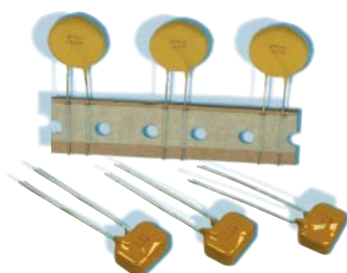


No. HVR600



High Voltage PTC Device, 60 V / 600 V

Standard
UL 1434 1st Edition
CSA C22.2 No. 0 CSA TIL No. CA-3A

Approvals
cULus Recognition
TÜV

Features

This product line is designed to provide protection against induced AC power current, direct power contact and the natural lightning strike. The HVR600 product line is widely used in the field of telecommunications and networking, ISDN and XSDN equipment. It also helps equipment manufacturers pass ITU K20, K21 and telcordia requirements.

Specifications

Packaging

A: bulk
F: tape and ammo

Materials

Insulating Material: Yellow Epoxy Polymer, UL 94V0

Round Pins: Copper alloy, tin plated

Max. Device Surface Temperature in Tripped State
125 °C

Operating / Storage Temperature

-40 °C to +85 °C (consider de-rating)

Humidity Ageing

+85 °C, 85 % R.H., 1000 hours, ± 5 % typical resistance change

Soldering Characteristics

Solderability per MIL-STD-202, Method 208E

Thermal Shock

MIL-STD-202F, Method 107G

+125 °C to -40 °C 10 times, ±5 % typical resistance change

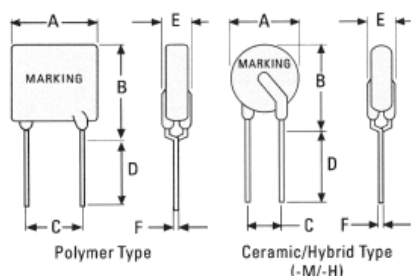
Solvent Resistance

MIL-STD-202, Method 215F, no change

Marking

"P", voltage, amperage rating, lot number

Dimensions (mm)



Devices are not intended for continuous use at 250 V / 600 V!



| Dimensions (mm) | | | | | | | | | |
|-----------------|------|------|-----|-----|-----|--------------------------|----------|--------------------|------|
| Model | A | B | C | D | E | Physical Characteristics | | packaging quantity | |
| | Max | Max | typ | Min | Max | Lead | Material | bag | ammo |
| HVR600P150C | 13,5 | 12,6 | 5,1 | 4,7 | 6,0 | 0.65 dia | Sn/Cu | 200 | 600 |
| HVR600P150C-RA | 13,5 | 12,6 | 5,1 | 4,7 | 6,0 | 0.65 dia | Sn/Cu | 200 | 600 |
| HVR600P150C-RB | 13,5 | 12,6 | 5,1 | 4,7 | 6,0 | 0.65 dia | Sn/Cu | 200 | 600 |
| HVR600P150CF | 13,5 | 12,6 | 5,1 | 4,7 | 6,0 | 0.65 dia | Sn/Cu | 200 | 600 |
| HVR600P160C | 16,0 | 12,6 | 5,1 | 4,7 | 6,0 | 0.65 dia | Sn/Cu | 200 | 500 |
| HVR600P160C-RA | 16,0 | 12,6 | 5,1 | 4,7 | 6,0 | 0.65 dia | Sn/Cu | 200 | 500 |
| HVR600P160C-R1 | 16,0 | 12,6 | 5,1 | 4,7 | 6,0 | 0.65 dia | Sn/Cu | 200 | 500 |
| HVR600P160CF | 16,0 | 12,6 | 5,1 | 4,7 | 6,0 | 0.65 dia | Sn/Cu | 200 | 500 |

