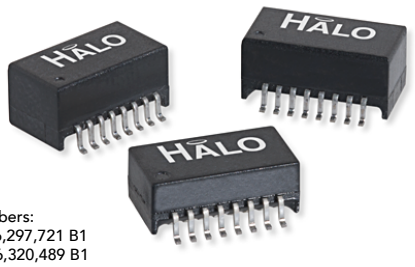
ULTRA™ Family of Transformers

SMD Single Port 10/100BASE-TX Transformer

HALO ELECTRONICS, INC.



US Patent Numbers:
5,656,985 6,297,721 B1
6,297,720 B1 6,320,489 B1
6,344,785 B1 6,662.431 B1

Product Features:

- ULTRA™, E-ULTRA™, and ULTRA-II™
- IEEE802.3u Compliant
- UL/EN60950 Recognized
- 100% Electrical Testing
- 1500Vrms Hi-Pot
- Patented Open Frame Construction

ULTRA™ Part Number	Circuit	Package	Temp. Range	Turns Ratio ±3% (1-3:16-14)	(6-8:11-9)	Cw/w (pF)	PRI LL (µH max)	PRI DCR (Ω max)	RoHS[1]
TG110-S050N2LF	A	N2	0 to 70°C	1CT:1CT	1CT:1CT	35 max	0.4	0.9	Pb-Free
TG110-S050N2RL	A	N2	0 to 70°C	1CT:1CT	1CT:1CT	35 max	0.4	0.9	RoHS (7a)
TG110-S055N2LF	B	N2	0 to 70°C	1CT:1CT	1CT:1CT	35 max	0.4	0.9	Pb-Free
TG110-S055N2RL	B	N2	0 to 70°C	1CT:1CT	1CT:1CT	35 max	0.4	0.9	RoHS (7a)
TG110-S120N2LF	B	N2	0 to 70°C	2CT:1CT	1CT:1CT	30 max	0.9	0.9	Pb-Free
TG110-S120N2RL	B	N2	0 to 70°C	2CT:1CT	1CT:1CT	30 max	0.9	0.9	RoHS (7a)
TG110-S125N2LF	B	N2	0 to 70°C	1CT:1CT	2CT:1CT	30 max	0.4	0.9	Pb-Free
TG110-S125N2RL	B	N2	0 to 70°C	1CT:1CT	2CT:1CT	35 max	0.4	0.9	RoHS (7a)
TG110-S131N2LF	B	N2	0 to 70°C	1.41CT:1CT	1CT:1CT	35 max	0.4	1.5	Pb-Free
TG110-S131N2RL	B	N2	0 to 70°C	1.41CT:1CT	1CT:1CT	35 max	0.4	1.5	RoHS (7a)
TG110-S139N2LF	B	N2	0 to 70°C	1.25CT:1CT	1CT:1CT	15 typ	0.9	0.9	Pb-Free
TG110-S139N2RL	B	N2	0 to 70°C	1.25CT:1CT	1CT:1CT	15 typ	0.9	0.9	RoHS (7a)
TG110-S141N5LF	B	N5	0 to 70°C	1CT:1.41CT	1CT:1CT	35 typ	0.4	0.9	Pb-Free
TG110-S141N5RL	B	N5	0 to 70°C	1CT:1.41CT	1CT:1CT	35 typ	0.4	0.9	RoHS (7a)
TG110-S177N2LF	B	N2	0 to 70°C	1.41CT:1CT	1.41CT:1CT	30 max	0.6	0.9	Pb-Free
TG110-S177N2RL	B	N2	0 to 70°C	1.41CT:1CT	1.41CT:1CT	30 max	0.6	0.9	RoHS (7a)
ULTRA-II™									
TG110-3506N6LF[2]	C	N6	0 to 70°C	1CT:1CT	1CT:1CT	20 typ	0.4	1.3	Pb-Free
TG110-3506N6RL[2]	C	N6	0 to 70°C	1CT:1CT	1CT:1CT	20 typ	0.4	1.3	RoHS (7a)
TG110-S101N6LF[2]	D	N6	0 to 70°C	1CT:1CT	1CT:1CT	20 typ	0.4	1.3	Pb-Free
TG110-S101N6RL[2]	D	N6	0 to 70°C	1CT:1CT	1CT:1CT	20 typ	0.4	1.3	RoHS (7a)

Notes:
1. Pb-Free parts are RoHS 6/6 compliant. RoHS (7a) parts contain lead per exemption 7a which is set to expire in July 2016.
2. Not for use in Auto-MDIX circuits/auto-transformer must be on the TX channel.
3. Parts with RL suffix are not recommended for new designs.
4. Contact the factory or your local representative for individual datasheet or additional information.

For additional information contact your local representative, or HALO's support staff at (650) 903-3800 or info@haloelectronics.com

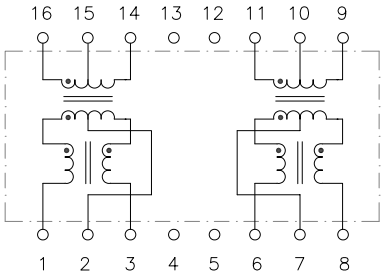
ULTRA™ Family of Transformers

HALO ELECTRONICS, INC.

