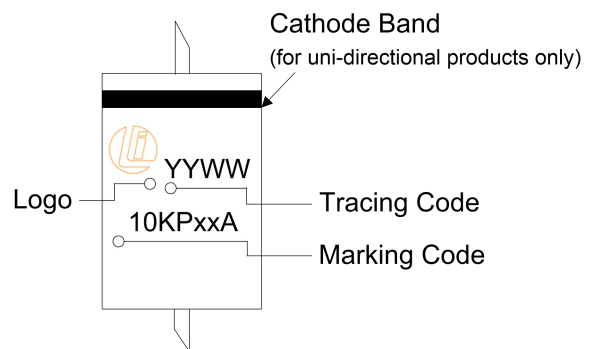
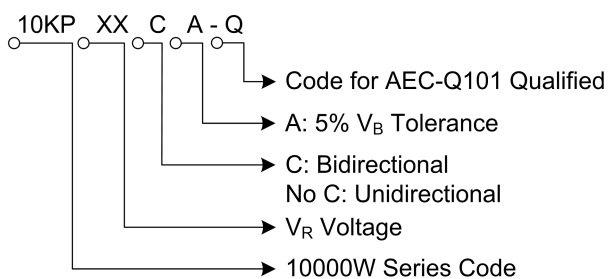


Dimensions (P600)

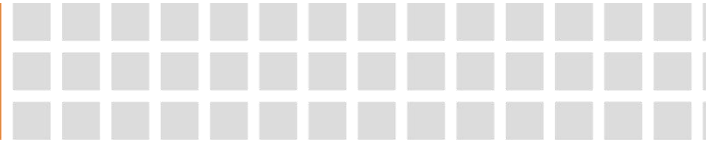


Symbol	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	25.40	—	1.000	—
B	8.60	9.10	0.340	0.360
C	8.60	9.10	0.340	0.360
D	1.19	1.35	0.047	0.053

Part Number Code and Marking Code

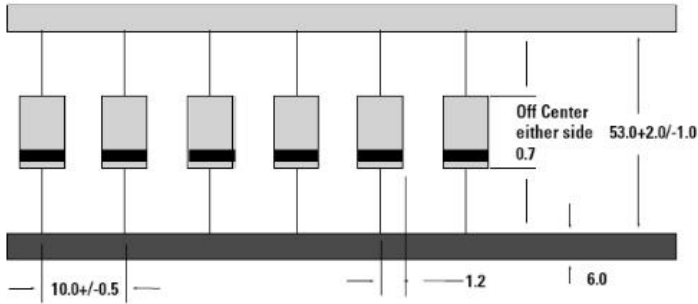


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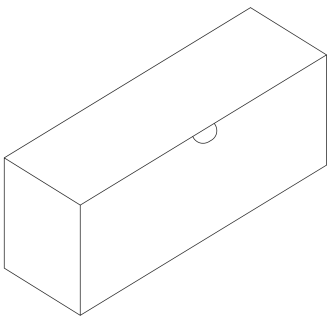


Packaging Specification

Tape (Unit: mm)

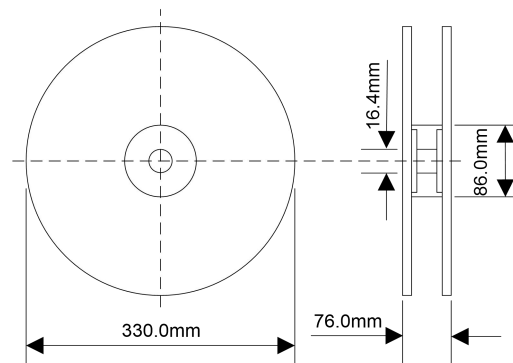


Box



Quantity: 300pcs/box

Reel



Quantity: 800pcs/reel

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