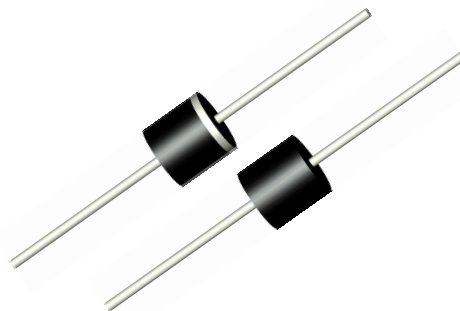


Mechanical Data

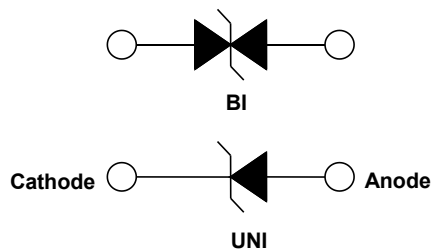
- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-202, method 208 guaranteed
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any

Features

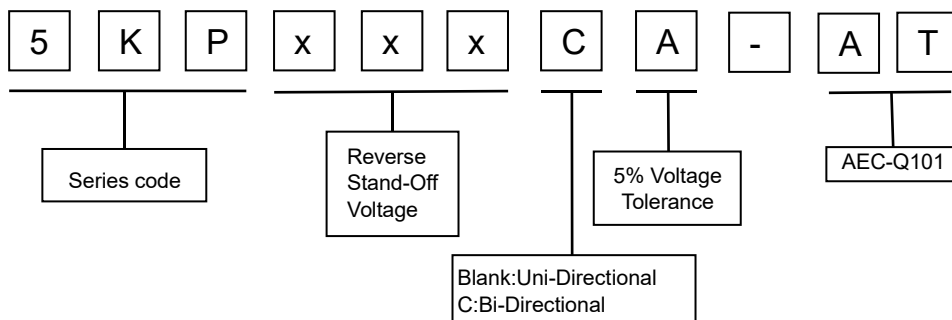
- Glass passivated chip
- 6000W peak pulse power capability with a 10/1000 μ s waveform, repetitive rate (duty cycle): 0.01 %
- High reliability application and automotive grade
- Meet MSL level 1, per J-STD-020
- AEC Q101 qualified
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Very fast response time
- RoHS compliant



Electrical symbol



Part Number Code



Mechanical Characteristics

Rating	Symbol	Value	Units
Peak power dissipation with a 10/1000 μ s waveform ⁽¹⁾	P _{PP}	6000	W
Peak power dissipation with a 10/10000 μ s waveform ⁽¹⁾	P _{PP}	2400	W
Power Dissipation on Infinite Heat Sink at T _L =75°C	P _D	8.0	W
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only ⁽²⁾	I _{FSM}	500	A
Maximum instantaneous forward voltage at 100 A for unidirectional only	V _F	3.5	V
Operating junction and Storage Temperature Range.	T _J , T _{STG}	-55 to 175	°C

1. Non-repetitive current pulse per Fig.5 and derated above T_A= 25 °C per Fig.1.

2. Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

Electrical Characteristics($T_A=25^{\circ}\text{C}$ unless otherwise noted)

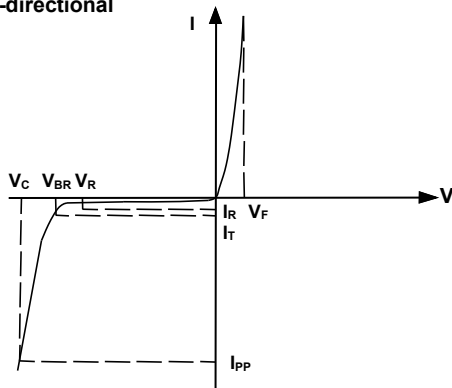
Type Number		Working Peak Reverse Voltage	Breakdown Voltage		Test Current	Max. Clamping Voltage 10/1000 μs	Max. Peak Pulse Current 10/1000 μs	Max. Reverse Leakage
		V_{RWM}	$V_{\text{BR}} @ I_{\text{T}}$		I_{T}	$V_{\text{C}} @ I_{\text{PP}}$	I_{PP}	$I_{\text{R}} @ V_{\text{RWM}}$
			Min	Max				
UNI	BI	V	V	V	mA	V	A	μA
5KP10A-AT	5KP10CA-AT	10.0	11.80	13.00	5	17.0	350.00	10
5KP11A-AT	5KP11CA-AT	11.0	12.20	13.50	5	18.2	327.00	10
5KP12A-AT	5KP12CA-AT	12.0	13.30	14.70	5	19.9	300.00	10
5KP13A-AT	5KP13CA-AT	13.0	14.40	15.90	5	21.5	277.00	10
5KP14A-AT	5KP14CA-AT	14.0	15.60	17.20	5	23.2	257.00	10
5KP15A-AT	5KP15CA-AT	15.0	16.70	18.50	5	24.4	245.00	10
5KP16A-AT	5KP16CA-AT	16.0	17.80	19.70	5	26.0	229.00	10
5KP17A-AT	5KP17CA-AT	17.0	18.90	20.90	5	27.6	216.00	10
5KP18A-AT	5KP18CA-AT	18.0	20.00	22.10	5	29.2	204.00	10
5KP20A-AT	5KP20CA-AT	20.0	22.20	24.50	5	32.4	184.00	10
5KP22A-AT	5KP22CA-AT	22.0	24.40	26.90	5	35.5	168.00	10
5KP26A-AT	5KP26CA-AT	26.0	28.90	31.90	5	42.1	142.00	10
5KP28A-AT	5KP28CA-AT	28.0	31.10	34.40	5	45.4	131.00	10
5KP30A-AT	5KP30CA-AT	30.0	33.30	36.80	5	48.4	123.00	10
5KP33A-AT	5KP33CA-AT	33.0	36.70	40.60	5	53.3	112.00	10
5KP36A-AT	5KP36CA-AT	36.0	40.00	44.20	5	58.1	103.00	10
5KP40A-AT	5KP40CA-AT	40.0	44.40	49.10	5	64.5	92.50	10
5KP43A-AT	5KP43CA-AT	43.0	49.00	54.20	5	69.4	86.00	10
5KP48A-AT	5KP48CA-AT	48.0	53.00	58.90	5	77.4	64.60	10
5KP60A-AT	5KP60CA-AT	60.0	68.40	75.60	5	96.8	61.50	10

