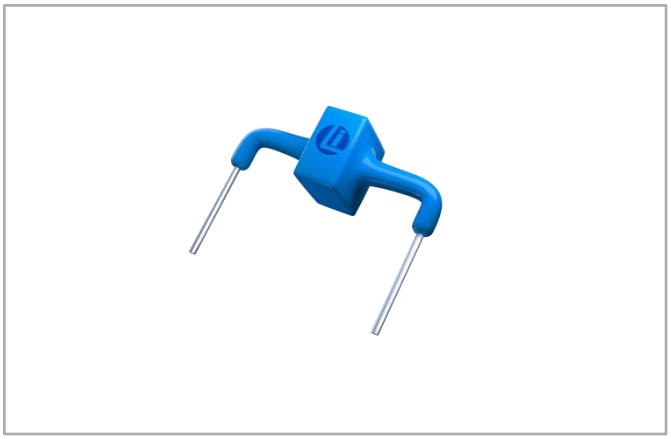
HP6KA-L-SD16 Series
Axial Leaded – 6kA



Description

The HP6KA-L-SD16 series of high power TVS diode is specially designed for meeting severe surge test environment of both AC and DC line protection applications. It features a very fast response and ultra low clamping characteristics over traditional metal oxide varistor (MOV) solutions. They can be connected in series and / or parallel to create a very high surge current protection solution.

Features

- Very low clamping voltage
- Ultra compact: less than one-tenth the size of traditional discrete solutions
- Sharp breakdown voltage
- Low slope resistance
- Bi-directional
- Symmetric in leads width for easier soldering during assembly.
- Halogen-free
- RoHS compliant
- Foldbak technology for superior clamping factor
- ESD protection of data lines in accordance with IEC61000-4-2, 30kV(Air), 30kV (Contact)
- EFT protection of data lines in accordance with IEC61000-4-4
- Glass passivated junction
- Pb-free E4 means 2nd level interconnect is Pb-free and the terminal finish material is Silver

Additional Information

Resources | Accessories | Samples

Maximum Ratings and Thermal Characteristics

(T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Operating Storage Temperature Range	T_{STG}	-55 to 125	℃
Operating Junction Temperature Range	T_J	-55 to 150	℃
Current Rating[1]	I_{PP}	6	kA

Notes:

1. Rated I_{PP} measured with 8/20μs pulse

Functional Diagram

Electrical Characteristics (T_A=25℃ unless otherwise noted)

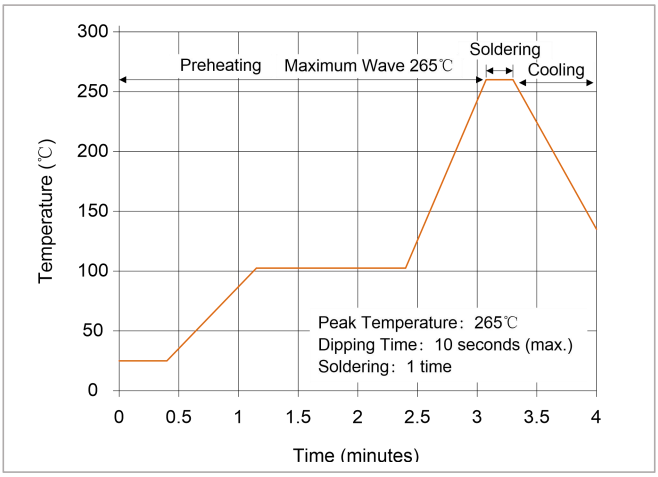
Part Number	Reverse Stand-Off Voltage		Breakdown Voltage @I_T		Test Current	Maximum Clamping Voltage@I_{PP}	Current Rating@8/20μs	Reverse Leakage@V_{DC}
	V_{AC}(V)	V_{DC}(V)	$V_{B\ Min.}$(V)	$V_{B\ Max.}$(V)	I_T(mA)	V_C(V)	I_{PP}(A)	I_R(μA)
HP6KA-12CL-SD16	8.5	12	14.0	16.0	1	28	6000	5
HP6KA-15CL-SD16	11	15	17.0	19.0	1	30	6000	5
HP6KA-20CL-SD16	14	20	22.0	24.5	1	40	6000	5
HP6KA-25CL-SD16	17	25	28.0	31.0	1	50	6000	5
HP6KA-30CL-SD16	21	30	33.0	36.5	1	60	6000	5
HP6KA-33CL-SD16	23	33	35.0	39.0	1	66	6000	5
HP6KA-38CL-SD16	27	38	40.5	49.5	1	69	6000	5
HP6KA-42CL-SD16	30	42	47.0	52.0	1	77	6000	5
HP6KA-58CL-SD16	40	58	64.0	72.0	1	110	6000	5
HP6KA-66CL-SD16	45	66	70.0	77.5	1	125	6000	5
HP6KA-76CL-SD16	54	76	85.0	94.0	1	140	6000	5
HP6KA-100CL-SD16	72	100	110.0	121.5	1	165	6000	5

Notes: Using 8/20μs wave shape as defined in IEC61000-4-5.

