

Visit <http://pulseelectronics-milaero.com/> for the most current information about Mil-Aero products and capabilities. Mil-Aero quality certificate, RoHS directive compliance and registration with DSCC are available on our website.



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The European Directives WEEE/RoHS became law on February 13, 2003. Member states had to implement the legislation by August 13, 2004, ensuring that, by July 1, 2006, new electrical and electronic equipment placed on the market did not contain Lead (Pb) or any of the identified restricted hazardous substances such as Mercury (Hg), Cadmium (Cd), Hexavalent Chromium (Cr VI), Polybrominated Biphenyls (PBB), and Polybrominated Diphenyl Ethers (BDE).

To achieve compliance to lead-free product requirements, Pulse has adopted the use of lead-free alloys using tin with greater than 95% content including 100% Tin (Sn), Tin-Silver (Sn-Ag), Tin-Copper (Sn-Cu), and Tin-Silver-Copper (Sn-Ag-Cu) solder chemistries. Pulse lead-free products adopting the Sn100 configuration for final lead tinning are compatible with current solder reflow processes. Pulse categorizes "lead-free" and lead exemptions (6a, 6b, 7b, 7c) under "RoHS". Customers, on a product-by-product basis, may request and direct the change to a RoHS compliant product (lead-free or exempted). Pulse RoHS compliant products have the suffix "NL" (or "NLT" for tape-and-reel) added to the base part number. The non-RoHS product configuration maintains the base part number with no suffix.

This catalog contains only summary product information, designed to aid the customer in selecting Pulse Mil/Aero Products. Please consult the referenced data sheets and/or contact information for complete electrical and mechanical performance, as well as warranty information. Data is subject to change without notice. Pulse and Copperhead™ logos are registered trademarks of Pulse Electronics, Inc. Other brand and product names, mentioned herein, may be trademarked or registered trademarks of their respective owners.



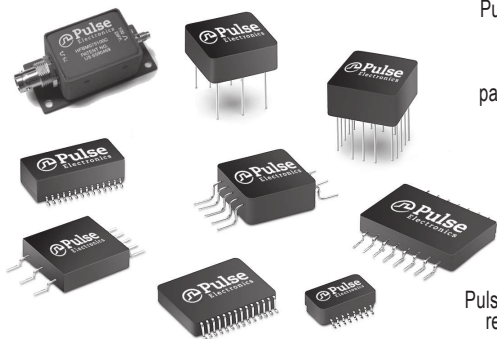
 **Pulse**
Electronics
MILITARY & AEROSPACE

www.pulseelectronics-milaero.com

SPECIALTY COMPONENTS
CATALOG



MILITARY/AEROSPACE SIGNAL PRODUCTS



Pulse Electronics is the leading manufacturer of magnetic components with 70 years experience, originally founded as Technitrol in 1947.

Pulse offers catalog and custom designs including a comprehensive range of high performance solutions and packaging options for QPL and non-QPL MIL-STD-1553 interface transformers, Data Bus Couplers, Baluns, Wideband Transformers and Delay Lines. Pulse Electronics offers custom and catalog magnetics ruggedized for Military, MIL-PRF-21038, MIL-STD-981 and High Reliability applications.

Pulse Electronics has a full line of high speed transformers supporting Ethernet IEEE802.x, AFDX systems, SMPTE Serial Video, Fibre Channel and IEEE1394b applications.

A unique line of Line Interface Transceivers supports a wide range of cable impedances and data rates up to 3Gbps. Parts meet requirements and widely used on F-35 & F-22 Fighter Jets and Orion Space program.

Pulse continues to offer tin/lead termination finishes for Military, Space and Aerospace applications requiring the highest reliability. Parts can also be purchased with pure tin lead finishes where RoHS and REACH compliance are required.

Pulse Electronics offers complete design support, qualification test services and global AS9100 manufacturing capabilities.

Copperhead™ Series Transceiver Line Interface Modules - Active

High Speed Data and Communications over 100+ Meters of Copper

- | Military temperature range -55°C to +125°C
- | Low transmit/receive jitter
- | Low power dissipation; 450 mW typical
- | ECL logic interface
- | 1500V Isolation Voltage
- | Surface mount – pick-and-place compatible
- | Withstands infrared and vapor phase soldering 225°MAX Temperature

Ordering Information

TM	531	D	S	A	1	(XX)	
						(XX)	Customer product designator
						blank	No transmit driver
					1		1100 mV output transmit driver and military temperature range
					2		1100 mV output transmit driver and industrial temperature range
					5		Active cable equalizer circuit
				A			5.00 Volt
				B			3.30 Volt
			S				Impedance matched for STP and Twinax (150 Ω)
			U				Impedance matched for Unshielded Twisted Pair (100 Ω)
			V				Impedance matched for Video and Mini-Coax (75 Ω)
			C				Impedance matched for Coax (50 Ω)
		D					Gull wing, DIP, 28-pin package: 0.800"L x 0.400"W x 0.200"H
		F					Gull wing, flatpack, 28-pin package: 0.760"L x 0.610"W x 0.125"H
		H					Gull wing, half-DIP, 16-pin package: 0.300"L x 0.500"W x 0.250"H
	133						132.8125 Mbaud version, 1/8 Speed Fibre Channel/ATM
	266						265.625 Mbaud version, 1/4 Speed Fibre Channel
	531						531.25 Mbaud version, 1/2 Speed Fibre Channel
	1062						1.0625 Gbaud version, Full Speed Fibre Channel
	1250						1.250 Gbaud version, Gigabit Ethernet (both short haul and long haul)
	1485						1.485 Gbaud version, SMPTE
	2125						2.125 Gbaud Double Speed Fiber Channel

Copperhead™ High Speed Dual Transformers

Part Number	Package L/W/H (in.)	Turns Ratio (±5%)	Primary Inductance (μH MIN)**	Rise Time (ps MAX @ 20-80%)	DC Resistance (Ω MAX)	Hipot (Vrms MIN)	Insertion Loss (dB MAX)	Application Nominal Bit Rate (Mbps/sec)
T-330SCT	.500/.435/.180	1CT:1CT	26.0	350	0.2	1500	-1.5 (15-165 MHz)	265.625 (quarter speed)
T-531SCT	.500/.435/.180	1CT:1CT	7.50	325	0.2	1500	-2.0 (50-265 MHz)	531 (half speed)
T-1062SCT	.500/.435/.180	1CT:1CT	3.75	280	0.2	1500	-2.0 (100-625 MHz)	1062.50 (full speed)
T-1250SCT	.500/.435/.180	1CT:1CT	3.75	280	0.2	1500	-2.0 (100-625MHz)	1250
T-1485SCT	.500/.435/.180	1CT:1CT	3.75	280	0.2	1500	-2.0 (200-748MHz)	1485 (SMPTE)
T-3200SCT	.500/.375/.235	1CT:1CT	0.70	200	0.2	1500	-4.50 (500-1600MHz)	3200

1. Web: <http://www.pulseelectronics-milaero.com> home page, click on "PRODUCT FINDER" and enter the part number.

2. Dual Transformers designed specifically for Point-to-Point Communication using STP, QUADRAx or TWINAX cable (comparable with 50,75,100 & 150Ω cable)

3. Applications: Fibre Channel, Gigabit Ethernet, SONET, HDTV, IEEE 1394B, SMPTE.

4. Parts can be ordered RoHS by adding a suffix "NL" to the part number (i.e. T-330SCTNL).

5. Tape&Reel packaging is available by adding a suffix "T" to the part number (i.e. T-330SCTT)

** Measured @ 1.0Vrms, 100KHz

Application Notes: These isolation transformers protect the station from static charges that may develop on the cable and prevent ground loop currents from being transferred between stations. They have also been designed to provide common mode rejection within the transmission band, reducing EMI.

MILITARY/AEROSPACE SIGNAL PRODUCTS

IEEE 1394B FIREWIRE TRANSCEIVER LINE

Part Number	Transmitter/Receiver Data Rate (Mb/s)		Transmit Differential Signal Level - Vout (mV)			Total Power Dissipation (mW)	Receive Turns Ratio	Receive Primary Inductance - Lm (uH)	Receive Insertion Loss (dB)	Return Loss (dBMIN)	Package L/W/H (in.)	Data Sheet	IEEE 1394B Speed
	MIN	MAX	MIN	TYP	MAX								
TM1062TXDUA	246	1062	1200	1300	1500	232	1:1	4.5	-2	-12	.800 / .400 / .200	M103	S200-S800
TM1062TXHUA	246	1062	1200	1300	1500	232	1:1	4.5	-2	-12	.510 / .300 / .140	M103	S200-S800
TM1062TX3DUA	246	1062	1200	1300	1500	700	1:1	4.5	-2	-12	.800 / .400 / .185	M103	S200-S800
TM125TXHUA	98	246	1200	1300	1500	232	1:1	40	-2	-12	.510 / .300 / .140	M186	S100-S200
TM1062DUXB	246	1062	1200	1300	1500	232	1:1	4.5	-2	-12	.800 / .400 / .200	M186	S200-S800
TM1062HUXB	246	1062	1200	1300	1500	232	1:1	4.5	-2	-12	.510 / .300 / .140	M186	S200-S800

Note: Parts listed on datasheet M103 are manufactured in the United States; Datasheet M186 contains part manufactured in China.

