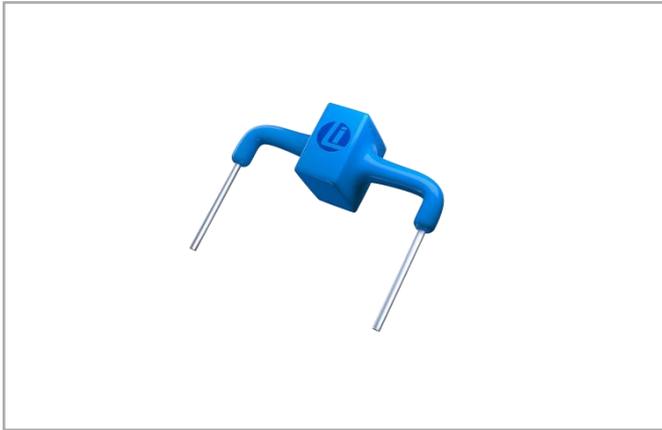


HP6KA-L-D16 Series

Axial Leaded – 6kA



Description

The HP6KA-L-D16 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

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

Parameter	Symbol	Value	Unit
Operating Storage Temperature Range	T_{STG}	-55 to 125	$^\circ\text{C}$
Operating Junction Temperature Range	T_J	-55 to 150	$^\circ\text{C}$
Current Rating ¹	I_{PP}	6	kA

Notes:

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

Functional Diagram



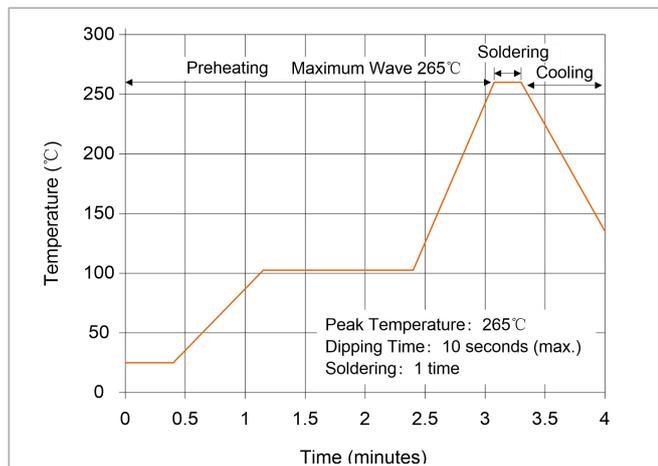
Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

Part Number	Reverse Stand-Off Voltage		Breakdown Voltage @ I_T		Test Current	Maximum Clamping Voltage @ I_{PP}	Current Rating @8/20 μs	Reverse Leakage @ V_{DC}
	$V_{AC}(V)$	$V_{DC}(V)$	$V_{B Min.}(V)$	$V_{B Max.}(V)$	$I_T(mA)$	$V_C(V)$	$I_{PP}(A)$	$I_R(\mu A)$
HP6KA-12CL-D16	8.5	12	14.0	16.0	1	28	6000	5
HP6KA-15CL-D16	11	15	17.0	19.0	1	30	6000	5
HP6KA-20CL-D16	14	20	22.0	24.5	1	40	6000	5
HP6KA-25CL-D16	17	25	28.0	31.0	1	50	6000	5
HP6KA-30CL-D16	21	30	33.0	36.5	1	60	6000	5
HP6KA-33CL-D16	23	33	35.0	39.0	1	66	6000	5
HP6KA-38CL-D16	27	38	40.5	49.5	1	69	6000	5
HP6KA-42CL-D16	30	42	47.0	52.0	1	77	6000	5
HP6KA-58CL-D16	40	58	64.0	72.0	1	110	6000	5
HP6KA-66CL-D16	45	66	70.0	77.5	1	125	6000	5
HP6KA-76CL-D16	54	76	85.0	94.0	1	140	6000	5
HP6KA-100CL-D16	72	100	110.0	121.5	1	165	6000	5
HP6KA-133CL-D16	100	133	147.0	162.5	1	220	6000	5