HP6KA-L-SD16 Series
Axial Leaded – 6kA

Wave Solder Profile

Figure 1:
Wave Soldering Temperature Profile



Flow/Wave Soldering (Solder Dipping)

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

Ratings and Characteristic Curves (T_A=25℃ unless otherwise noted)

Figure 2:
Power Derating Curve

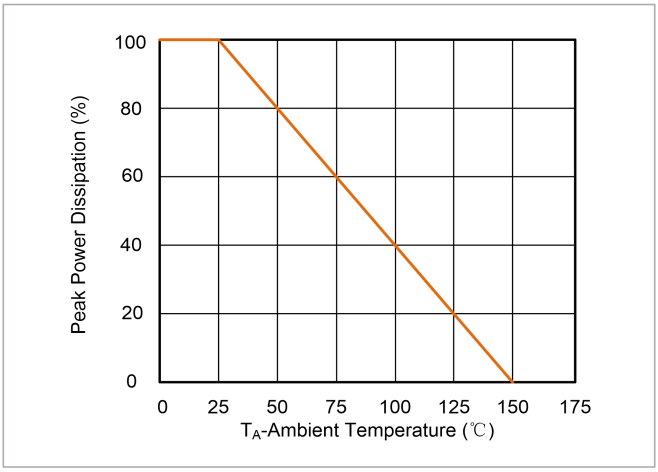
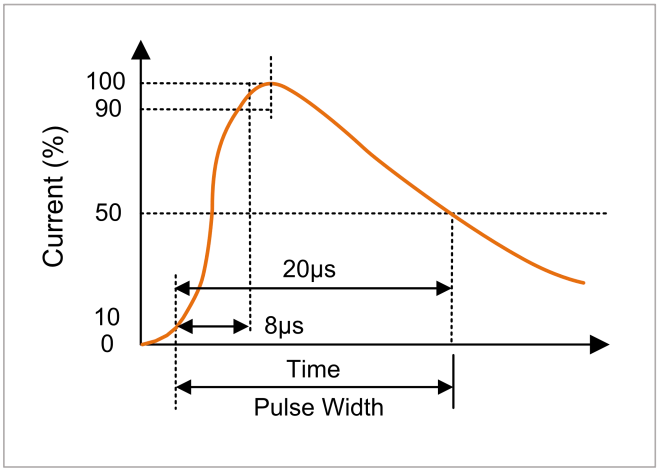
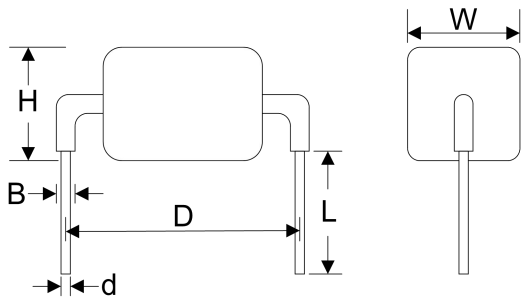


Figure 3:
Surge Pulse Waveform (8/20μs)



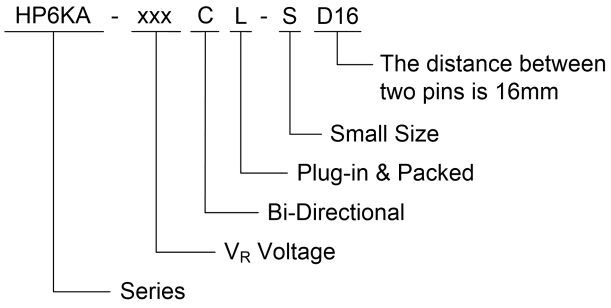
HP6KA-L-SD16 Series
Axial Leaded – 6kA

Dimensions

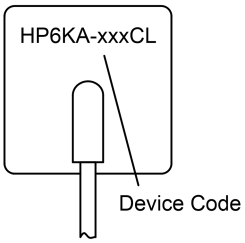


Symbol	Millimeters	Inches
D	16.0±1.0	0.630±0.039
B	1.5min	0.060min
H	11.2max	0.441max
L	6.0±1.20	0.236±0.047
d	1.28±0.10	0.050±0.004
W	10.6max	0.417max

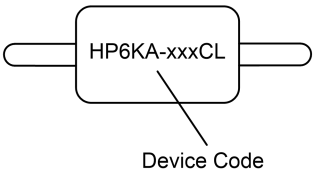
Part Numbering System



Part Marking System



Apply to P/N listed below:
HP6KA-12CL-SD16
HP6KA-15CL-SD16
HP6KA-20CL-SD16
HP6KA-25CL-SD16
HP6KA-30CL-SD16
HP6KA-33CL-SD16
HP6KA-38CL-SD16
HP6KA-42CL-SD16
HP6KA-58CL-SD16
HP6KA-66CL-SD16
HP6KA-76CL-SD16



Apply to P/N listed below:
HP6KA-100CL-SD16

Packaging

Part number	Quantity	Packaging Option
HP6KA-xxxCL-SD16	80pcs/Box	Tray Pack