HIGH FREQUENCY BALUN ADAPTORS

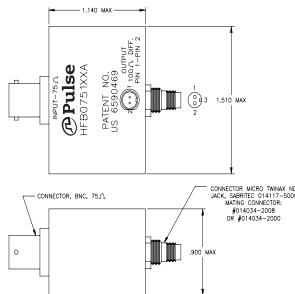
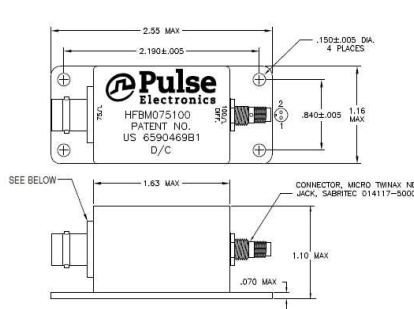
Part Number	Impedance Unbalanced (Ω)	Impedance Balanced (Ω)	Insertion Loss dB MAX 1.485GBs	Jitter Dj pSec. MAX 1.485GBs	Datasheet
HFBM075100C*	75	100	-2.0	110.0	M147
HFBM075100S*	75	100	-2.0	110.0	M305
HFB075100A	75	100	-2.0	110.0	M146
HFB075100B	75	100	-2.0	110.0	M146
HFBM075100D	75	100	-2.0	110.0	M283

Transforms 100Ω balanced differential signal to 75Ω, Grounded unbalanced signal. Designed for SMPTE-292M HDTV application at 1.485GBs data rate.

*Designed for M21038 Environmental, EMI requirements.

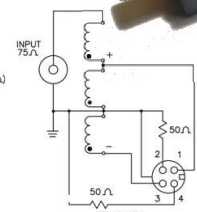
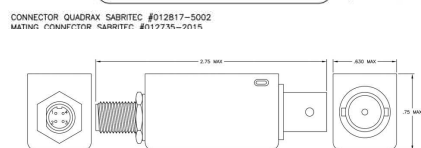
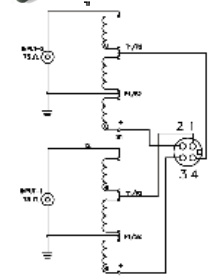
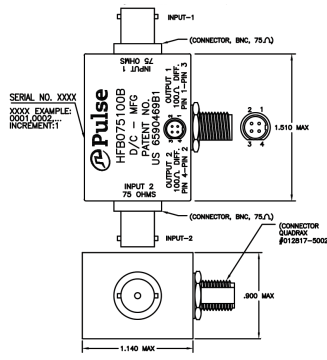
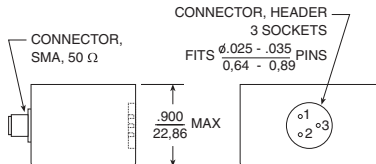
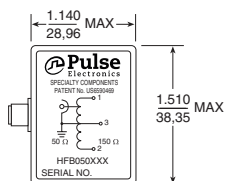
Part Number	Impedance Unbalanced (Ω)	Impedance Balanced (Ω)	Insertion Loss dB MAX 1.485GBs	Return Loss (dB MIN) 1.0MHz - 1.2 GHz	Datasheet
HFB050150	50	150	-2	15	M100
HFB050100	50	100	-2	15	M100
HFB050078	50	78	-2	15	M100

Transforms a balanced differential signal to a 50Ω, grounded, unbalanced signal for testing different cable. Designed for standard test equipment with SMA connectors. Wide bandwidth- 1.0MHz - 1.2GHz



Connectors: HFBM075100C - Triax 75Ω, Trompeter BJ770

Connectors: HFBM07500S - BNC

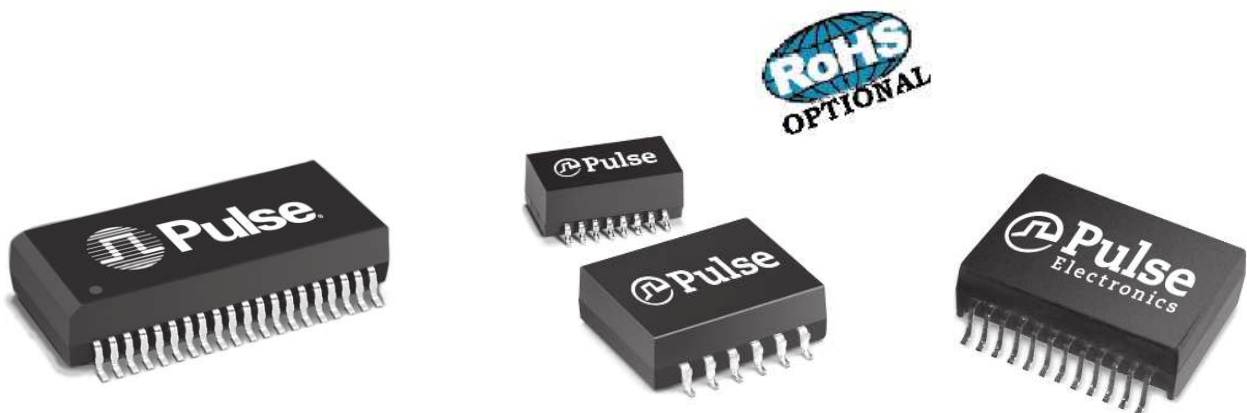


MILITARY/AEROSPACE SIGNAL PRODUCTS

HIGH SPEED DATA TRANSFORMER							
T1/E1/CEPT/ISDN-PRI SMT TRANSFORMER							
Part Number	Turns Ratio Pri: Sec: $\pm 2\%$	OCL Pri@25 deg C (mH MIN)	C _{ww} (pf MAX)	DCR Pri (Ω MAX)	Primary Pins	Package L/W/H (in.)	Datasheet
PL1374	1CT:1CT	1.2	35	.8	1-3	.300 / .275 / .250	M119

MILITARY/AEROSPACE ETHERNET/AFDX							
10/100							
Number of Ports	Part Number	Turns Ratio	Configuration-		Style	Package Size L/W/H (in.)	Data Sheet
			RX	TX			
Single	100B-1001	1CT:1CT	T,C	T,C,S	12-pin SMT	.630/.470/.200	M101
	100B-1001X	1CT:1CT	T,C	T,C,S	12-pin SMT	.630/.470/.200	M101
	100B-1001F	1CT:1CT	T,C	T,C,S	12-pin SMT	.630/.470/.200	M101
	100B-1001FX	1CT:1CT	T,C	T,C,S	12-pin SMT	.630/.470/.200	M101
	100B-1003	1CT:1CT	T,C	T,C	16-pin SMT	.500/.265/.235	M101
	100B-1003X	1CT:1CT	T,C	T,C	16-pin SMT	.500/.265/.235	M101
	100B-1018	1CT:1CT	T,C	T,C,S	12-pin SMT	.583/.470/.180	M189
	100B-1018X	1CT:1CT	T,C	T,C,S	12-pin SMT	.583/.470/.180	M189
	100B-1027	1CT:1CT	T,C	T,C,S	16-pin SMT	1.00/.390/.235	M197
	100B-1027X	1CT:1CT	T,C	T,C,S	16-pin SMT	1.00/.390/.235	M197
Dual	100B-2002	1CT:1CT	T, C	T,C	24-pin SMT	.518/.595/.241	M110
	100B-2002X	1CT:1CT	T, C	T,C	24-pin SMT	.518/.595/.241	M110
	100B-2002F	1CT:1CT	T, C	T,C	24-pin SMT	.518/.595/.241	M110
	100B-2002FX	1CT:1CT	T, C	T,C	24-pin SMT	.518/.595/.241	M110
Quad	100B-4005	1CT:1CT	T,C	T,C	40-pin SMT	1.125/.480/.280	M203
	100B-4005X	1CT:1CT	T,C	T,C	40-pin SMT	1.120/.480/.280	M203
	100B-4005F	1CT:1CT	T,C	T,C	40-pin SMT	1.125/.480/.280	M203
	100B-4005FX	1CT:1CT	T,C	T,C	40-pin SMT	1.120/.480/.280	M203
	100B-4009	1CT:1CT	T,C	T,C	40-pin SMT	1.125/.480/.280	M190
	100B-4009X	1CT:1CT	T,C	T,C	40-pin SMT	1.125/.480/.280	M190
	100B-4009F	1CT:1CT	T,C	T,C	40-pin SMT	1.125/.480/.280	M190
	100B-4009FX	1CT:1CT	T,C	T,C	40-pin SMT	1.125/.480/.280	M190
	100B-4011	1CT:1CT	T,C	T,C	40-pin SMT	1.125/.480/.280	M151
	100B-4011X	1CT:1CT	T,C	T,C	40-pin SMT	1.125/.480/.280	M151
	100B-4011F	1CT:1CT	T,C	T,C	40-pin SMT	1.125/.480/.280	M151
	100B-4011FX	1CT:1CT	T,C	T,C	40-pin SMT	1.125/.480/.280	M151