| Permissible continuous operating current is ≤ 100 % at ambient temperature of 20 °C (68 °F). | | | | | | | | | | | |
|--|-------------------|--------------------------|--|--------------------------|------------------------------|----------------------------|-----------------------|-----------------------|-------------------------|-----------|-----|
| Model | I _{hold} | I _{Trip} (A) | V _{max.} V _{int/AC} /V _{op/DC} * | I _{max.} (A) | max. time to trip (s @ A) | P _{d max.} (W) | Resistance | | | Approvals | |
| | | | | | | | R _{min.} () | R _{max.} () | R _{I max.} () | cURus | TÜV |
| HVR600P150C | 0.15 | 0.30 | 600/60 | 3 | 5.00 @ 1.00 | 1.00 | 6.0 | 12.0 | 22.0 | • | • |
| HVR600P150C-RA | 0.15 | 0.30 | 600/60 | 3 | 5.00 @ 1.00 | 1.00 | 7.0 | 10.0 | 20.0 | • | • |
| HVR600P150C-RB | 0.15 | 0.30 | 600/60 | 3 | 4.50 @ 1.00 | 1.00 | 9.0 | 12.0 | 22.0 | • | • |
| HVR600P150CF | 0.15 | 0.30 | 600/60 | 3 | 5.00 @ 1.00 | 1.00 | 6.0 | 12.0 | 22.0 | • | • |
| HVR600P160C | 0.16 | 0.32 | 600/60 | 3 | 7.00 @ 1.00 | 1.00 | 4.0 | 10.0 | 18.0 | • | • |
| HVR600P160C-RA | 0.16 | 0.32 | 600/60 | 3 | 9.50 @ 1.00 | 1.00 | 4.0 | 7.0 | 16.0 | • | • |
| HVR600P160C-R1 | 0.16 | 0.32 | 600/60 | 3 | 9.00 @ 1.00 | 1.00 | 4.0 | 8.0 | 17.0 | • | • |
| HVR600P160CF | 0.16 | 0.32 | 600/60 | 3 | 7.00 @ 1.00 | 1.00 | 4.0 | 10.0 | 18.0 | • | • |

* V_{int} : Interrupt Voltage V_{op} : Operating Voltage (V dc)

NOTE:
 I_{hold} = Hold current: maximum current device will pass without tripping in 20 °C still air.
 I_{trip} = Trip current: minimum current at which the device will trip in 20 °C still air.
 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 20°C still air.
 R_{min} = Minimum resistance of device in initial (un-soldered) state.
 R_{I max} = Maximum resistance of device at 20°C measured one hour after tripping for 20 sec.
 Caution: Operation beyond the specified rating may result in damage and possible arcing and flame.

Order Information

| Qty. | Order-Number | Model | Packaging |
|------|--------------|-------|-----------|
| | | | |

Specifications are subject to change without notice.

No. HVR600

Average time-current curve



A : HVR600P160F
B : HVR600P150F

Agency Specification

| Product | Lightning | Power Cross |
|--------------|---|--|
| HVR600P150C | FCC part 68 - 1.0 kV 10/160 μ s 800 V 10/560 μ s Telcordia GR - 1089 - 1.0 kV 10/1000 μ s | UL60950, 3rd ed. - 600 V ac, 40 A |
| HVR600P160C | | Telcordia GR - 1089 - 600 V ac, 60 A |
| HVR600P150CF | | select a specific part number for each application based on the agency request |
| HVR160CF | | |

Part-numbering system



Thermal Derating Chart

| Model | Ambient Operation Temperature - I_{hold} (A) | | | | | | |
|--------------|--|--------|------|-------|-------|-------|-------|
| | -40 °C | -20 °C | 0 °C | 23 °C | 40 °C | 60 °C | 85 °C |
| HVR600P150C | 0.23 | 0.21 | 0.18 | 0.15 | 0.12 | 0.10 | 0.06 |
| HVR600P160C | 0.24 | 0.22 | 0.19 | 0.16 | 0.13 | 0.12 | 0.07 |
| HVR600P150CF | 0.23 | 0.21 | 0.18 | 0.15 | 0.12 | 0.10 | 0.06 |
| HVR600P160CF | 0.24 | 0.22 | 0.19 | 0.16 | 0.13 | 0.12 | 0.07 |