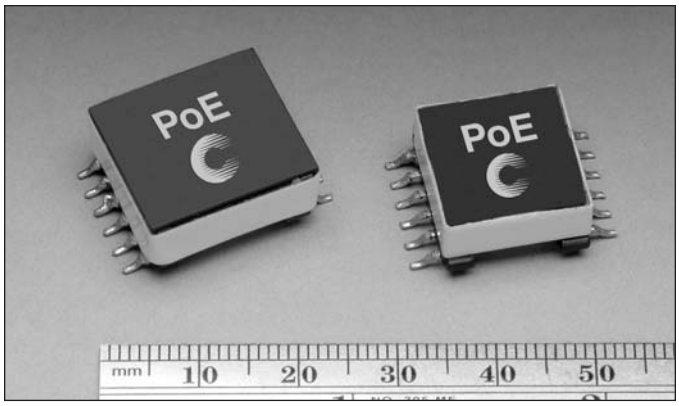
COILTRONICS®

Power-over-Ethernet (PoE)/PD
Configurable Transformer

RoHS 2002/95/EC



Description

- Versatile design allows multiple output variations
- Flyback topology, 250kHz switching frequency
- Input range from 29.5-60V
- 1500Vac isolation between primary and secondary
- Three power levels: 4, 7 and 13watts
- Low leakage inductance
- 11.0 Volt @ 0.10 amp feedback winding
- Ferrite core material

Applications

- For IEEE 802.3af-compliant Power-over-Ethernet applications
- UPS, VoiP Phone, wireless LAN access point, Bluetooth access point, network camera, building access systems
- Retail point-of-information systems
- Vending/gaming machines

Environmental Data

- Storage temperature range: -40°C to +125°C
- Operating ambient temperature range: -40°C to +85°C (range is application specific)
- Solder reflow temperature: +260°C max. for 10 seconds max.

Packaging

- Packaging Information: 4 and 7 Watts - 200 parts per 13" reel, 13 Watts - 140 parts per 13" diameter reel

Part Number	Watts	Inductance (µH)	Output	DCR/ PRI (Ω)	DCR/ SEC (Ω)	Leakage Inductance (µH) typ.	Pri Current Pk (Adc)	Turn Ratio Schematic 1: Pins pri(1-3):fb(5-6):v1(12-7):v2(11-8):v3(10-9) Schematic 2: Pins pri(1-3):fb(5-6):v1(12-10):v2(11-9)	Schematic	Dimensions
PoE4W3x3.3-R	4	200	(3)x3.3V@0.45A	0.500	0.07	2.75	0.65	1 : 0.52 : 0.16 : 0.16 : 0.16 ±1%	1	Size 1
PoE4W3x5.0-R	4	200	(3)x5.0V@0.30A	0.500	0.27	2.50	0.65	1 : 0.52 : 0.26 : 0.26 : 0.26 ±1%	1	Size 1
PoE4W2x12-R	4	200	(2)x12.0V@0.20A	0.500	0.740	1.40	0.65	1 : 0.52 : 0.60 : 0.60 ±1%	2	Size 1
PoE7W3x3.3-R	7	100	(3)x3.3V@0.75A	0.275	0.03	1.00	1.00	1 : 0.529 : 0.176 : 0.176 : 0.176 ±1%	1	Size 1
PoE7W3x5.0-R	7	100	(3)x5.0V@0.50A	0.275	0.095	1.00	1.00	1 : 0.529 : 0.265 : 0.265 : 0.265 ±1%	1	Size 1
PoE7W2x12-R	7	100	(2)x12.0V@0.30A	0.275	0.250	1.00	1.00	1 : 0.529 : 0.588 : 0.588 ±1%	2	Size 1
PoE13W3x3.3-R	13	100	(3)x3.3V@1.35A	0.250	0.032	1.50	1.60	1 : 0.529 : 0.176 : 0.176 : 0.176 ±3%	1	Size 2
PoE13W3x5.0-R	13	100	(3)x5.0V@0.90A	0.250	0.075	1.20	1.60	1 : 0.529 : 0.265 : 0.265 : 0.265 ±3%	1	Size 2
PoE13W2x12-R	13	100	(2)x12.0V@0.60A	0.250	0.280	1.00	1.70	1 : 0.529 : 0.647 : 0.647 ±3%	2	Size 2
Part Number	Watts	Inductance (µH)	Output	DCR/ PRI (Ω)	DCR/ SEC (Ω) V1/V2/V3	Leakage Inductance (µH) typ.	Pri Current Pk (Adc)	Turn Ratio Schematic 2: Pins pri(1-3):fb(5-6):v1(12-10):v2(11-9) Schematic 3: Pins pri(1-3):fb(5-6):v1(12-11):v2(10-9):v3(8-7)	Schematic	Dimensions
PoE13W3VERS-R	13	100	V1:7.0V@1.1A, V2:(1)x3.3V@1.1A, V3:1.8V@1.1A	0.250	0.085 0.042 0.025	1.00	1.70	1 : 0.529 : 0.350 : 0.176 : 0.088 ±3%	3	Size 2
PoE13W2VERS-R	13	100	V1:5.0V@1.6A, V2:3.3V@1.6A	0.250	0.038/ 0.027/na	1.20	1.70	1 : 0.529 : 0.265 : 0.176 ±3%	2	Size 2