1. Web: <http://www.pulseelectronics-milaero.com> home page, click on "PRODUCT FINDER" and enter the part number.
2. Parts can be ordered Non-Lead by adding "NL" to the part number (e.g. 100B-1001FNL).
3. For Tape & Reel packaging, add the suffix "T" to the part number when ordering (i.e. 100B-4009FXT)
4. T = Transformer, C = Choke, S = Shunt inductor, SMT = 50 mil pitch leads
5. Standard Operating Temperature: -40°C to +85°C
6. Extended Operating Temperature (X): -55°C to +125°C



MILITARY/AEROSPACE SIGNAL PRODUCTS

MILITARY/AEROSPACE ETHERNET/AFDX

10/100/1000

Number of Ports	Part Number	Turns Ratio	Configuration		Style	Package Size L/W/H (in.)	Data Sheet
			RX	TX			
SINGLE	1000B-5001	1CT:1CT	T, C, S	T, C, S	24-pin SMT	.695/.635/.230	M106
	1000B-5001X	1CT:1CT	T, C, S	T, C, S	24-pin SMT	.695/.635/.230	M106
	1000B-5001F	1CT:1CT	T, C, S	T, C, S	24-pin SMT	.630/.635/.230	M106
	1000B-5001FX	1CT:1CT	T, C, S	T, C, S	24-pin SMT	.630/.635/.230	M106
	1000B-5002	1CT:1CT	T, C	T, C	24-pin SMT	.630/.635/.230	M106
	1000B-5002X	1CT:1CT	T, C	T, C	24-pin SMT	.630/.635/.230	M106
	1000B-5002F	1CT:1CT	T, C	T, C	24-pin SMT	.630/.635/.230	M106
	1000B-5002FX	1CT:1CT	T, C	T, C	24-pin SMT	.630/.635/.230	M106
	1000B-5009	1CT:1CT	T	T	24-pin SMT	.600/.430/.340	M160
	1000B-5009X	1CT:1CT	T	T	24-pin SMT	.600/.430/.340	M160
	1000B-5010 (PoE)	1CT:1CT	T, C, S	T, C, S	24-pin SMT	.695/.635/.230	M290
	1000B-5010X (PoE)	1CT:1CT	T, C, S	T, C, S	24-pin SMT	.695/.635/.230	M290
	1000B-5016	1CT:1CT	T	T	24-pin SMT	.600/.300/.163	M160
	1000B-5016X	1CT:1CT	T	T	24-pin SMT	.600/.300/.163	M160
	1000B-5027 (PoE)	1CT:1CT	T, C, S	T, C, S	24-pin SMT	.700/.620/.185	M238
	1000B-5027X (PoE)	1CT:1CT	T, C, S	T, C, S	24-pin SMT	.700/.620/.185	M238
	1000B-5029	1CT:1CT	T, C	T, C	24-pin SMT	.700/.620/.185	M285
	1000B-5029X	1CT:1CT	T, C	T, C	24-pin SMT	.700/.620/.185	M285
DUAL	1000B-5003	1CT:1CT	T, C	T, C	50-pin SMT	1.100/.430/.340	M106
	1000B-5003X	1CT:1CT	T, C	T, C	50-pin SMT	1.100/.430/.340	M106
	1000B-5003F	1CT:1CT	T, C	T, C	50-pin SMT	1.100/.430/.340	M106
	1000B-5003FX	1CT:1CT	T, C	T, C	50-pin SMT	1.100/.430/.340	M106
	1000B-5014	1CT:1CT	T, C, S	T, C, S	48-pin SMT	1.100/.610/.290	M160
	1000B-5014X	1CT:1CT	T, C, S	T, C, S	48-pin SMT	1.100/.610/.290	M160
	1000B-5020	1CT:1CT	T, C	T, C	48-pin SMT	1.100/.610/.290	M286
	1000B-5020X	1CT:1CT	T, C	T, C	48-pin SMT	1.100/.610/.290	M286

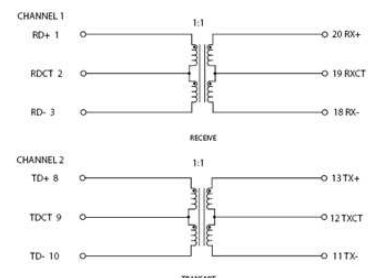
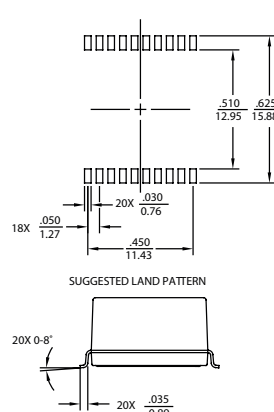
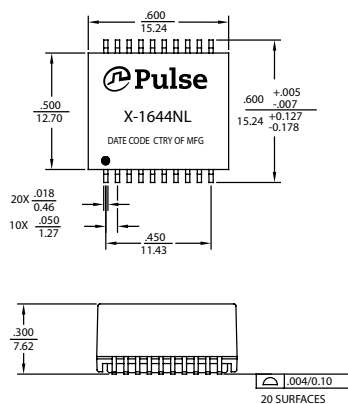
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2. Parts can be ordered Non-Lead by adding "NL" to the part number (i.e. 1000B-5003NL).
3. For Tape & Reel packaging, add the suffix "T" to the part number when ordering (i.e. 1000B-5002FXT).
4. T = Transformer, C = Choke, S = Shunt inductor
5. Standard Operating Temperature: -40°C to +85°C
6. Extended Operating Temperature (X): -55°C to +125°C

PoE = Power over Ethernet Per IEEE 802.3af, 15W



High Isolation Ethernet (10KV)

Part Number	Insertion Loss (dB MAX)				Return Loss (dB MIN)						Crosstalk (dB MIN)				Differential to Common Mode Rejection (dB MIN)			
	0.1-30 MHz	60 MHz	80 MHz	100 MHz	5 MHz	30 MHz	50 MHz	60 MHz	80 MHz	100 MHz	1 MHz	30 MHz	60 MHz	100 MHz	30 MHz	60 MHz	100 MHz	200 MHz
X-1644NL	-1	-2	-2.5	-3.5	-18	-9	-6	-5	-3	-2	-45	-30	-27	-25	-36	-32	-30	-25