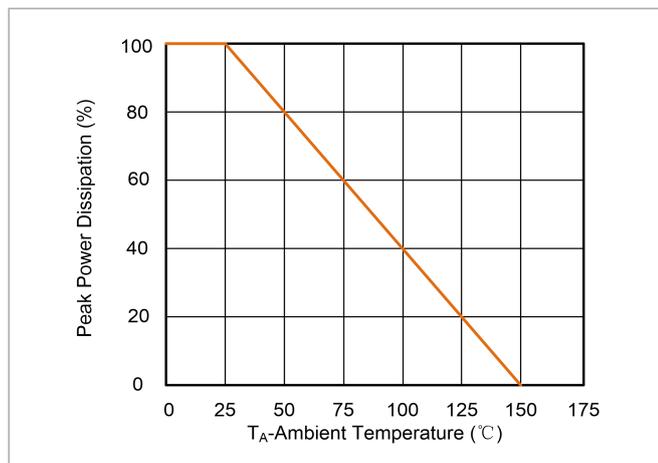
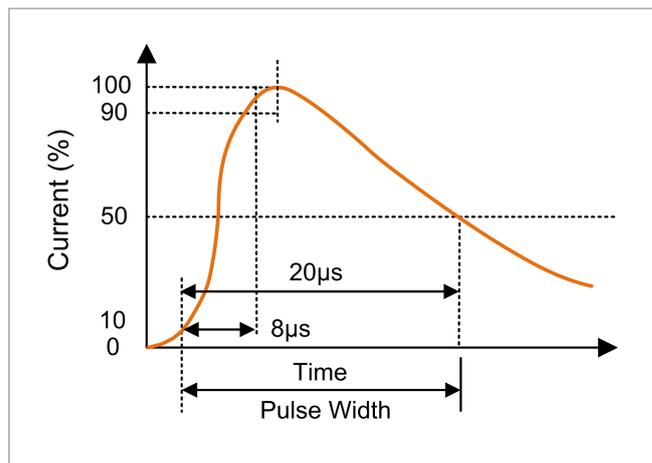
Notes: Using 8/20 μs wave shape as defined in IEC61000-4-5.

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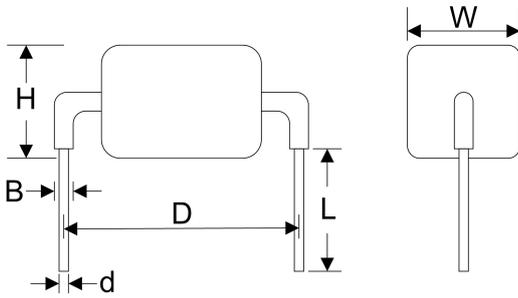
Wave Solder Profile**Figure 1:**
Wave Soldering Temperature Profile**Flow/Wave Soldering (Solder Dipping)**

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

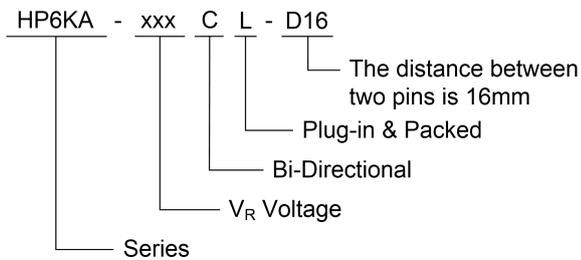
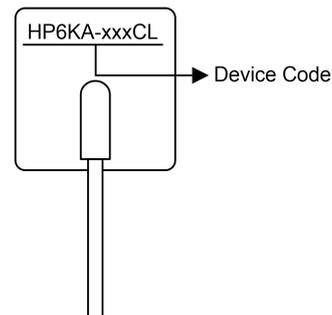
Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)**Figure 2:**
Power Derating Curve**Figure 3:**
Surge Pulse Waveform (8/20 μs)

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Dimensions

Symbol	Millimeters	Inches
D	16.0±1.0	0.630±0.039
B	1.35min	0.053min
H	13.0max	0.512max
L	6.0±1.20	0.236±0.047
d	1.28±0.10	0.050±0.004
W	13.0max	0.512max

Part Numbering System**Part Marking System****Packaging**

Part number	Quantity	Packaging Option
HP6KA-xxxCL-D16	80pcs/Box	Tray Pack