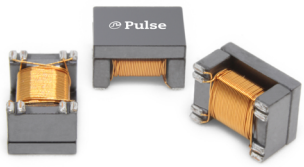
PulseChip™ Transformers for LAN Interfaces

(1Gigabit, 2.5Gigabit, 5Gigabit, 10Gigabit)

Pulse
a YAGEO company



- *Meets IEEE802.3 specification with 1000BASE-T, 2.5GBASE-T, 5GBASE-T, and 10GBASE-T (Non-PoE and PoE+)*
- *Compatible with all Major PHYs*
- *Compliance to the REACH and RoHS directive*
- *Ideal for Networking and Interconnect devices, Servers, Switches, Router, Access Point, and Digital Video and Cameras*

Electrical Specifications 25°C - Operating Temperature -40°C to 85°C

Part Number	Data Rate	Power over Ethernet (PoE) DC Current (@85°C)	Inductance (MIN)	Insertion Loss (MAX)		Return Loss (MIN)		DC Resistance (MAX)	Mechanical Specifications (mm)
				1MHz-60MHz	100MHz	1MHz-60MHz	100MHz		
TC1000	1Gigabit	Non-PoE	200uH with 8mA DC BIAS, 100KHz	-1.0dB	-1.5dB	-20.0dB	-16.0dB	2.50 Ω	4.7±0.15 X 3.40±0.15 X 3.0 MAX
TC1000P		600mA	180uH with 9mA DC BIAS, 100KHz	-1.0dB	-1.2dB	-20.0dB	-14.0dB	1.10 Ω	

Part Number	Data Rate	Power over Ethernet (PoE) DC Current (@85°C)	Inductance (MIN)	Insertion Loss (MAX)			Return Loss (MIN)			DC Resistance (MAX)	Mechanical Specifications (mm)
				1MHz-50MHz	100MHz	125MHz	1MHz-40MHz	125MHz	125MHz		
TC2500	2.5Gigabit	Non-PoE	180uH with 8mA DC BIAS, 100KHz	-0.8dB	-1.0dB	-1.2dB	-20.0dB	-18.0dB	-16.0dB	1.10 Ω	4.7±0.15 X 3.40±0.15 X 3.0 MAX
TC2500P		600mA	180uH with 9mA DC BIAS, 100KHz	-0.8dB	-1.0dB	-1.2dB	-20.0dB	-18.0dB	-16.0dB	1.10 Ω	

Part Number	Data Rate	Power over Ethernet (PoE) DC Current (@85°C)	Inductance (MIN)	Insertion Loss (MAX)					Return Loss (MIN)					DC Resistance (MAX)	Mechanical Specifications (mm)
				1MHz-50MHz	100MHz	125MHz	200MHz	250MHz	1MHz-50MHz	100MHz	125MHz	200MHz	250MHz		
TC5000	5Gigabit	Non-PoE	180uH with 8mA DC BIAS, 100KHz	-0.8dB	-1.0dB	-1.15dB	-1.4dB	-2.0dB	-20.0dB	-17.6dB	-17.0dB	-14.0dB	-12.0dB	1.10 Ω	4.7±0.15 X 3.40±0.15 X 3.0 MAX
TC5000P		600mA	180uH with 9mA DC BIAS, 100KHz	-0.8dB	-1.0dB	-1.15dB	-1.4dB	-2.0dB	-20.0dB	-17.6dB	-17.0dB	-14.0dB	-12.0dB	1.10 Ω	

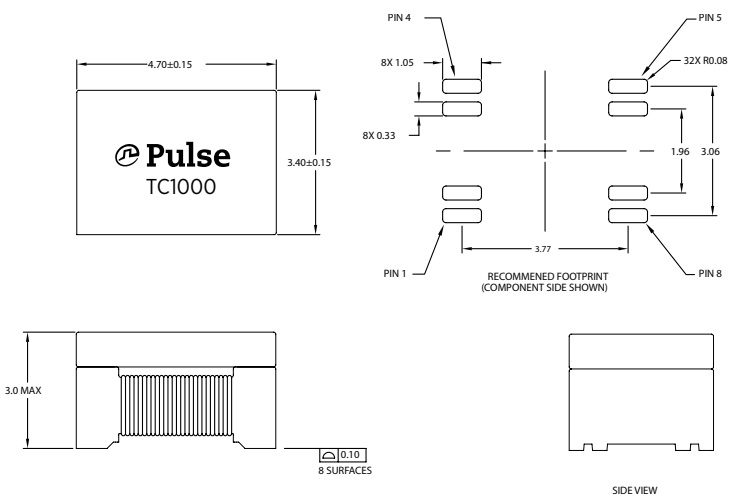
Part Number	Data Rate	Power over Ethernet (PoE) DC Current (@85°C)	Inductance (MIN)	Insertion Loss (MAX)			Return Loss (MIN)		DC Resistance (MAX)	Mechanical Specifications (mm)
				1MHz-50MHz	50MHz-100MHz	100MHz-400MHz	1MHz-100MHz	100MHz-400MHz		
TC10000	10Gigabit	Non-PoE	120uH with 8mA DC BIAS, 100KHz	-0.8dB	-1.0dB	-1.6dB	-20.0dB	-20+13.2*LOG(f/100) dB BIAS	1.60 Ω	4.7±0.15 X 3.40±0.15 X 3.04 MAX
TC10000P		600mA	120uH with 9mA DC BIAS, 100KHz	-0.8dB	-1.0dB	-1.6dB	-20.0dB	-20+13.2*LOG(f/100) dB BIAS	1.60 Ω	

