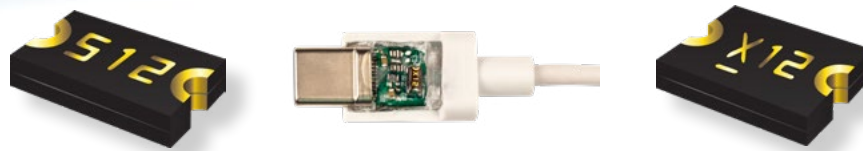


New Product Release

POLYMERIC THERMAL CUTOFF DEVICES (P-TCO)



Bourns Announces New Family of Polymeric Thermal Cutoff (P-TCO) Devices for USB-C Thermal Runaway Protection *Model P-TCO-U and P-TCO-N Series*

Riverside, California – February 26, 2019 – Bourns is pleased to announce the introduction of a new family of Polymeric Thermal Cutoff (P-TCO) devices designed to protect USB-C cables from destructive and potentially dangerous thermal runaway events. The new P-TCO family includes two series: the [P-TCO-U series](#) in a 1210 footprint, and the [P-TCO-N series](#) in an ultra-compact 1206 footprint.

The USB Type-C connector features 24 pins in a smaller form factor than previous USB connector designs, and is capable of delivering up to 100 W of power. There are clear benefits to these enhanced features and capabilities. The downside to this combination of increased power and extremely tight pin spacing is a heightened concern about safety hazards due to the possibility of thermal runaway triggered by dirt or liquid entering the connector and causing a short. The new P-TCO model family from Bourns offers an effective combination of compact, ultra-low resistance thermal protection to guard against such potentially dangerous runaway events.

Each P-TCO series has a 12 V maximum operating voltage rating, a 50 A maximum operating current rating, and comes in three different models designed to provide protection for six different temperature-current combinations. The ultra-low resistance materials used in the P-TCO family enable both the P-TCO-U and the P-TCO-N series to achieve initial resistance values as low as 2 mOhms and post-trip resistance values as low as 14 mOhms, thereby allowing the devices to achieve current carrying capabilities as high as 4.5 A.

Part Number	Footprint	Vmax (Vdc)	Imax (A)	Ihold (A)	Thermal Cutoff		Maximum Time to Trip		Resistance	
					At 3 A (°C)	At 2 A (°C)	Current (A)	Time (Sec.)	R1 min. (Ω)	R1 max. (Ω)
P-TCO-U350/12	1210	12	50	3.5	75 ± 20	90 ± 20	17.00	5.00	0.002	0.022
P-TCO-U400/12	1210	12	50	4.0	80 ± 15	95 ± 15	20.00	5.00	0.002	0.018
P-TCO-U450/12	1210	12	50	4.5	85 ± 15	100 ± 10	22.50	2.00	0.002	0.014
P-TCO-N350/12	1206	12	50	3.5	75 ± 20	90 ± 15	8.00	5.00	0.002	0.022
P-TCO-N400/12	1206	12	50	4.0	80 ± 15	95 ± 15	10.00	5.00	0.002	0.018
P-TCO-N450/12	1206	12	50	4.5	85 ± 15	100 ± 10	22.50	2.00	0.002	0.014



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The new P-TCO family of products are RoHS compliant* and halogen free**, UL and TUV recognized for safety requirements, and are produced in Bourns' IATF-16949 approved facility in Xiamen, China.

Features

- Surface mount packaging for automated assembly
- Small footprint sizes (1210 and 1206)
- Low profiles for over-molding considerations
- Ultra-low resistance
- RoHS compliant* and halogen free**
- Agency recognition:  

Applications

- Thermal runaway protection for USB-C cables
- USB C-C, C-B, and C-A connector configurations
- USB 3.2, 3.1, 3.0, and 2.0 protocols
- Other charging cables

For additional information, please visit the Bourns website at www.bourns.com. Should you have any questions, please feel free to contact [Customer Service/Inside Sales](#).

* RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

** Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.