Note:

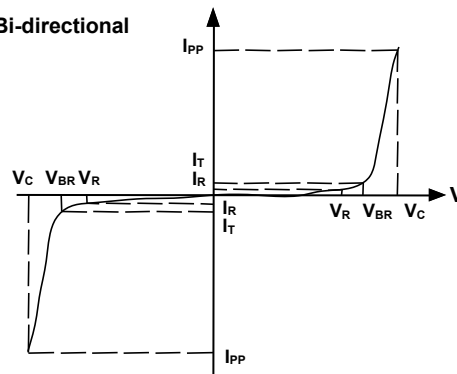
1. Add suffix 'C' or 'CA' after part number to specify Bi-directional devices
2. For Bi-Directional devices having VR of 10 volts , the IR limit is double

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 through 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 - Pulse Derating Curve

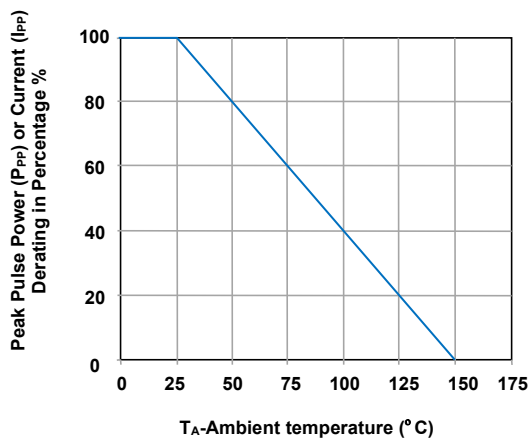


Figure 2 - Maximum Non-Repetitive Surge Current

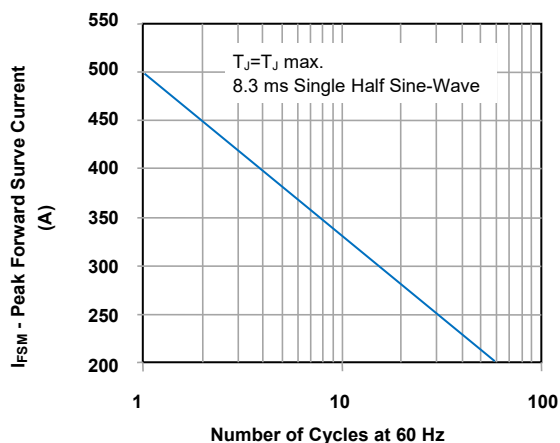


Figure 3 - Steady State Power Derating Curve

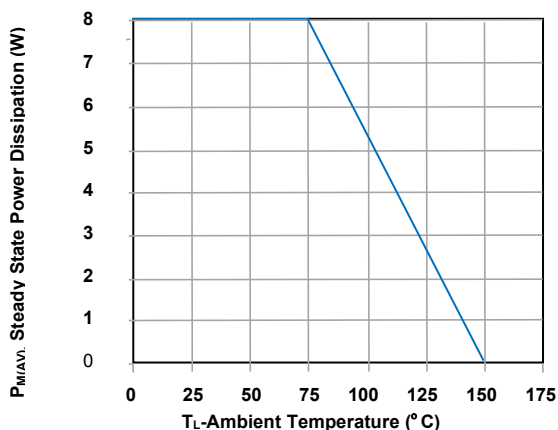


Figure 4 - Peak Pulse Power Rating Curve

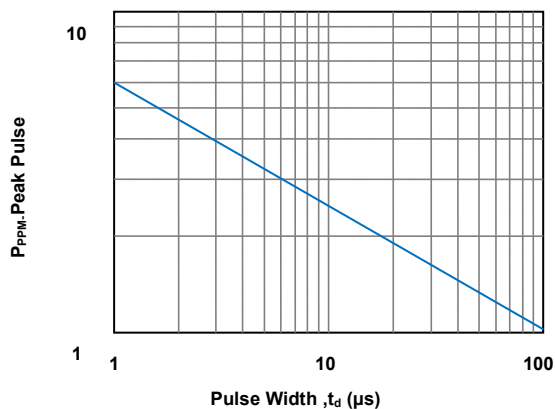


