Duet™ & Duet+™ Isolation Modules

SMD Dual Port T1/E1 Transformers

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:

- DUET and DUET+ Telecom Transformers
- UL/EN60950 & DEMKO Recognized
- 100% Electrical Testing
- 1500Vrms Hi-Pot
- Patented Open Frame Construction

DUET™		Turns Ratio ±2%		Primary Pins		Cw/w	PRI LL	
Part Number	Circuit	TX	RX	TX	RX	(pF)	(µH max)	RoHS[1]
TG08-1505NZLF	A	1CT:2CT	1CT:2CT	1-3 & 7-9	4-6 & 10-12	35	0.5	Pb-Free
TG08-1505NZRL	A	1CT:2CT	1CT:2CT	1-3 & 7-9	4-6 & 10-12	35	0.5	RoHS (7a)
TG25-1505NZLF	A	1CT:1.26CT	1CT:1.26CT	1-3 & 7-9	4-6 & 10-12	35	0.5	Pb-Free
TG25-1505NZRL	A	1CT:1.26CT	1CT:1.26CT	1-3 & 7-9	4-6 & 10-12	35	0.5	RoHS (7a)
TG26-1505NZLF	A	1CT:2CT	1CT:2CT	1-3 & 10-12	21-19 & 18-16	35	0.5	Pb-Free
TG26-1505NZRL	A	1CT:2CT	1CT:2CT	1-3 & 10-12	21-19 & 18-16	35	0.5	RoHS (7a)
TG27-S004NZLF	A	1CT:1.36CT	1CT:2CT	4-6 & 10-12	24-22 & 18-16	35	0.5	Pb-Free
TG27-S004NZRL	A	1CT:1.36CT	1CT:2CT	4-6 & 10-12	24-22 & 18-16	35	0.5	RoHS (7a)
TG28-1505NZLF	A	1CT:1.36CT	1CT:1CT	4-6 & 10-12	24-22 & 18-16	35	0.5	Pb-Free
TG28-1505NZRL	A	1CT:1.36CT	1CT:1CT	4-6 & 10-12	24-22 & 18-16	35	0.5	RoHS (7a)
TG37-S002NZLF	A	1CT:1.14CT	1CT:1.14CT	4-6 & 10-12	24-22 & 18-16	35	0.5	Pb-Free
TG37-S002NZRL	A	1CT:1.14CT	1CT:1.14CT	4-6 & 10-12	24-22 & 18-16	35	0.5	RoHS (7a)
TG38-1505NZLF	A	1CT:1.15CT	1CT:1.15CT	1-3 & 10-12	4-6 & 7-9	35	0.5	Pb-Free
TG38-1505NZRL	A	1CT:1.15CT	1CT:1.15CT	1-3 & 10-12	4-6 & 7-9	35	0.5	RoHS (7a)
TG42-1505NZLF	A	1CT:1.41CT	1CT:1.41CT	1-3 & 10-12	21-19 & 18-16	35	0.5	Pb-Free
TG42-1505NZRL	A	1CT:1.41CT	1CT:1.41CT	1-3 & 10-12	21-19 & 18-16	35	0.5	RoHS (7a)
TG63-1505NZLF	A	1CT:1.15CT	1CT:2CT	4-6 & 10-12	24-22 & 18-16	35	0.5	Pb-Free
TG63-1505NZRL	A	1CT:1.15CT	1CT:2CT	4-6 & 10-12	24-22 & 18-16	35	0.5	RoHS (7a)
TG63-S002NZLF	A	1CT:1.15CT	1CT:2CT	4-6 & 10-12	1-3 & 7-9	35	0.5	Pb-Free
TG63-S002NZRL	A	1CT:2CT	1CT:1.15CT	4-6 & 10-12	1-3 & 7-9	35	0.5	RoHS (7a)
TG74-1505NZLF	A	1CT:2CT	1CT:1CT	4-6 & 10-12	24-22 & 18-16	35	0.5	Pb- Free
TG74-1505NZRL	A	1CT:2CT	1CT:1CT	4-6 & 10-12	24-22 & 18-16	35	0.5	RoHS (7a)
TG91-1505NZLF	A	1CT:2.4CT	1CT:1CT	1-3 & 10-12	21-19 & 18-16	35	0.5	Pb-Free
TG91-1505NZRL	A	1CT:2.4CT	1CT:1CT	1-3 & 10-12	21-19 & 18-16	35	0.5	RoHS (7a)

