

Single Pair Ethernet Transformers

xBASE-T1 Single Pair Ethernet (SPE) Isolation Modules



HALO® Electronics is pleased to offer small footprint surface mount isolation transformers for xBase-T1, SPE applications.



Transformer Only



Transformer + CMC

This series of transformers meet the IEEE802.3 SPE standards for Return Loss and Common mode to Differential mode Conversion Loss requirements. Galvanic Isolation provides added protection for critical applications. Low frequency Common Mode Rejection performance can be vastly improved with this solution. Typical applications include industrial control/automation, automotive, and avionics.

Available in transformer only packages or transformer with common mode choke.

Transformer Only					
Part Number	Application	Circuit Schematic	Bandwidth	Isolation	Operating Temperature
TG10-T1L8LF	10BASE-T1	A	> 20MHz	3000Vrms	-40/+105°C
TG100-T2L8LF	100BASE-T1	B	> 125MHz	1500Vrms	-40/+105°C
TG1G-T3L8LF	1000BASE-T1	B	> 600MHz	1500Vrms	-40/+105°C
TG2G-AE1L8NL	2.5GBASE-T1	C	> 1GHz	1500Vrms	-40/+125°C

Transformer + Common Mode Choke					
Part Number	Application	Circuit Schematic	Bandwidth	Isolation	Operating Temperature
TG100-35S6LF	100BASE-T1	D	> 125MHz	1500Vrms	-40/+105°C
TG1G-13S6LF	1000BASE-T1	D	> 600MHz	1500Vrms	-40/+105°C

Notes:

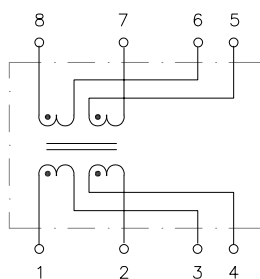
- Electrical Specifications @ 25°C
- Automotive AEC-Q200 versions available on request.
- 5GBASE-T1 and 10GBASE-T1 in design. Contact HALO for more information.
- Detailed datasheet for the TG2G-AE1L8NL requires an NDA.

Click below to view HALO's White Paper discussing the benefits of isolation transformers in SPE applications:

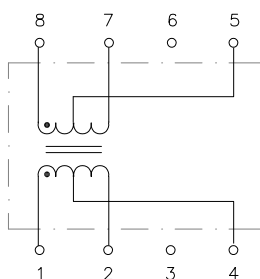
[Immunity from Interference for Single Pair Ethernet \(SPE\) in Noise Environments](#)

HALO Single Pair Ethernet Transformers

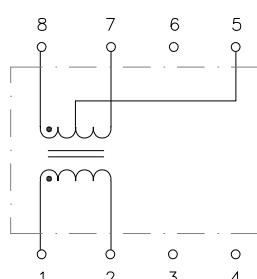
Circuit A



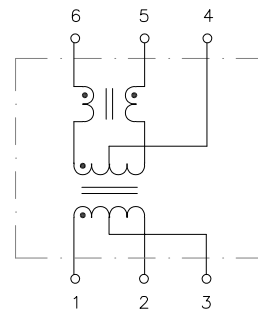
Circuit B



Circuit C

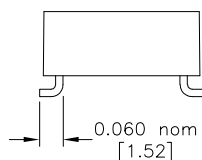
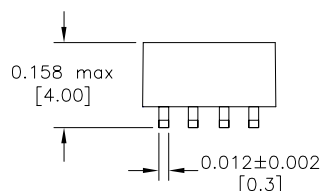
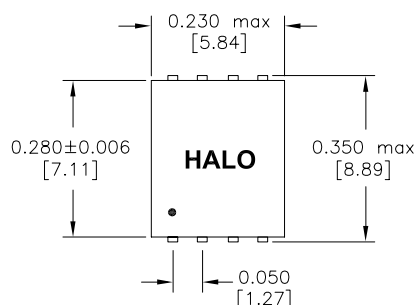


Circuit D

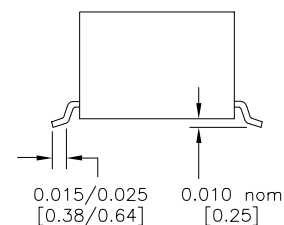
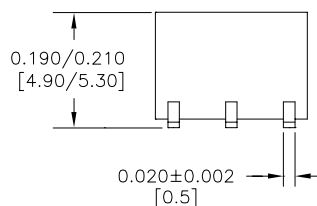
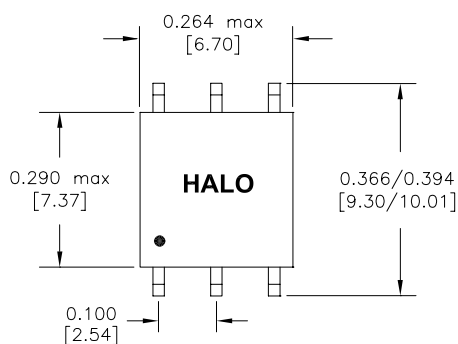


Mechanical

Transformer Only



Transformer + CMC



DIMENSIONS: Inch [mm]
CO-PLANARITY: 0.004 [0.10]
TOLERANCES: +/- 0.005" IF NOT SPECIFIED

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HALO® Electronics is a leading supplier of high quality communication magnetics including signal transformers, filters, CMR chokes, PoE power transformers, DC/DC converters, and integrated Ethernet connectors. HALO's leading edge technology solutions are manufactured in ISO9001 and ISO14001 factories offering high quality products at a competitive price.