



HPD Series

Features

- Axial Leaded Devices
- Nickel lead materials, polyester tape insulating material meets UL 94V-0 requirements
- Bulk packaging available on all models 1,000, 500 or 200 pieces/bag.

Applications

- Almost anywhere there is a low voltage power supply, up to 20V and a load to be protected, including:
- Notebook computer
 - Personal digital assistants
 - Walkie-talkie & toys
 - Camcorder battery packs

Alpha-Top (Sea & Land Alliance)

Electrical Properties

Model	V _{max} (Vdc)	I _{max} (A)	I _{hold} (A)	I _{trip} (A)	P _d Typ. (W)	Maximum Time To Trip		Resistance			Agency Approval	
						Current (A)	Time (Sec)	R _{i min} (Ω)	R _{i max} (Ω)	R _{1 max} (Ω)	UL	TUV
HPD190(S)	15	100	1.9	3.9	1.2	9.5	5.0	0.039	0.072	0.102	✓	✓
HPD260(S)	15	100	2.6	5.8	2.5	13.0	5.0	0.020	0.042	0.063	✓	✓
HPD380	15	100	3.8	8.3	2.5	19.0	5.0	0.013	0.026	0.037	✓	✓
HPD450	20	100	4.5	8.9	2.5	22.5	5.0	0.011	0.020	0.028	✓	✓
HPD550	20	100	5.5	10.5	2.8	27.5	5.0	0.009	0.016	0.022	✓	✓
HPD600	20	100	6.0	11.7	2.8	30.0	5.0	0.007	0.014	0.019	✓	✓
HPD730	20	100	7.3	14.1	3.3	30.0	5.0	0.006	0.012	0.015	✓	✓
HPD730X	20	100	7.3	14.1	3.3	30.0	5.0	0.008	0.011	0.015	✓	
HPD900	20	100	9.0	16.7	3.8	45.0	5.0	0.006	0.010	0.014		
HPD1410	20	100	14.1	26.2	6.0	70.0	5.0	0.003	0.005	0.007		

I_{hold} = Hold Current : maximum current device will sustain for 4 hours without tripping in 25°C still air.

I_{trip} = Trip Current : minimum current at which the device will trip in 25°C still air.

V_{max} = Maximum voltage device can withstand without damage at rated current (I_{max}).

I_{max} = Maximum fault current device can withstand without damage at rated voltage (V_{max}).

P_d = Power dissipated from device when in the tripped state at 25°C still air.

R_{i min/max} = Minimum/Maximum resistance of device in initial (un-soldered) state.

R_{1 max} = Maximum resistance of device at 25°C measured one hour after tripping.

CAUTION : Operation beyond the specified ratings may result in damage and possible arcing and flame.

I_{hold} Versus Temperature

Model	Maximum ambient operating temperature (T _{mac}) vs. hold current (I _{hold})									
	-40°C	-20°C	0°C	25°C	40°C	50°C	60°C	70°C	80°C	85°C
HPD190(S)	2.8	2.5	2.3	1.9	1.6	1.5	1.4	1.2	1.1	1.0
HPD260(S)	3.8	3.4	3.1	2.6	2.2	2.0	1.9	1.7	1.4	1.3
HPD380	5.4	4.9	4.4	3.8	3.3	3.0	2.8	2.5	2.3	2.1
HPD450	6.5	5.8	5.3	4.5	3.9	3.6	3.3	2.9	2.6	2.4
HPD550	7.6	6.9	6.2	5.5	4.7	4.3	4.0	3.6	3.2	3.0
HPD600	8.7	7.8	7.1	6.0	5.2	4.7	4.4	3.9	3.4	3.2
HPD730	10.5	9.5	8.6	7.3	6.3	5.7	5.4	4.7	4.2	4.0
HPD730X	10.5	9.5	8.6	7.3	6.3	5.7	5.4	4.7	4.2	4.0
HPD900	12.7	11.4	10.0	9.0	7.5	6.8	6.2	5.5	4.9	4.5
HPD1410	19.7	17.8	15.7	14.1	12.3	11.3	9.7	9.1	8.5	7.9

Environmental Specifications

Test	Conditions	Resistance change
Passive aging	+70°C, 1000 hrs.	±10% typical
Humidity aging	+85°C, 85% R.H. , 168 hrs.	±5% typical
Resistance to solvent	MIL-STD-202,Method 215	No change
Vibration	MIL-STD-202,Method 201	No change
Ambient operating /storage conditions : -40°C to +85°C		
Maximum surface temperature of the device in the tripped state is 125 °C		

Agency Approvals :



E201504(Alpha-Top)/E319079(Sea&Land)



R-50004425

Regulation/Standard:



2002/95/EC



WARNING:

- Use PPTC beyond the maximum ratings or improper use may result in device damage and possible electrical arcing and flame.
- PPTC are intended for protection against occasional over current or over temperature fault conditions and should not be used when repeated fault conditions or prolonged trip events are anticipated.
- Device performance can be impacted negatively if devices are handled in a manner inconsistent with recommended electronic, thermal, and mechanical procedures for electronic components.
- Use PPTC with a large inductance in circuit will generate a circuit voltage (L di/dt) above the rated voltage of the PPTC.
- Avoid impact PPTC device its thermal expansion like placed under pressure or installed in limited space.

