PTC BRAKING RESISTOR

PHPTC

The PHPTC type Braking resistor is designed to withstand high energy pulses and overloads encountered in applications like Motor Braking and Capacitor Inrush Suppression. It has a self-protecting PTC resistor element which limits current and body temperature rise when sustained high voltage appears across the resistor in short circuit conditions. The resistor has an efficient Aluminium package which can be mounted on available heat sinks. This package is ideally suited for use as an internal braking resistor in drives.

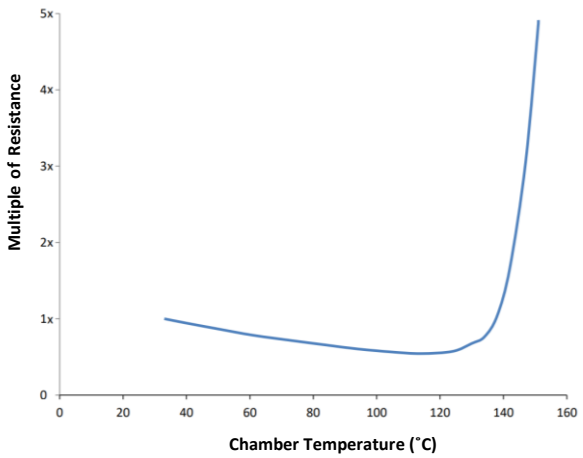


Resistor Type	Nominal Power free con-vection @25°C	Nominal Power on Heat sink @25°C	Steady-state Power# free convection @25°C	Steady-state Power# on Heat sink* @25°C	Resistance Values[1] @ 25°C	Tolerance	Maximum operating Voltage	Pulse Energy Rating (1% Duty Cycle)[2]
PHPTC35	10W	40W	10W	40W	100R – 700R	±35%	600VAC / 848VDC	660J in 1.2s
PHPTC35A	10W	40W	10W	40W	100R – 700R	±35%	600VAC / 848VDC	660J in 1.2s
PHPTC35B	8.5W	25W	8.5W	25W	130R – 700R	±35%	600VAC / 848VDC	300J in 1.2s
PHPTC70	20W	70W	16W	70W	50R – 500R	±35%	600VAC / 848VDC	960J in 1.2s
PHPTC70A	20W	70W	12W	57W**	70R – 500R	±35%	600VAC / 848VDC	960J in 1.2s
PHPTC105	30W	110W	18W	110W**	50R – 250R	±35%	600VAC / 848VDC	1300J in 1.2s
PHPTC140	40W	140W	22W	140W**	30R – 200R	±35%	600VAC / 848VDC	1600J in 1.2s
PHPTC140A	30W	105W	18W	70W**	200R – 700R	±35%	600VAC / 848VDC	1300J in 1.2s
PHPTC140B	30W	105W	18W	105W**	50R – 250R	±35%	600VAC / 848VDC	1300J in 1.2s
PHPTC140C	20W	70W	16W	70W	50R – 500R	±35%	600VAC / 848VDC	960J in 1.2s

1. New Resistance Values being added. If you need any specific value, please contact us.
2. A standard Cycle of 120s is used.
* Heat Sink with thermal resistance of 0.6˚C/W or better. ** Minimum air flow of 1.5 m/s over the heat sink.
# If the applied voltage exceeds √PR, the power dissipated will remain within the specified maximum power rating.

ADDITIONAL SPECIFICATIONS	
Breakdown Voltage (V_{BD})	1100VDC
Dielectric Strength (V_{AC} at 50Hz) for 1 minute	4000 V_{AC}
Cable	Standard Insulated 20AWG (OR) 18AWG, 600Vac
Resistor Body	Anodized Extruded Aluminium Profile
Curie Temperature	140°C

RESISTANCE TEMPERATURE CHARACTERSTIC[3]



