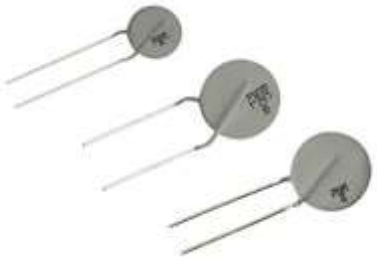
Self-Protecting Inrush Current Limiting PTC Thermistors Combine R_{25} Values to 1 kΩ With High Voltages to 1200 V_{DC} and Energy Handling to 240 J, Increasing Performance in Active Charge and Discharge Circuits for Automotive and Industrial Applications

Product Benefits:



- AEC-Q200 qualified and self-protecting, with no risk of over-heating
- Wide range of R_{25} values from 60 Ω to 1 kΩ
  - Heat capacity to 2.3 J/K for all resistance values
- High maximum voltages of 1000 V_{DC} at 500 Ω and 1200 V_{DC} at 1 kΩ
- High maximum energy handling to 240 J
- Available in two sizes:
  - Smaller PTCEL13R for lower energy applications
  - Larger PTCEL17R for high energy applications
- High temperature operation to +105 °C
- Withstand > 100 000 inrush-power cycles
- Highly resilient against non-switching peak power up to 25 kW
- Available in tape on reel packaging
- Leadwire pitch of 5 mm
  - PTCEL17R is available with leadwire pitches of 7.5 mm and 10 mm to accommodate its higher voltages
- PTCEL17R can be automatically handled by pick and place equipment for lower placement costs
- RoHS-compliant devices
- C-UL-US recognized under file E148885 for AC and DC use, providing an increased and controlled safety level
- SPICE and 3D models are available

Market Applications:

- Inrush current limiting and overload protection in AC/DC and DC/DC converters; load dump, DC-Link, battery management, and emergency discharge circuits; on-board chargers; home energy storage systems; motor drives; and welding equipment

The News:

Vishay Intertechnology introduces a new series of inrush current limiting positive temperature coefficient (PTC) thermistors. Designed to increase performance in active charge and discharge circuits for automotive and industrial applications, Vishay BCcomponents PTCEL series devices combine a wide range of resistance at 25 °C (R_{25}) values with high voltage and energy handling capabilities.

- PTCEL series thermistors offer up to four times higher energy handling than competing devices
- By combining multiple thermistors in parallel or series, energy absorption levels over 1000 J can be achieved
- The donor-doped barium titanate thermistors consist of a ceramic pellet soldered between two tinned CCS wires and coated with a UL 94 V-0 compliant high temperature silicone lacquer

The Key Specifications:

Part number	PTCEL13R	PTCEL17R
R_{25} (Ω)	60 to 1 k	
R_{25} tolerance (%)	30	
Max. AC voltage (V_{RMS})	350 to 600	440 to 800
Max. DC voltage (V_{DC})	500 to 850	625 to 1200
Maximum energy (J)	140, 150	230, 240
Heat capacity (J/K)	1.45	2.3
Lead pitch (mm)	5, 7.5	5, 7.5, 10

Availability:
Samples and production quantities of the PTCEL series are available now, with lead times of 12 weeks.

To access the product datasheet on the Vishay Website, go to
http://www.vishay.com/ppg?29165 (PTCEL Series)

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