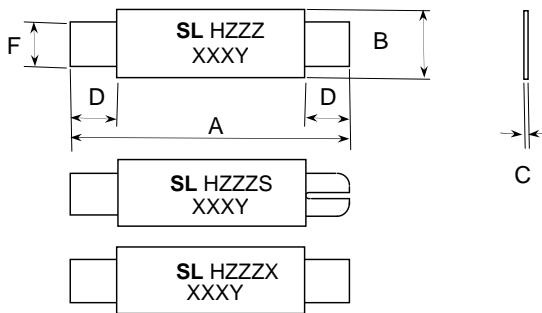
Physical Dimensions (Unit:mm)

Model	A		B		C		D		F	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
HPD190(S)	19.9	22.1	4.9	5.5	0.6	1.0	5.5	7.5	3.9	4.1
HPD260(S)	20.9	23.1	4.9	5.5	0.6	1.0	4.1	5.5	3.9	4.1
HPD380	24.0	26.0	6.9	7.5	0.6	1.0	4.1	5.5	4.9	5.1
HPD450	24.0	26.0	9.9	10.5	0.6	1.0	5.3	6.7	5.9	6.6
HPD550	35.0	37.0	6.9	7.5	0.6	1.0	5.3	6.7	4.9	5.1
HPD600	24.0	26.0	13.9	14.5	0.6	1.0	4.1	5.5	5.9	6.6
HPD730	27.1	29.1	13.9	14.5	0.6	1.0	4.1	5.5	5.9	6.6
HPD730X	45.4	47.6	7.9	8.5	0.6	1.0	4.6	6.2	5.9	6.1
HPD900	45.4	47.6	7.9	8.5	0.9	1.3	4.6	6.2	5.9	6.1
HPD1410	58.0	60.0	13.4	14.0	0.9	1.3	4.2	5.8	5.9	6.1

Physical Characteristics

Lead Material	190~730: 0.11mm thick nickel 900~1410: 0.3mm thick nickel
Insulating Material	Polyester tape, UL 94V-0
Slit	0.5mm X 4.0mm norm.
Lead - free device	

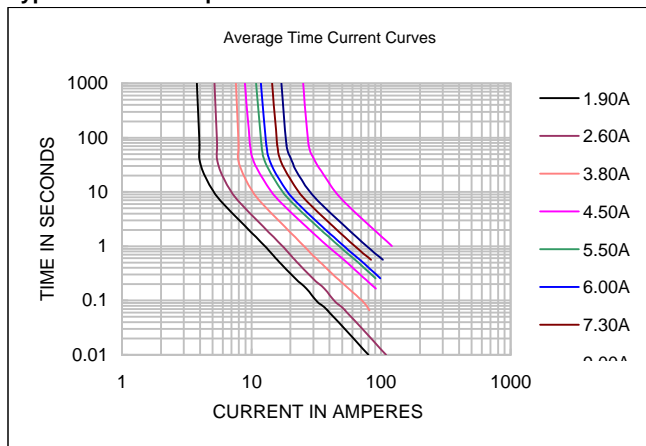
Dimensions



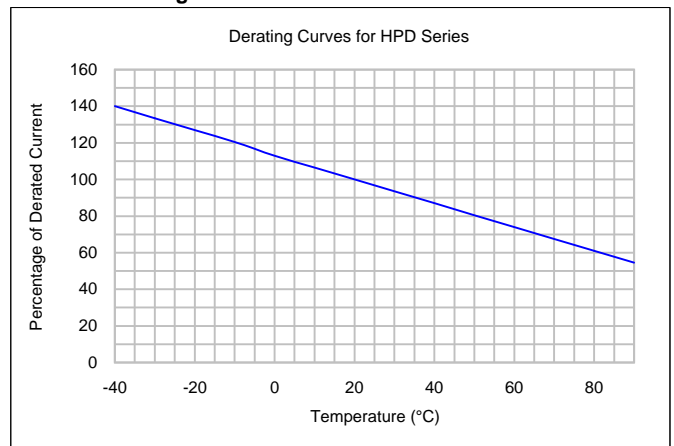
Marking

- SL = Trademark
- H = HPD Series
- ZZZ = Hold Current
- S = Single Slitted Lead
- X = Extra Long
- XXX = Date Code
- Y = Factory Code

Typical Time-To-Trip Curve At 25°C



Thermal Derating Curve



Ordering Information

HPD	190	S
Product name	Hold Current (A)	S= Single slitted lead Blank = Standard

Packing

Bag Q'ty
HPD 190(S), 260(S) : 1000 pieces / bag
HPD 380, 450, 550, 600, 730 : 500 pieces / bag
HPD 730X, 900, 1410 : 200 pieces / bag