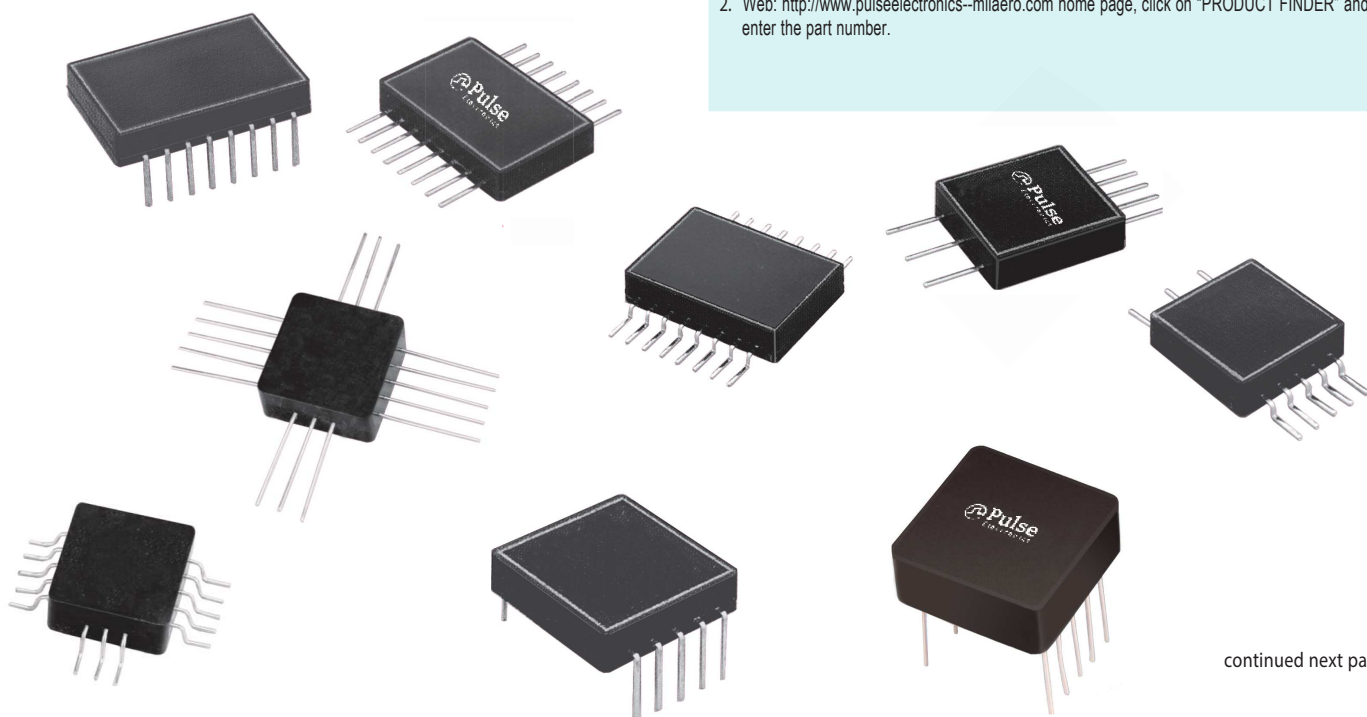
MILITARY/AEROSPACE SIGNAL PRODUCTS

MIL-STD-1553 INTERFACE TRANSFORMERS

Non-QPL

Part Number	Turns Ratio (±3%)	Impedance (Ω MIN)	Package L/W/H (in.)	Data Sheet	Part Number	Turns Ratio (±3%)	Impedance (Ω MIN)	Package L/W/H (in.)	Data Sheet
FL1553-1	1CT:1CT/1CT:707CT	4,000	.630/.630/.155	M227	STQ1553-2	1.4CT:1CT/2CT:1CT	7,200	.630/.630/.340	M230
GL1553-1	1CT:1CT/1CT:707CT	4,000	.630/.630/.155	M227	STQ1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.630/.630/.340	M230
TL1553-1	1CT:1CT/1CT:707CT	4,000	.630/.630/.155	M226	STQ1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.630/.630/.340	M230
FL1553-2	1.4CT:1CT/2CT:1CT	7,200	.630/.630/.155	M227	STQ1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.630/.630/.340	M230
GL1553-2	1.4CT:1CT/2CT:1CT	7,200	.630/.630/.155	M227	SFQ1553-1	1CT:1CT/1CT:707CT	4,000	.630/.630/.340	M231
TL1553-2	1.4CT:1CT/2CT:1CT	7,200	.630/.630/.155	M226	SGQ1553-1	1CT:1CT/1CT:707CT	4,000	.630/.630/.340	M231
FL1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.630/.630/.155	M227	SFQ1553-2	1.4CT:1CT/2CT:1CT	7,200	.630/.630/.340	M231
GL1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.630/.630/.155	M227	SGQ1553-2	1.4CT:1CT/2CT:1CT	7,200	.630/.630/.340	M231
TL1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.630/.630/.155	M226	SFQ1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.630/.630/.340	M231
FL1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.630/.630/.155	M227	SGQ1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.630/.630/.340	M231
GL1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.630/.630/.155	M227	SFQ1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.630/.630/.340	M231
TL1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.630/.630/.155	M226	SGQ1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.630/.630/.340	M231
FL1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.630/.630/.155	M227	SFQ1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.630/.630/.340	M231
GL1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.630/.630/.155	M227	SGQ1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.630/.630/.340	M231
TL1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.630/.630/.155	M226	SLQG1553-1	1CT:1CT/1.4CT:1CT	4,000	.630/.630/.280	M234
DFL1553-1	1CT:1CT/1CT:707CT	4,000	.930/.630/.155	M229	SLQG1553-2	1.4CT:1CT/2CT:1CT	7,200	.630/.630/.280	M234
DGL1553-1	1CT:1CT/1CT:707CT	4,000	.930/.630/.155	M229	SLQG1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.630/.630/.280	M234
DTL1553-1	1CT:1CT/1CT:707CT	4,000	.930/.630/.155	M228	SLQG1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.630/.630/.280	M234
DFL1553-2	1.4CT:1CT/2CT:1CT	7,200	.930/.630/.155	M229	SLQG1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.630/.630/.280	M234
DGL1553-2	1.4CT:1CT/2CT:1CT	7,200	.930/.630/.155	M229	SLQT1553-1	1CT:1CT/1.4CT:1CT	4,000	.630/.630/.280	M234
DTL1553-2	1.4CT:1CT/2CT:1CT	7,200	.930/.630/.155	M228	SLQT1553-2	1.4CT:1CT/2CT:1CT	7,200	.630/.630/.280	M234
DFL1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.930/.630/.155	M229	SLQT1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.630/.630/.280	M234
DGL1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.930/.630/.155	M229	SLQT1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.630/.630/.280	M234
DTL1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.930/.630/.155	M228	SLQT1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.630/.630/.280	M234
DFL1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.930/.630/.155	M229	X-1584	1CT:1.79CT	3,000	.500/.350/.172	M157
DGL1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.930/.630/.155	M229	X-1596	1CT:2.5CT	3,000	.500/.350/.172	M157
DTL1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.930/.630/.155	M228	Q1553-70*	1CT3CT/1CT2.15CT	4,000	.625/.625/.250	M128
DFL1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.930/.630/.155	M229	SMQ1553-70*	1CT3CT/1CT2.15CT	4,000	.625/.625/.250	M128
DGL1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.930/.630/.155	M229	GL1553-71*	1CT3.54CT/1CT2.50CT	4,000	.630/.630/.155	M128
DTL1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.930/.630/.155	M228	DGL1553-71*	1CT3.54CT/1CT2.5CT	4,000	.930/.630/.155	M128
STQ1553-1	1CT:1CT/1CT:707CT	4,000	.630/.630/.340	M230	TQ1553-71*	1CT3.54CT/1CT2.5CT	4,000	.625/.625/.250	M128

1. Designed and built to conform to MIL-PRF-21038/27 requirements.
2. Web: <http://www.pulseelectronics-milaero.com> home page, click on "PRODUCT FINDER" and enter the part number.



continued next page

MILITARY/AEROSPACE SIGNAL PRODUCTS

MIL-STD-1553 (continued)

Non-QPL, Low Profile and Stacked (continued)

Part Number	Turns Ratio (± 3%)	Impedance (Ω MIN)	Package L/W/H (in.)	Data Sheet
SLQF1553-1	1CT:1CT/1.4CT:1CT	4,000	.630/.630/.280	M234
SLQF1553-2	1.4CT:1CT/2CT:1CT	7,200	.630/.630/.280	M234
SLQF1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.630/.630/.280	M234
SLQF1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.630/.630/.280	M234
SLQF1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.630/.630/.280	M234

1. Designed and built to conform to MIL-PRF-21038/27
2. Web: <http://www.pulseelectronics-milaero.com> home page, click on "PRODUCT FINDER" and enter the part number.

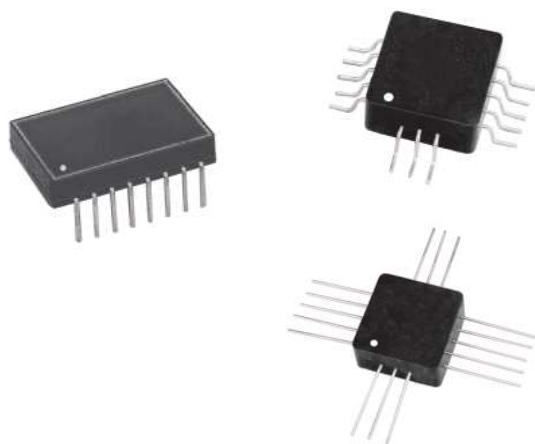
Interface Transformers — COTS Series

Part ² Number	Turns Ratio (±3%)	Impedance (Ω MIN)	Package L/W/H in.	Data Sheet
(X)1553-1	1CT:1CT/1CT:707CT	4,000	.625/.625/.250	M233
(X)1553-2	1.4CT:1CT/2CT:1CT	7,200	.625/.625/.250	M233
(X)1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.625/.625/.250	M233
(X)1553-5	1CT:2.12CT/1.5CT:1CT	4,000	.625/.625/.250	M233
(X)1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.625/.625/.250	M233

1. Designed and built to conform to MIL-PRF-21038/27
2. Prefix/Operating Temperature: C/0°C to +70°C; N/-40°C to +85°C; TQ/-55°C to +125°C
3. Web: <http://www.pulseelectronics-milaero.com> home page, click on "PRODUCT FINDER" and enter the part number.

Interface Transformers — Low Profile Miniature Series

Part Number	Turns Ratio (±3%)	Impedance (Ω MIN)	Package (L/W/H) in.	Data Sheet
SMG1553-60	1.25CT:1CT	4,000	.400/.400/.185	M112
SMG1553-61	1.66CT:1CT	4,000	.400/.400/.185	M112
SMG1553-65	1CT:2.5CT	4,000	.400/.400/.185	M112
SMG1553-66	1CT:1.79CT	4,000	.400/.400/.185	M112
SMG1553-67	1CT:2.7CT	4,000	.400/.400/.185	M112
SMG1553-68	1CT:3.75CT	4,000	.400/.400/.185	M112