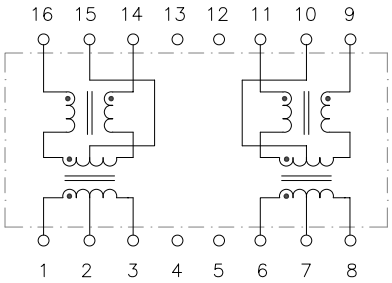
E-ULTRA™ Part Number	Circuit	Package	Temp. Range	Turns Ratio ±3% (1-3:16-14)	Turns Ratio ±3% (6-8:11-9)	PRI/SEC Cw/w (pF)	PRI/SEC LL (µH max)	PRI DCR (Ω max)	RoHS[1]
TG110-E050N5LF	A	N5	-40 to +85°C	1CT:1CT	1CT:1CT	35 max	0.4	1.0	Pb-Free
TG110-E050N5RL	A	N5	-40 to +85°C	1CT:1CT	1CT:1CT	40 max	0.4	1.0	RoHS (7a)
TG110-E055N5LF	B	N5	-40 to +85°C	1CT:1CT	1CT:1CT	35 max	0.4	1.0	Pb-Free
TG110-E055N5RL	B	N5	-40 to +85°C	1CT:1CT	1CT:1CT	40 max	0.4	1.0	RoHS (7a)
TG110-E120N5LF	B	N5	-40 to +85°C	2CT:1CT	1CT:1CT	40 max	0.9	1.3	Pb-Free
TG110-E120N5RL	B	N5	-40 to +85°C	2CT:1CT	1CT:1CT	40 max	0.9	1.3	RoHS (7a)
TG110-E125N5LF	B	N5	-40 to +85°C	1CT:1CT	2CT:1CT	40 max	0.9	1.1	Pb-Free
TG110-E125N5RL	B	N5	-40 to +85°C	1CT:1CT	2CT:1CT	40 max	0.9	1.1	RoHS (7a)
TG110-E139N5LF	B	N5	-40 to +85°C	1.25CT:1CT	1CT:1CT	30 typ	0.4	1.3	Pb-Free
TG110-E139N5RL	B	N5	-40 to +85°C	1.25CT:1CT	1CT:1CT	30 typ	0.4	1.3	RoHS (7a)

Notes:
1. Pb-Free parts are RoHS 6/6 compliant. RoHS (7a) parts contain lead per exemption 7a which is set to expire in July 2016.
2. Parts with RL suffix are not recommended for new designs.
3. Contact the factory or your local representative for individual datasheet or additional information.

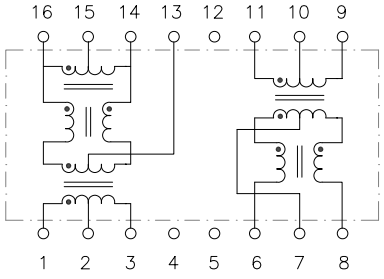
Circuit A



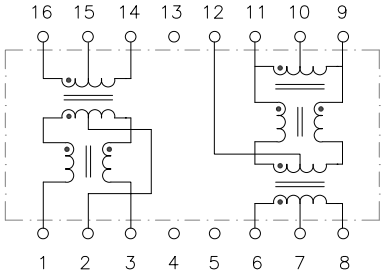
Circuit B



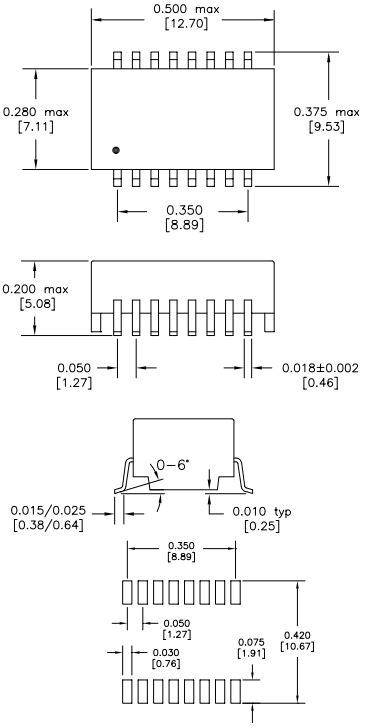
Circuit C



Circuit D

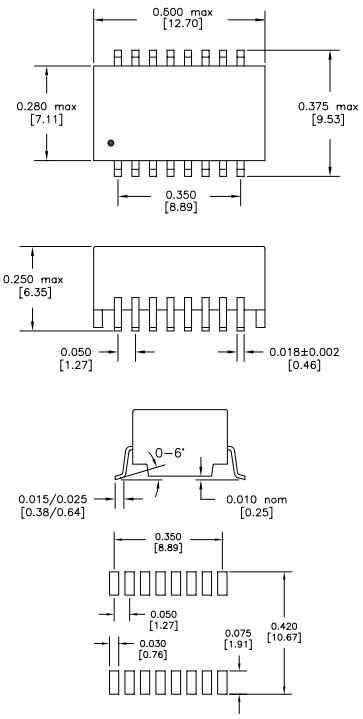


N2 Package



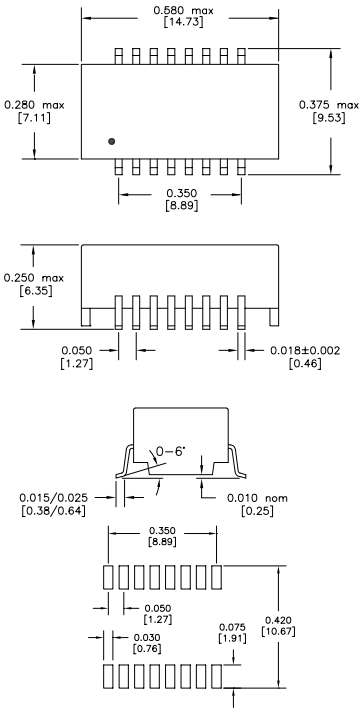
Recommended Solder Pad Dimensions

N5 Package



Recommended Solder Pad Dimensions

N6 Package



Recommended Solder Pad Dimensions

Dimensions: inch [mm]

Co-Planarity: 0.004 [0.10]

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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.

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