Duet™ & Duet+™ Transformers

SMD Dual Port T1/E1 Modules

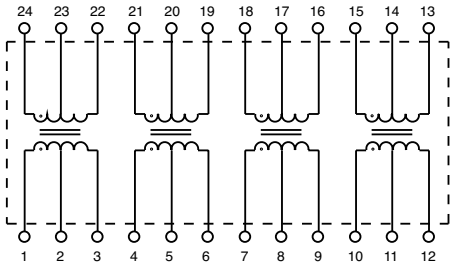
HALO ELECTRONICS, INC.

DUET+™ Part Number	Circuit	Turns Ratio ±2% TX	Turns Ratio ±2% RX	Primary Pins TX	Primary Pins RX	Cw/w (pF)	PRI LL (µH max)	RoHS[1]
TG36-1505NZLF	B	1CT:1.15CT	1CT:1.15CT	4-6 & 10-12	1-3 & 7-9	35	0.5	Pb-Free
TG36-1505NZRL	B	1CT:1.15CT	1CT:1.15CT	4-6 & 10-12	1-3 & 7-9	35	0.5	RoHS (7a)
TG43-1505NZLF	C	1CT:1.41CT	1CT:1.41CT	1-3 & 10-12	21-19 & 18-16	35	0.5	Pb-Free
TG43-1505NZRL	C	1CT:1.41CT	1CT:1.41CT	1-3 & 10-12	21-19 & 18-16	35	0.5	RoHS (7a)
TG48-1505NZLF	B	1CT:2CT	1CT:2CT	4-6 & 10-12	1-3 & 7-9	35	0.5	Pb-Free
TG48-1505NZRL	B	1CT:2CT	1CT:2CT	4-6 & 10-12	1-3 & 7-9	35	0.5	RoHS (7a)
TG75-1505NZLF	B	1CT:2CT	1CT:1CT	4-6 & 10-12	24-22 & 18-16	35	0.5	Pb-Free
TG75-1505NZRL	B	1CT:2CT	1CT:1CT	4-6 & 10-12	24-22 & 18-16	35	0.5	RoHS (7a)
TG85-1505NZLF	C	1CT:2CT	1CT:2CT	1-3 & 10-12	4-6 & 7-9	35	0.5	Pb-Free
TG85-1505NZRL	C	1CT:2CT	1CT:2CT	1-3 & 10-12	4-6 & 7-9	35	0.5	RoHS (7a)
TG85-S002NZLF	C	1CT:2CT	1CT:2CT	1-3 & 10-12	21-19 & 18-16	35	0.5	Pb-Free
TG85-S002NZRL	C	1CT:2CT	1CT:2CT	1-3 & 10-12	21-19 & 18-16	35	0.5	RoHS (7a)
TG93-1505NZLF	B	1CT:2.42CT	1CT:2.42CT	4-6 & 10-12	1-3 & 7-9	35	0.5	Pb-Free
TG93-1505NZRL	B	1CT:2.42CT	1CT:2.42CT	4-6 & 10-12	1-3 & 7-9	35	0.5	RoHS (7a)
TG97-1505NZLF	B	1CT:1.36CT	1CT:2CT	4-6 & 10-12	24-22 & 18-16	35	0.5	Pb-Free
TG97-1505NZRL	B	1CT:1.36CT	1CT:2CT	4-6 & 10-12	24-22 & 18-16	35	0.5	RoHS (7a)
TG98-1505NZLF	B	1CT:1.36CT	1CT:1CT	4-6 & 10-12	24-22 & 18-16	35	0.5	Pb-Free
TG98-1505NZRL	B	1CT:1.36CT	1CT:1CT	4-6 & 10-12	24-22 & 18-16	35	0.5	RoHS (7a)
TGSP-S225NZLF	C	1CT:2.4CT	1CT:1CT	1-3 & 10-12	21-19 & 18-16	35	0.5	Pb-Free
TGSP-S225NZRL	C	1CT:2.4CT	1CT:1CT	1-3 & 10-12	21-19 & 18-16	35	0.5	RoHS (7a)
TGSP-S281NZLF	B	1CT:1.15CT	1CT:2CT	4-6 & 10-12	1-3 & 7-9	35	0.5	Pb-Free
TGSP-S281NZRL	B	1CT:1.15CT	1CT:2CT	4-6 & 10-12	1-3 & 7-9	35	0.5	RoHS (7a)