QPL Series — Qualified to MIL-PRF-21038/27

Part Number	Military Designation Number	Turns Ratio (±3%)	Impedance (Ω MIN)	Package L/W/H (in.)	Data Sheet
Q1553-20	M21038/27-05	1:1.41	3,000	.500/.350/.250	M223
Q1553-21	M21038/27-06	1CT:1CT	3,000	.500/.350/.250	M223
Q1553-22	M21038/27-07	1CT:1.41CT	3,000	.500/.350/.250	M223
Q1553-23	M21038/27-08	1CT:1.66CT	3,000	.500/.350/.250	M223
Q1553-24	M21038/27-09	1CT:2CT	3,000	.500/.350/.250	M223
Q1553-25	M21038/27-28	1CT:1.5CT	3,000	.500/.350/.250	M223
Q1553-51	M21038/27-29	1CT:1.79CT	3,000	.500/.350/.250	M223
Q1553-52	M21038/27-30	1CT:2.5CT	3,000	.500/.350/.250	M223
Q1553-1	M21038/27-01	1CT:1CT/1CT:707CT	4,000	.625/.625/.250	M224
Q1553-2	M21038/27-02	1.4CT:1CT/2CT:1CT	7,200	.625/.625/.250	M224
Q1553-3	M21038/27-03	1.25CT:1CT/1.66CT:1CT	4,000	.625/.625/.250	M224
Q1553-5	M21038/27-10	1CT:2.12CT/1CT:1.5CT	4,000	.625/.625/.250	M224
Q1553-45	M21038/27-26	1CT:2.5CT/1CT:1.79CT	4,000	.625/.625/.250	M224
Q1553-81	M21038/27-21	1CT:1CT/1CT:707CT	4,000	.625/.625/.275	M224
Q1553-82	M21038/27-22	1.4CT:1CT/2CT:1CT	7,200	.625/.625/.275	M224
Q1553-83	M21038/27-23	1.25CT:1CT/1.66CT:1CT	4,000	.625/.625/.275	M224
Q1553-84	M21038/27-24	1CT:2.12CT/1CT:1.5CT	4,000	.625/.625/.275	M224
Q1553-85	M21038/27-25	1CT:2.5CT/1CT:1.79CT	4,000	.625/.625/.275	M224
FPQ1553-6	M21038/27-16	1CT:1CT/1CT:707CT	4,000	.625/.625/.250	M225
SMQ1553-6	M21038/27-11	1CT:1CT/1CT:707CT	4,000	.625/.625/.250	M225
FPQ1553-7	M21038/27-17	1.4CT:1CT/2CT:1CT	7,200	.625/.625/.250	M225
SMQ1553-7	M21038/27-12	1.4CT:1CT/2CT:1CT	7,200	.625/.625/.250	M225
FPQ1553-8	M21038/27-18	1.25CT:1CT/1.66CT:1CT	4,000	.625/.625/.250	M225
SMQ1553-8	M21038/27-13	1.25CT:1CT/1.66CT:1CT	4,000	.625/.625/.250	M225
FPQ1553-10	M21038/27-20	1CT:2.12CT/1CT:1.5CT	4,000	.625/.625/.250	M225
SMQ1553-10	M21038/27-15	1CT:2.12CT/1CT:1.5CT	4,000	.625/.625/.250	M225
FPQ1553-45	M21038/27-31	1CT:2.5CT/1CT:1.79CT	4,000	.625/.625/.250	M225
SMQ1553-45	M21038/27-27	1CT:2.5CT/1CT:1.79CT	4,000	.625/.625/.250	M225

1. Part number options: C and T level QPL testing (xxQC1553-xx, xxQT1553-xx, M21038/27-xxC, M21038/27-xxT).

Product Level: This specification makes provision for three product levels:

Level C: for high reliability commercial/industrial type applications

Level M: for general purpose military applications

Level T: for high reliability critical military applications.

2. Web: <http://www.pulseelectronics-milaero.com> home page, click on "PRODUCT FINDER" and enter the part number.

3. Summary Performance Specifications:

Droop = 20%
 Overshoot = ±1 V MAX;
 Common Mode Rejection = 45 dB
 Frequency Range (no load) = 75 kHz to 1 MHz
 Operating Temperature Range = -55°C to +130°C
 Weight = 5 grams
 Insulation Resistance = 10 kMΩ @ 250 Vdc
 Dielectric Withstanding Voltage = 100 Vrms

MILITARY/AEROSPACE POWER PRODUCTS

Pulse Electronics is the leading manufacturer of magnetic components with 70 years experience, originally founded as Technitrol in 1947. Pulse offers custom and catalog power magnetics ruggedized for Military, MIL-PRF-27, MIL-STD-981 and high reliability applications.

Pulse has a full line of "Off-the-Shelf" inductors for military and aerospace power applications in SLED, SLIC and POGO series packaging. The SLED, SLIC and POGO series use ruggedized high temperature headers suitable for surface mounting to Printed Circuit Board assemblies. Cores are securely bonded to the headers allowing parts to meet MIL-PRF-27 environmental requirements.

Pulse offers shielded drum core inductors and planar transformers incorporating ruggedized PCB mounting clips that have superior performance in applications with shock and vibration requirements.

Pulse continues to offer tin/lead termination finishes for Military, Space and Aerospace applications requiring the highest reliability. Parts can also be purchased with pure tin lead finishes where RoHS and REACH compliance are required.

Pulse Electronics offers complete design support, qualification test services and global AS9100 manufacturing capabilities.



OFF-THE-SHELF POWER INDUCTORS & CHOKES

Toroid Power Inductors - SLED Series						
Part Number	@ I _{RATED} (μH) TYP	I _{RATED} (A)	DCR (mΩ MAX)	Inductance @0A _{DC} (μH)TYP	Package L/W/H (in.)	Data Sheet
SLED 20						
PL8100	1.01	3.40	11	1.1	.400/.345/.250	M107
PL8101	6.2	1.40	70	7	.400/.345/.250	M107
PL8102	17.6	1.00	125	22.7	.400/.345/.250	M107
SLED 30						
PL8110	3.8	4.80	17.3	5.2	.625/.525/.400	M107
PL8111	9.4	2.80	43.4	12.3	.625/.525/.400	M107
PL8112	29.7	1.40	166	35.3	.625/.525/.400	M107
PL8113	114	0.94	380	167	.625/.525/.400	M107
SLED 40						
PL8120	2.5	8.00	8.3	3.8	.725/.575/.410	M107
PL8121	5.1	5.40	17.7	7.5	.725/.575/.410	M107
PL8122	16.2	2.70	72	21.9	.725/.575/.410	M107
PL8123	58.1	1.30	290	73	.725/.575/.410	M107
PL8124	192	0.90	560	292	.725/.575/.410	M107
PL8125	383	0.72	862	672	.725/.575/.410	M107
PL8130	4.9	7.80	12.4	7.9	.725/.575/.410	M107
PL8131	9	5.50	28	14	.725/.575/.410	M107
PL8132	29.1	2.70	100	40.5	.725/.575/.410	M107
PL8133	645	0.74	1250	1134	.725/.575/.410	M107
PL8150	0.81	14.30	2.5	1.25	.725/.575/.410	M107
PL8151	1.32	11.50	4.0	2.1	.725/.575/.410	M107
SLED 50						
PL8140	9.3	7.20	18.7	16	.900/.690/.520	M107
PL8141	16.1	5.10	32.0	25.9	.900/.690/.520	M107
PL8142	50	2.60	133	72.9	.900/.690/.520	M107
PL8143	1070	0.71	1700	1950	.900/.690/.520	M107
PL8160	1.68	13.90	3.6	2.8	.900/.690/.520	M107
PL8161	2.5	11.40	5.4	4.2	.900/.690/.520	M107
PL8170	3.5	12.40	6.6	6.5	.900/.690/.520	M107
PL8171	4.7	10.40	8.3	8.4	.900/.690/.520	M107

SMT Common Mode Chokes: SLIC Series					
Part Number	Inductance (mH ±35%)	I _{RATED} (A)	DCR (mΩ MAX)	Package L/W/H (in.)	Data Sheet
SLIC Series, Common Mode Chokes					
PL8200	0.47	14.0	8	1.220/1.000/500	M108
PL8201	0.63	11.6	10	1.220/1.000/500	M108
PL8202	0.81	9.70	14	1.220/1.000/500	M108
PL8203	0.53	7.20	15	1.110/1.00/395	M108
PL8204	0.59	5.60	21	.770/.670/390	M108
PL8205	0.77	4.70	40	.770/.670/390	M108
PL8206	0.22	3.30	60	.770/.670/390	M108
PL8207	1.32	3.30	60	.770/.670/390	M108
PL8208	1.47	2.80	80	.770/.670/390	M108
PL8209	0.88	1.63	110	.500/.500/215	M108
PL8210	1.17	1.22	200	.500/.500/215	M108
PL8211	10.15	1.4	210	.770/.670/395	M108
PL8212	1.125	1.8	55	.500/.519/220	M108
PL8213	0.80	3.0	27	.511/.511/338	M108
PL8214	.383	3.3	18	.511/.511/220	M108
PL8215	.536	3.8	17.1	.645/.560/350	M108
PL8216	.280	4.0	13.2	.511/.511/220	M108
PL8217	.486	4.2	16	.716/.590/299	M108
PL8218	.130	5.0	6.75	.519/.519/220	M108
PL8219	.096	6.0	4.3	.519/.519/220	M108
PL8220	.400	6.0	9.4	.716/.590/393	M108
PL8221	.061	7.0	2.9	.531/.531/220	M108
PL8222	.484	8.0	7.7	.770/.670/395	M108
PL8223	1.03	9.0	9.75	1.22/1.00/500	M108
PL8224	.215	10	3.75	.830/.751/441	M108
PL8225	.095	12.5	3.0	.770/.670/395	M108
PL8226	.117	14	1.95	.830/.751/441	M108
PL8227	.550	16	4.25	1.22/1.00/500	M108
PL8228	.380	20	4.1	1.22/1.00/500	M108

1. Parts can be ordered Non-Lead by adding "NL" to the part number (i.e. PL8210NL).
2. For Tape & Reel packaging, add the suffix "T" to the part number when ordering (i.e. PL8210NLT).
3. Web: <http://www.pulseelectronics-milaero.com> home page, click on "PRODUCT FINDER" and enter the part number.