Figure 5 - Pulse Waveform

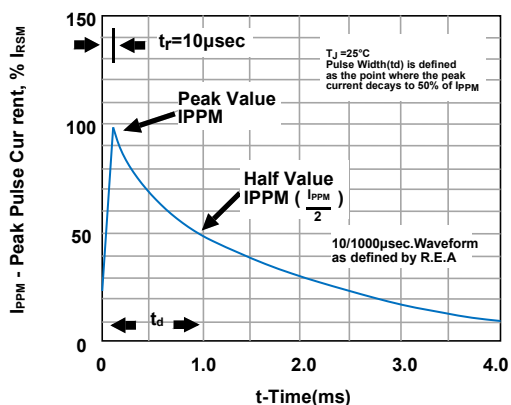
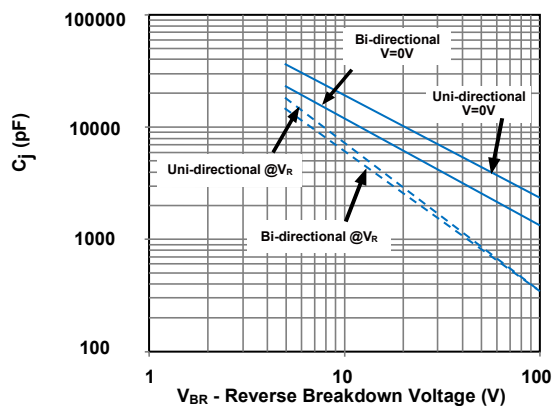
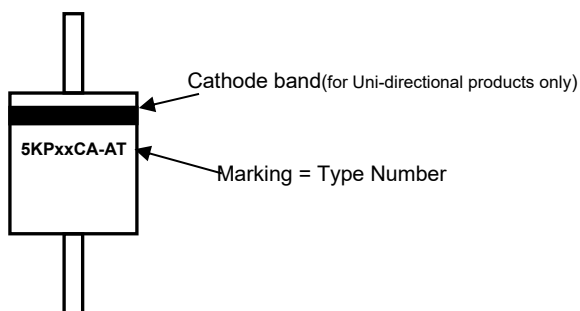


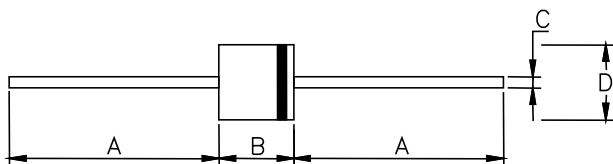
Figure 6 - Typical Junction Capacitance



Part Marking System

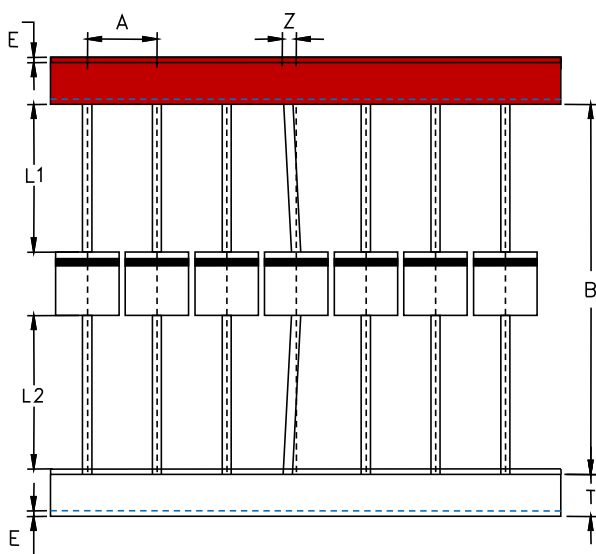


Dimensions

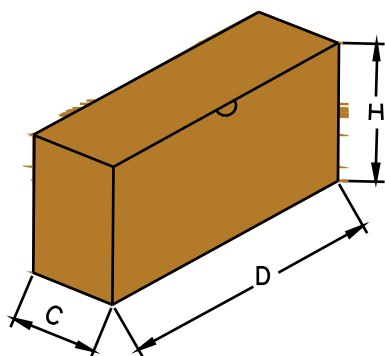


DIM	Millimeters		Inches	
	Min	Max	Min	Max
A	25.4	-	1.000	-
B	8.64	9.14	0.340	0.360
C	1.22	1.32	0.048	0.052
D	8.64	9.14	0.340	0.360

Taping and Reel Specifications



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	257.0±5.0	10.118±0.197
C	80.0±5.0	3.15±0.197
H	149.0±5.0	5.866±0.197
Quantity	400PCS/ inner box	