Notes:

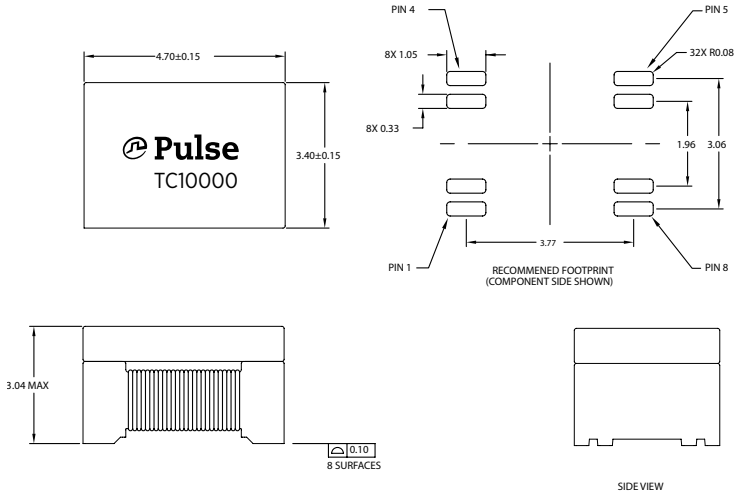
1. Operating Temperature Range: -40°C TO +85°C (Including component self-temperature rise per MIL-PRF-27G)
2. Storage Temperature Range: -40°C TO +125°C
3. Moisture Sensitivity Level (MSL) per J-STD-020: 1
4. Solderability at 245°C Reflow Profile per J-STD-002
5. Finish Plating: Matte finish 100% Tin solder (SN100)
6. Parts are packed in Tape and Reel per 2,000pcs/ reel
7. Turns Ratio: 1:1:1:1 ± 2%
8. Input-Output Isolation (Pri:Sec): 1500VAC For 60 Seconds

Mechanical

TC1000, TC1000P, TC2500, T2500P, TC5000, TC5000P0

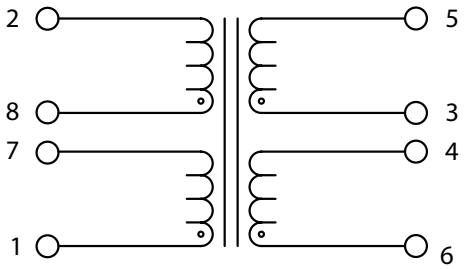


TC10000 and TC10000P



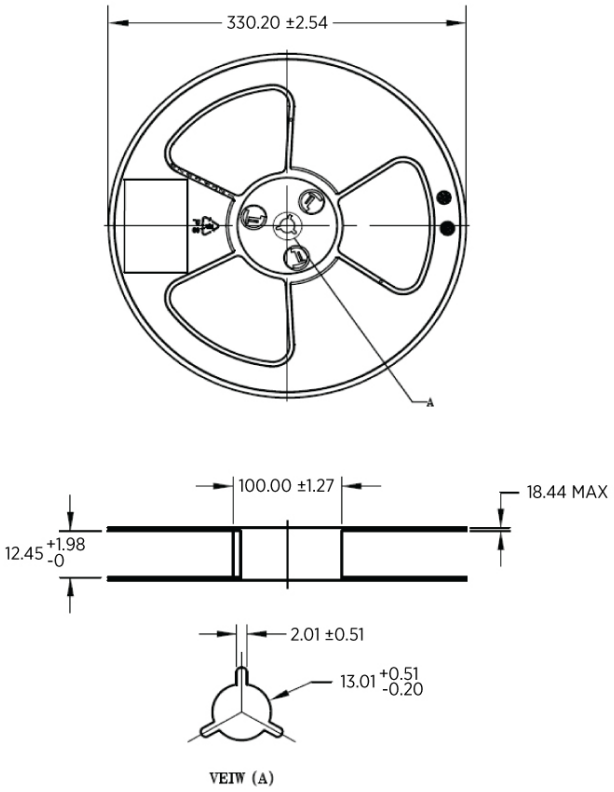
Dimensions: MILLIMETERS
Unless otherwise specified, all tolerances are ± 0.25

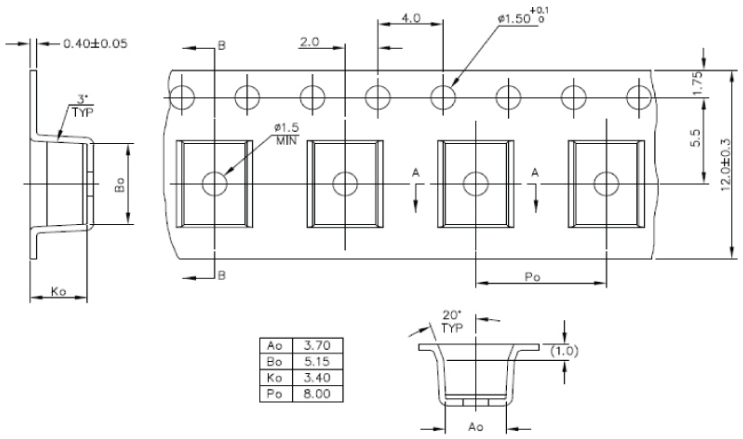
Schematic



Tape & Reel

TCXXXXXX





Quantity per reel is 2,000pcs

For More Information:

Americas - prodinfonetworkamericas@pulseelectronics.com | **Europe -** comms-apps-europe@pulseelectronics.com | **Asia -** prodinfonetworkapac@pulseelectronics.com

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