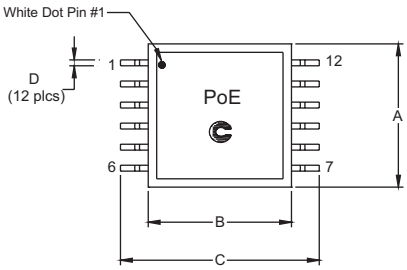
1) Test Parameters: 100kHz, 0.100 V_{rms}, 0.0Adc
2) DCR limits maximum @ 20°C
3) Leakage Inductance 200kHz, 0.01V_{rms}, 0.0Adc
4) Feedback DCR 1.0Ω maximum @20°C

Dimensions (mm)

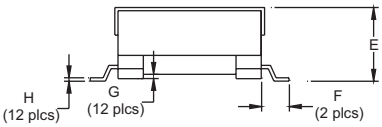
	A max.	B ref.	C max.	D ref.	E max.	F ref.	G ref.	H ref.	I ref.	J mm	K mm	L ref.	M max.	N	O
Size 1	17.1	16.0	22.3	0.7	8.4	3.0	0.1	0.4	14.49	1.79	3.43	16.88	23.74	2.54	0.75
Size 2	18.0	18.0	24.6	0.7	10.0	3.3	0.1	0.4	14.25	1.75	3.43	19.14	26.0	2.5	0.75

1) Tolerances A - H are ± 0.25mm unless specified otherwise.
2) Tolerances I - O are ± 0.10mm unless specified otherwise.
3) All soldering surfaces are coplaner to within ± 0.102mm.