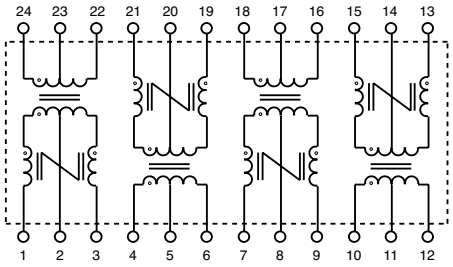
Notes:
1. Pb-Free parts are RoHS 6/6 compliant. RoHS (7a) parts contain lead per exemption 7a which is set to expire in July 2016.
2. Parts with RL suffix are not recommended for new designs.
3. Contact the factory or your local representative for individual datasheet or additional information.

HALO DUET™ and DUET™ Telecom Transformers

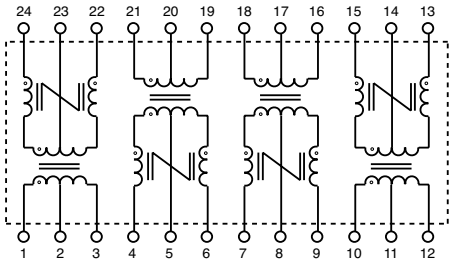
Circuit A



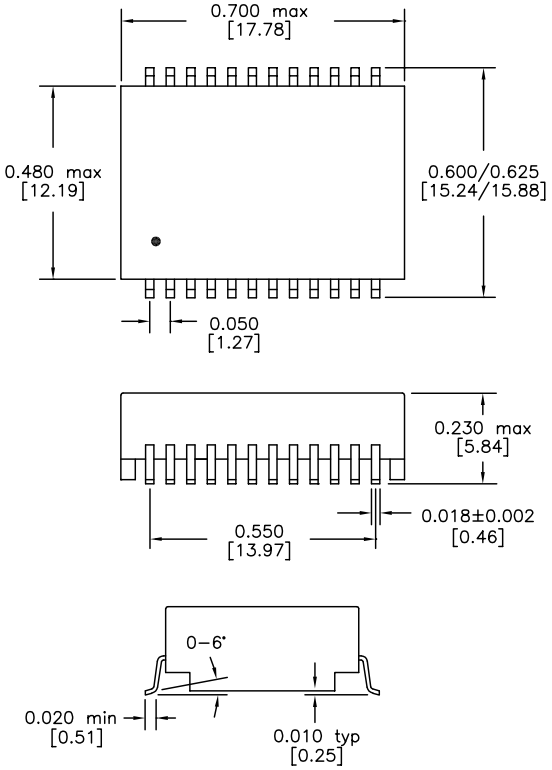
Circuit B

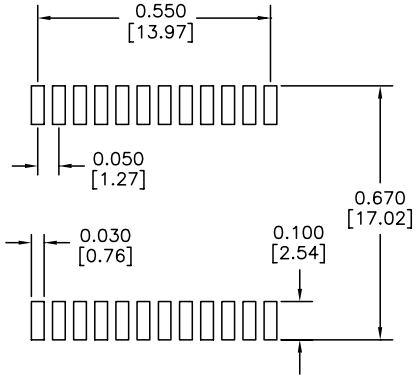


Circuit C



NZ Package





Recommended Solder Pad Dimensions

Co-Planarity: 0.004 [0.10]

Dimensions: inch [mm]

HALO ELECTRONICS, INC.

2880 Lakeside Drive #116
Santa Clara, CA 95054
(650) 903-3800
www.haloelectronics.com

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