MILITARY/AEROSPACE POWER PRODUCTS

OFF-THE-SHELF POWER INDUCTORS & CHOKES

SMT Power Inductors: SLIC (HCCI-80) Series

Part ¹ Number	@ I _{RATED} (μH) TYP	I _{RATED} (A)	DCR (mΩ MAX)	Inductance @0A _{DC} (μH) TYP	Package L/W/H (in.)	Data Sheet
SLIC (HCCI) Series						
PL8304 ^P	1.1	38	1.3	2.1	1.220/1.000/500	M109
PL8303 ^P	1.6	34	1.6	3.5	1.220/1.000/500	M109
PL8302 ^P	2.45	27	2.5	5.1	1.220/1.000/500	M109
PL8301 ^P	3.2	24	3.5	7.2	1.220/1.000/500	M109
PL8300 ^P	4.52	19	4.8	9.5	1.220/1.000/500	M109
PL8300 ^S	18.1	9.5	19.3	38.0	1.220/1.000/500	M109

1. Connection: P = Parallel, S = Series

SMT Power Inductors: Toroid, SLED Series

SLED 25						
PL8500	9.4	3.8	32	10.4	.625/.525/.310	M113
PL8501	13.3	3.2	46	14.6	.625/.525/.310	M113
PL8502	23	2.4	74	25	.625/.525/.310	M113
PL8503	50	1.6	135	56	.625/.525/.310	M113
PL8504	75	1.3	220	83	.625/.525/.310	M113
PL8505	90	1.2	285	100	.625/.525/.310	M113
PL8506	137	1	425	152	.625/.525/.310	M113
PL8507	200	.82	673	220	.625/.525/.310	M113
PL8508	305	.66	972	331	.625/.525/.310	M113
PL8509	439	.56	1520	472	.625/.525/.310	M113

SMT Power Inductors: Toroid, POGO Series

Part ¹ Number	@ I _{RATED} (μH) MIN	I _{RATED} (A)	DCR (mΩ MAX)	Inductance @0A _{DC} (μH) TYP	Package L/W/H (in.)	Data Sheet
POGO 25						
PL8600 ^P	2.0	8.30	8.0	2.2	.625/.525/.310	M114
PL8601 ^P	2.4	7.20	10.9	2.6	.625/.525/.310	M114
PL8602 ^P	5.0	5.20	19.0	5.5	.625/.525/.310	M114
PL8600 ^S	7.0	4.16	16.0	8.75	.625/.525/.310	M114
PL8603 ^P	9.3	3.80	30.0	10.4	.625/.525/.310	M114
PL8601 ^S	8.4	3.78	21.8	10.4	.625/.525/.310	M114
PL8604 ^P	14.1	3.10	45.5	15.7	.625/.525/.310	M114
PL8605 ^P	19.8	2.6	66.5	22.1	.625/.525/.310	M114
PL8602 ^S	17.9	2.6	38.0	22.45	.625/.525/.310	M114
PL8606 ^P	29.3	2.20	101	32.8	.625/.525/.310	M114
PL8603 ^S	33.8	1.89	60	41.7	.625/.525/.310	M114
PL8607 ^P	42.6	1.80	151	47.6	.625/.525/.310	M114
PL8604 ^S	50.9	1.54	91	62.8	.625/.525/.310	M114
PL8608 ^P	61.3	1.50	222	67.5	.625/.525/.310	M114
PL8605 ^S	71.5	1.30	133	88.2	.625/.525/.310	M114

1. Connection: P = Parallel, S = Series

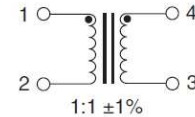
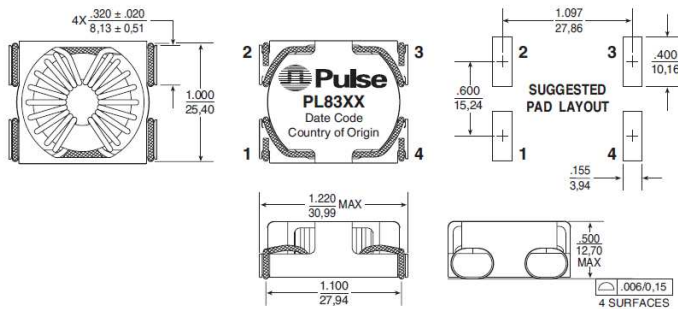
2. Parts can be ordered Non-Lead by adding "NL" to the part number (i.e. PL8603NL).

3. For Tape & Reel packaging, add the suffix "T" to the part number when ordering (i.e. PL8603NLT).

4. Web: <http://www.pulseelectronics-milaero.com> home page, click on "PRODUCT FINDER" and enter the part number.



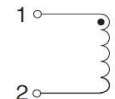
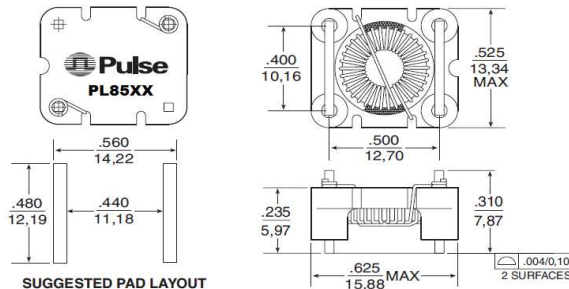
SLIC



Weight 18.7 grams
Tape & Reel 75/reel
Tube 20/tube
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0.25}$



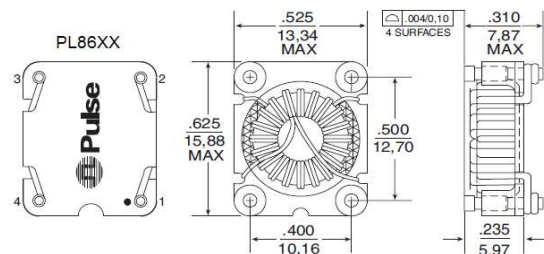
SLED



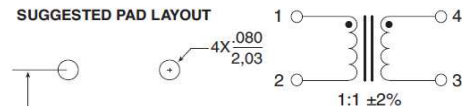
Pan & Tube 35/tube
Tape & Reel 300/reel
MSL 3
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0.25}$



POGO



SUGGESTED PAD LAYOUT



Pan & Tube 30/tube
Tape & Reel 300/reel
MSL 3
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0.25}$

MILITARY/AEROSPACE POWER PRODUCTS

OFF-THE-SHELF POWER INDUCTORS (continued)

SMT Power Inductors: Toroid, POGO Series (continued)

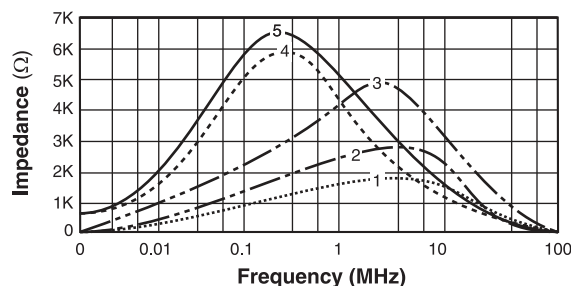
Part ¹ Number	@ I _{RATED} (μH) MIN	I _{RATED} (A)	DCR (mΩ MAX)	Inductance ² @0A _{DC} (μH) TYP	Package L/W/H (in.)	Data Sheet
POGO 25 (continued)						
PL8609 ^P	84.2	1.20	318	91.0	.625/.525/.310	M114
PL8606 ^S	106.1	1.07	202	131.0	.625/.525/.310	M114
PL8607 ^S	154.2	0.89	302	190.3	.625/.525/.310	M114
PL8608 ^S	218.9	0.74	444	270.2	.625/.525/.310	M114
PL8609 ^S	295.0	0.64	636	364.0	.625/.525/.310	M114
POGO 40						
PL8700 ^P	1.5	14.40	4.41	2.2	.725/.575/.380	M115
PL8701 ^P	2.4	9.40	6.54	3.5	.725/.575/.380	M115
PL8702 ^P	4.2	8.10	10.47	5.9	.725/.575/.380	M115
PL8703 ^P	5.8	6.80	14.94	7.9	.725/.575/.380	M115
PL8700 ^S	6.1	7.20	17.60	9.0	.725/.575/.380	M115
PL8704 ^P	7.6	5.70	20.99	10.1	.725/.575/.380	M115
PL8701 ^S	9.7	5.60	26.20	14.0	.725/.575/.380	M115
PL8705 ^P	12.1	5.20	23.24	18.5	.725/.575/.380	M115
PL8702 ^S	17.0	4.10	41.90	23.7	.725/.575/.380	M115
PL8706 ^P	18.0	4.20	38.15	27.4	.725/.575/.380	M115
PL8703 ^S	23.1	3.40	59.70	31.5	.725/.575/.380	M115
PL8707 ^P	27.0	3.30	53.21	40.5	.725/.575/.380	M115
PL8704 ^S	30.6	2.85	84.00	40.5	.725/.575/.380	M115
PL8708 ^P	34.8	2.30	73.89	50.5	.725/.575/.380	M115
PL8705 ^S	48.5	2.70	93.00	74.1	.725/.575/.380	M115
PL8706 ^S	72.0	2.20	152.60	109.8	.725/.575/.380	M115
PL8708 ^S	139.1	1.50	295.60	202.2	.725/.575/.380	M115
PL8707 ^S	108.0	1.77	212.80	161.8	.725/.575/.380	M115
PL8400 ^S	43.6	1.1	309	77	.725/.575/.380	M111
POGO 50						
PL8401 ^S	21.9	2.7	90.5	39.5	.910/.700/.510	M111
PL8402 ^S	4.025	6.4	23	6.575	.910/.700/.510	M111
PL8403 ^P	0.53	23.8	3	0.88	.910/.700/.510	M111
PL8404 ^P	1.1	21	2.5	2.1	.910/.700/.510	M111
POGO 60						
PL8405 ^P	2.1	22.4	3.4	4	1.280/1.070/.510	M111