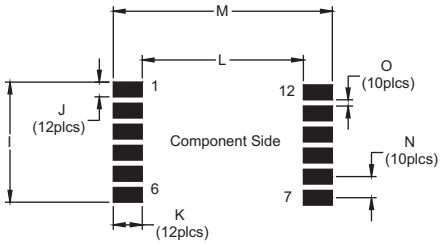
Top View



Front View

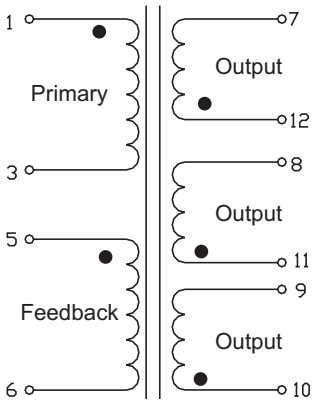


Recommended Pad Layout

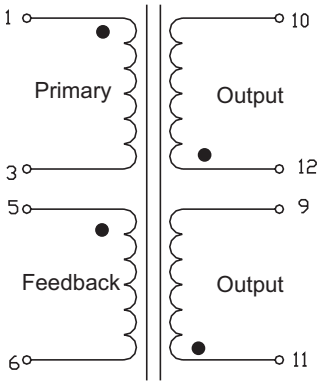


Schematics

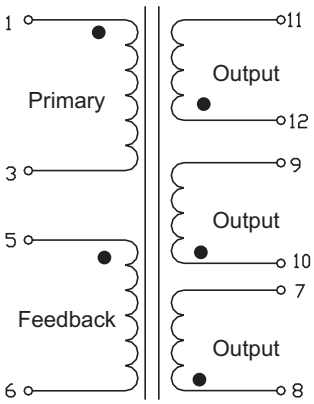
Schematic 1



Schematic 2

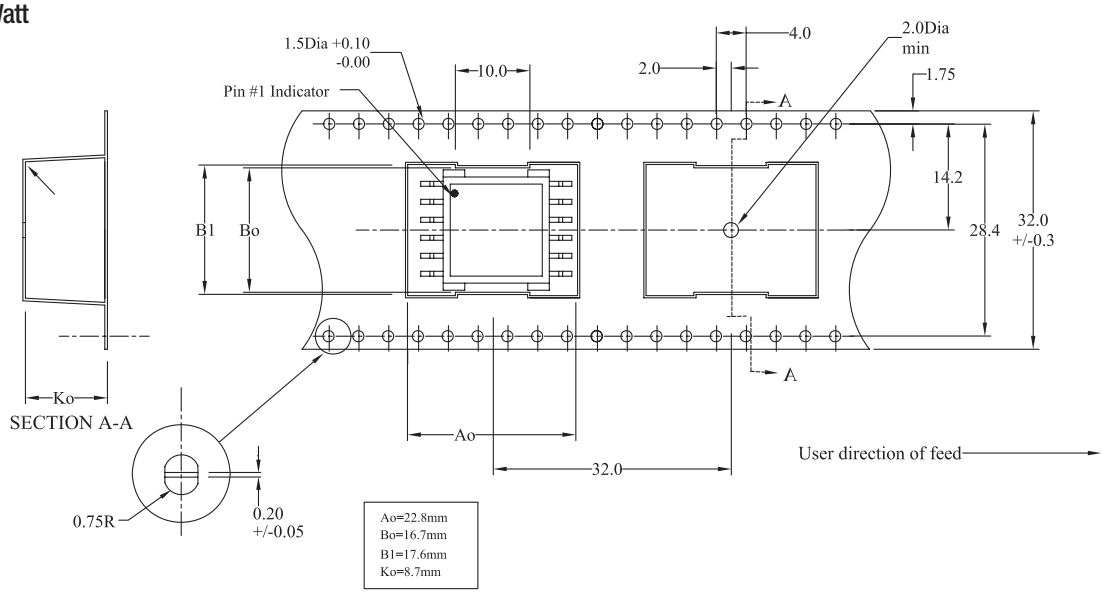


Schematic 3

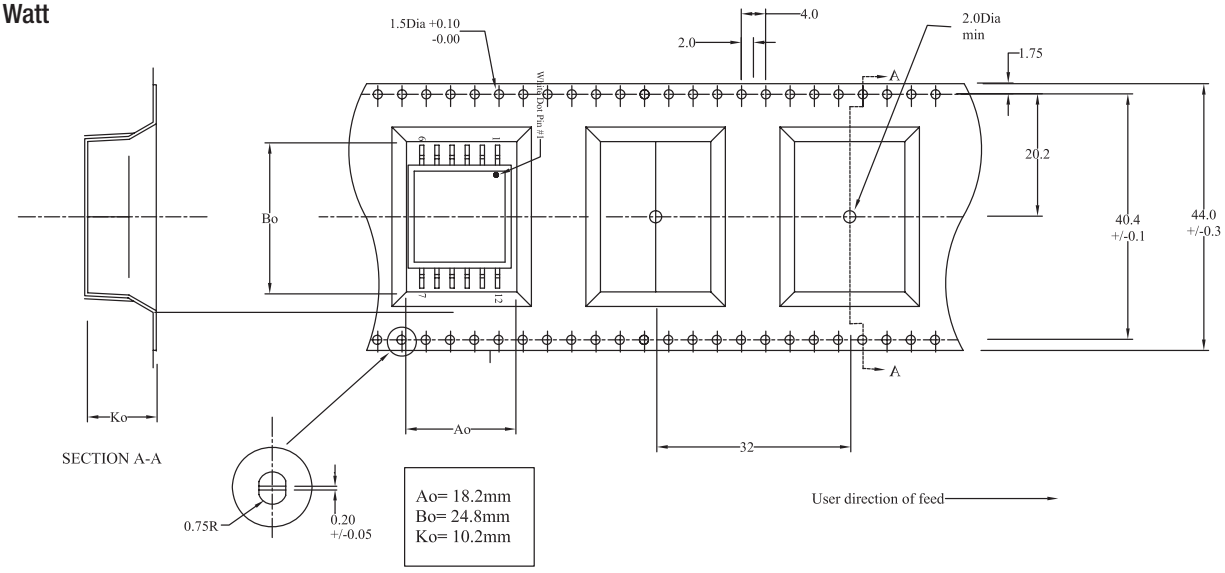


Packaging Information

PoE 4 and 7 Watt



PoE 13 Watt



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