3. At 155°C the Resistance Value is >2MΩ, tested in temperature chamber.

B-51, Electronic Complex, ECIL PO, Hyderabad, India 500062.
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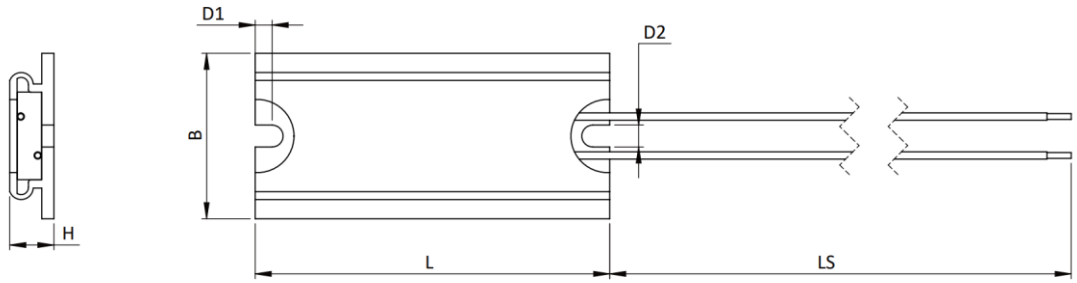
This publication provides indicative information. A contract for supply or purchase should be jointly agreed to separately.

Errors and omissions excepted (E & OE).
Specifications are subject to change.
Drafted/Revised Date: - 07/03/2025

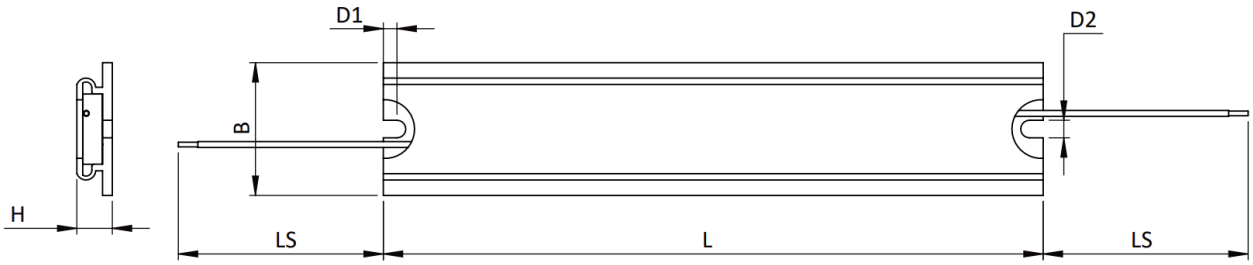
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COMPONENT DRAWING AND DIMENSIONAL SPECIFICATION:



COMPONENT DRAWING FOR PHPTC 140A:



Dimensions:

The PHPTC Series						
Resistor	**Length (L)**	**Breadth (B)**	**Height (H)**	**Wire Length (LS)**	**Mounting Slot Length (D1)**	**Mounting Slot Width (D2)**
PHPTC35	89±0.5mm	34±0.3mm	10mm	100±5mm	3.5	4.5
PHPTC35A	73±0.5mm	34±0.3mm	10mm	100±5mm	2.5	4.5
PHPTC35B	73±0.5mm	34±0.3mm	10mm	100±5mm	2.5	4.5
PHPTC70	115±0.5mm	34±0.3mm	10mm	100±5mm	3.5	4.5
PHPTC70A	100±0.5mm	34±0.3mm	10mm	100±5mm	3.5	4.5
PHPTC105	139±0.5mm	34±0.3mm	10mm	100±5mm	3.5	4.5
PHPTC140	167±0.5mm	34±0.3mm	10mm	100±5mm	3.5	4.5
PHPTC140A	167±0.5mm	34±0.3mm	10mm	100±5mm	3.5	4.5
PHPTC140B	167±0.5mm	34±0.3mm	10mm	100±5mm	3.5	4.5
PHPTC140C	167±0.5mm	34±0.3mm	10mm	100±5mm	3.5	4.5

ORDERING CODE:

To Order, Please Specify;

PEC Type	Ohmic Value	Tolerance	Termination	Cable Length	Cable Termination	Approval
PHPTC35A	350Ω- 350R	N=±35%	Cable- C Special- M	Standard- X Custom- M	Wire Ends- X Connectors- M	U- UL Approved X- Standard

FULL ORDERING CODE EXAMPLE: PHPTC35A-350R-NCXXU

B-51, Electronic Complex, ECIL PO, Hyderabad, India 500062.
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