1. Connection: P = Parallel, S = Series

SMT Common Mode Inductors: Toroid, POGO Series

Part Number	Inductance (mH ±30%)	I _{RATED} (A)	DCR (mΩ MAX)	SRF (MHz)	Impedance Curve ¹	Package L/W/H (in.)	Data Sheet
POGO 40							
PL8801	1.5	1.50	60	2	2	.725/.575/.380	M116
PL8803	10.0	1.00	450	0.5	4	.725/.575/.380	M116
PL8804	22.0	0.50	850	0.3	5	.725/.575/.380	M116
POGO 50							
PL8800	1.0	3.60	50	4	1	.910/.700/.510	M116
PL8802	3.0	2.50	80	2.2	3	.910/.700/.510	M116

1. See graph below.



SMT Power Inductors: Shielded Drum Core

Part Number	Inductance @I _{RATED} (μH TYP)	I _{RATED} (A)	DCR (mΩ MAX)	Inductance ² @0A _{DC} (μH) TYP	Saturation Current @25°C	Package L/W/H (in.)	Data Sheet
PL8901	0.80	11	4.0	1.0 ²	14	.413/.413/.280	M117
PL8902	1.20	10	6.0	1.5 ²	13	.413/.413/.280	M117
PL8903	2.1	9.0	7.3	2.7 ²	11	.413/.413/.280	M117
PL8904	2.9	8.0	8.5	3.7 ²	9.2	.413/.413/.280	M117
PL8905	3.7	7.3	9.5	4.7 ²	8.2	.413/.413/.280	M117
PL8906	4.8	6.0	16.5	6.0 ²	6.9	.413/.413/.280	M117
PL8907	6	5.5	18.5	7.6 ²	6.2	.413/.413/.280	M117
PL8908	8	5.0	21.8	10	5.5	.413/.413/.280	M117
PL8909	9.6	4.5	29.0	12	5.1	.413/.413/.280	M117
PL8910	12	4.1	35.4	15	4.4	.413/.413/.280	M117
PL8911	14.4	4.0	37.0	18	4.3	.413/.413/.280	M117
PL8912	17.6	3.8	42.0	22	3.8	.413/.413/.280	M117
PL8913	21.6	3.4	45.9	27	3.4	.413/.413/.280	M117
PL8914	26.4	3.0	64.8	33	3.0	.413/.413/.280	M117
PL8915	31.2	2.7	81.5	39	2.8	.413/.413/.280	M117
PL8916	37.6	2.6	89.0	47	2.6	.413/.413/.280	M117
PL8917	54.4	2.1	135.0	68	2.1	.413/.413/.280	M117
PL9101	0.96	10.5	4.5	1.0 ²	12.7	.413/.413/.248	M121
PL9102	1.52	9.5	5.5	1.8 ²	10.1	.413/.413/.248	M121
PL9103	2.34	7.8	7.8	2.7 ²	8.4	.413/.413/.248	M121
PL9104	3.27	6.7	11.0	3.9 ²	7.2	.413/.413/.248	M121
PL9105	4.39	5.6	15.6	5.1 ²	6.3	.413/.413/.248	M121
PL9106	5.54	5.2	18.0	6.8 ²	5.6	.413/.413/.248	M121
PL9107	6.73	5.0	20.0	8.2 ²	5.1	.413/.413/.248	M121
PL9108	8.19	4.6	22	10	4.6	.413/.413/.248	M121
PL9109	9.9	4.2	27	12	4.2	.413/.413/.248	M121
PL9110	13.4	3.6	30	15	3.6	.413/.413/.248	M121
PL9111	15.4	3.4	40	18	3.4	.413/.413/.248	M121
PL9112	17.6	3.2	45	22	3.2	.413/.413/.248	M121
PL9113	22.5	2.8	62	27	2.8	.413/.413/.248	M121
PL9114	28.5	2.5	70	33	2.5	.413/.413/.248	M121
PL9115	31.4	2.4	75	39	2.4	.413/.413/.248	M121
PL9116	38.4	2.2	100	47	2.2	.413/.413/.248	M121
PL9117	48.3	1.9	110	56	1.9	.413/.413/.248	M121
PL9118	55.9	1.8	120	68.0	1.8	.413/.413/.248	M121
PL9119	67.6	1.7	178	82.0	1.7	.413/.413/.248	M121
PL9120	86.1	1.4	230	100.0	1.4	.413/.413/.248	M121
PL9121	103	1.3	253	120.0	1.3	.413/.413/.248	M121
PL9122	121	1.2	280	150.0	1.2	.413/.413/.248	M121
PL9123	149	1.1	310	180.0	1.1	.413/.413/.248	M121
PL9124	186	1.0	400	220.0	1.0	.413/.413/.248	M121
PL9125	224	0.91	460	270	0.91	.413/.413/.248	M121
PL9126	279	0.82	690	330	0.82	.413/.413/.248	M121
PL9127	335	0.72	760	390	0.72	.413/.413/.248	M121
PL9128	398	0.68	850	470	0.68	.413/.413/.248	M121
PL9129	464	0.63	1060	560	0.63	.413/.413/.248	M121
PL9130	563	0.57	1200	680	0.57	.413/.413/.248	M121
PL9131	681	0.52	1550	820	0.52	.413/.413/.248	M121
PL9132	879	0.46	1750	1000	0.46	.413/.413/.248	M121

1. The rated current as listed is either the saturation current or the heating current depending on which value is lower.

2. Inductance at 0A_{DC} tolerance is ±30%. The tolerance is ±20% on all other parts.

Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the end of the part number.

3. Web: <http://www.pulseelectronics-milaero.com> home page, click on "PRODUCT FINDER" and enter the part number.



continued on the next page

MILITARY/AEROSPACE POWER PRODUCTS

OFF-THE-SHELF POWER INDUCTORS (continued)

SMT Power Inductors: Shielded Drum Core (continued)

Part Number	Inductance @IRATED (μH TYP)	IRATED ¹ (A)	DCR (mΩ MAX)	Inductance @0Adc (μH) TYP	Saturation Current @25°C	Package L/W/H (in.)	Data Sheet	Part Number	Inductance @IRATED (μH TYP)	IRATED ¹ (A)	DCR (mΩ MAX)	Inductance @0Adc (μH) TYP	Saturation Current @25°C	Package L/W/H (in.)	Data Sheet
PL9201	0.95	8.7	5.7	1.0	11	.413/.413/.201	M122	PL9401	0.67	7.00	4.4	0.68	7.00	.410/.410/.132	M123
PL9202	1.55	7.4	7.9	1.6	8.8	.413/.413/.201	M122	PL9402	1.3	6.10	6.4	1.5	6.10	.410/.410/.132	M123
PL9203	2.32	6.6	10.0	2.7	7.3	.413/.413/.201	M122	PL9403	2.1	5.70	10.4	2.2	5.70	.410/.410/.132	M123
PL9204	3.24	5.5	14.5	3.6	6.3	.413/.413/.201	M122	PL9404	3.1	4.80	15.6	3.3	4.80	.410/.410/.132	M123
PL9205	4.26	5.1	16.5	4.5	5.5	.413/.413/.201	M122	PL9405	4.5	4.10	21.2	4.7	4.10	.410/.410/.132	M123
PL9206	5.64	4.4	22	6.0	4.9	.413/.413/.201	M122	PL9406	5.8	3.60	25.2	6.2	3.60	.410/.410/.132	M123
PL9207	7.17	4.2	25	7.6	4.4	.413/.413/.201	M122	PL9407	7.0	3.30	27.8	6.8	3.30	.410/.410/.132	M123
PL9208	9.3	3.6	35	10	4.0	.413/.413/.201	M122	PL9408	9.4	3.00	39.5	8.2	3.00	.410/.410/.132	M123
PL9209	10.8	3.3	37	12	3.7	.413/.413/.201	M122	PL9409	11	2.70	42.9	10	2.70	.410/.410/.132	M123
PL9210	13.4	3.0	47	15	3.4	.413/.413/.201	M122	PL9410	12	2.40	50.0	12	2.40	.410/.410/.132	M123
PL9211	17.5	2.7	58	18	2.9	.413/.413/.201	M122	PL9411	15	2.25	65.2	15	2.25	.410/.410/.132	M123
PL9212	19.4	2.6	67	22	2.8	.413/.413/.201	M122	PL9412	24	1.85	86.1	22	1.85	.410/.410/.132	M123
PL9213	24.2	2.2	79	27	2.4	.413/.413/.201	M122	PL9413	35	1.40	126	33	1.40	.410/.410/.132	M123
PL9214	30.6	2.1	94	33	2.2	.413/.413/.201	M122	PL9414	48	1.25	188	47	1.25	.410/.410/.132	M123
PL9215	38.5	1.8	126	39	2.0	.413/.413/.201	M122	PL9415	55	1.15	208	56	1.15	.410/.410/.132	M123
PL9216	46.1	1.7	140	47	1.8	.413/.413/.201	M122	PL9416	64	1.05	279	68	1.05	.410/.410/.132	M123
PL9217	53.2	1.6	157	56	1.7	.413/.413/.201	M122	PL9417	88	0.94	317	82	0.94	.410/.410/.132	M123
PL9218	63.1	1.45	202	68.0	1.6	.413/.413/.201	M122	PL9418	106	0.88	358	100	0.88	.410/.410/.132	M123
PL9219	76.6	1.36	232	82.0	1.4	.413/.413/.201	M122	PL9419	129	0.80	478	120	0.80	.410/.410/.132	M123
PL9220	88	1.29	270	100.0	1.3	.413/.413/.201	M122	PL9420	157	0.70	545	150	0.70	.410/.410/.132	M123
PL9221	112	1.07	316	120.0	1.2	.413/.413/.201	M122	PL9421	238	0.58	837.0	220	0.58	.410/.410/.132	M123
PL9222	135	1.02	456	150.0	1.05	.413/.413/.201	M122	PL9422	325	0.45	1199	330	0.45	.410/.410/.132	M123
PL9223	132	0.87	497	180.0	0.96	.413/.413/.201	M122	PL9501	2.15	2.60	17.6	2.5	2.6	.256/.256/.122	M124
PL9224	198	0.82	681	220.0	0.86	.413/.413/.201	M122	PL9502	2.58	2.30	20.3	3.3	2.3	.256/.256/.122	M124
PL9225	237	0.78	775	270	0.79	.413/.413/.201	M122	PL9503	3.43	2.10	27.0	4	2.1	.256/.256/.122	M124
PL9226	296	0.66	955	330	0.71	.413/.413/.201	M122	PL9504	4.63	1.85	31.1	5	1.85	.256/.256/.122	M124
PL9227	355	0.58	1087	390	0.66	.413/.413/.201	M122	PL9505	5.22	1.70	41.9	6	1.7	.256/.256/.122	M124
PL9228	445	0.54	1403	470	0.59	.413/.413/.201	M122	PL9506	6.57	1.50	49.9	8	1.5	.256/.256/.122	M124
PL9229	495	0.53	1623	560	0.54	.413/.413/.201	M122	PL9507	8.65	1.30	54.0	10	1.3	.256/.256/.122	M124
PL9230	610	0.49	1824	680	0.49	.413/.413/.201	M122	PL9508	9.78	1.20	72.0	12	1.2	.256/.256/.122	M124
PL9231	702	0.43	2355	820	0.45	.413/.413/.201	M122	PL9509	12.13	1.10	82.0	15	1.1	.256/.256/.122	M124
PL9232	890	0.40	2850	1000	0.41	.413/.413/.201	M122	PL9510	15.23	1.05	102.0	18	1.05	.256/.256/.122	M124
PL9301	0.62	7.60	5.5	0.68	10	.410/.410/.157	M120	PL9511	18.7	0.95	119.0	22	0.95	.256/.256/.122	M124
PL9302	1.2	7.10	7.3	1.3	8	.410/.410/.157	M120	PL9512	21.54	0.85	146.0	27	0.85	.256/.256/.122	M124
PL9303	1.9	5.80	10.9	2.2	6.15	.410/.410/.157	M120	PL9513	27.71	0.76	183.0	33	0.76	.256/.256/.122	M124
PL9304	2.8	5.20	13.3	3.3	5.8	.410/.410/.157	M120	PL9514	33.57	0.68	210.0	39	0.68	.256/.256/.122	M124
PL9305	4.0	4.70	19.6	4.7	5.4	.410/.410/.157	M120	PL9515	40.15	0.60	230.0	47	0.6	.256/.256/.122	M124
PL9306	5.4	3.70	27.0	6.0	4.5	.410/.410/.157	M120	PL9516	49.68	0.55	305.0	56	0.55	.256/.256/.122	M124
PL9307	6.9	3.50	30.8	7.6	4	.410/.410/.157	M120	PL9517	60.66	0.48	351.0	68	0.48	.256/.256/.122	M124
PL9308	8.0	3.40	33.2	10	3.8	.410/.410/.157	M120	PL9518	74.71	0.45	419.0	82	0.45	.256/.256/.122	M124
PL9309	11	3.00	45.2	12	3.4	.410/.410/.157	M120	PL9519	85.39	0.40	520.0	100	0.4	.256/.256/.122	M124
PL9310	12	2.80	49.4	15	3.1	.410/.410/.157	M120								
PL9311	19	2.30	77	22	2.8	.410/.410/.157	M120								
PL9312	25	2.10	89	27	2.3	.410/.410/.157	M120								
PL9313	38	1.65	142	47	2.1	.410/.410/.157	M120								
PL9314	55	1.32	212.0	68	1.5	.410/.410/.157	M120								
PL9315	83	1.10	328	100	1.35	.410/.410/.157	M120								
PL9316	123	0.88	500	150	1.15	.410/.410/.157	M120								
PL9317	178	0.73	739	220	0.92	.410/.410/.157	M120								
PL9318	278	0.60	1133	330	0.7	.410/.410/.157	M120								

1. The rated current as listed is either the saturation current or the heating current depending on which value is lower.
2. Parts can be ordered Non-Lead by adding "NL" to the part number (i.e. PL9514NL).
3. Optional Tape and Reel packaging can be ordered by adding a "T" suffix to the end of the part number (i.e. PL9514T).
4. Web: <http://www.pulseelectronics-milaero.com> home page, click on "PRODUCT FINDER" and enter the part number.



SMT CURRENT SENSE TRANSFORMER

Part Number	Turns Ratio	Current Rating (A)	Secondary Inductance (mH MIN)	DCR Primary (1,3-2,4) (mΩ MAX)	DCR Secondary (5-6) (mΩ MAX)	Hipot (Vrms)	Package L/W/H (in.)	Datasheet
PL1961	1:1:200	15.00	59.200	2.3	4200	500	.575 / .495 / .280	M150

MILITARY/AEROSPACE POWER PRODUCTS

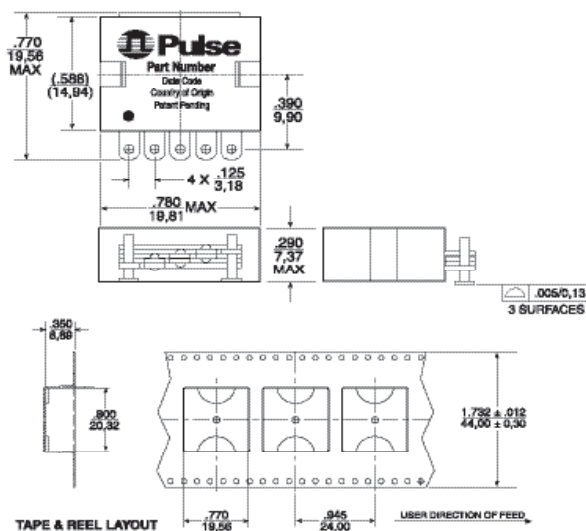
PLANARS POWER INDUCTORS

Electrical Specifications @ 25°C - Operating Temperature -40°C to +130°C

Part Number	Inductance @		DCR (mΩ)		Inductance @ 0 Adc (μH ±15%)	Saturation Current (ADC)		Heating Current (A)	Data Sheet
	Irated (μH ±15%)	Irated (ADC)	TYP	MAX		25°C	100°C		
2-Turn (Low Loss Series)									
PL10100	0.45	73	0.38	0.48	0.45	95	80	73	M194
PL10101	0.63	54	0.38	0.48	0.65	63	53	73	M194
PL10102	0.85	39	0.38	0.48	0.91	46	37	73	M194
PL10103	1.05	30	0.38	0.48	1.10	35	30	73	M194
PL10104	1.25	25	0.38	0.48	1.30	29	26	73	M194
PL10105	1.45	21	0.38	0.48	1.50	24	22	73	M194
2-Turn Series									
PL10106	0.45	52	0.78	0.98	0.45	95	80	52	M194
PL10107	0.63	52	0.78	0.98	0.65	63	53	52	M194
PL10108	0.85	39	0.78	0.98	0.91	46	37	52	M194
PL10109	1.05	30	0.78	0.98	1.10	35	30	52	M194
PL10110	1.25	25	0.78	0.98	1.30	29	26	52	M194
PL10111	1.45	21	0.78	0.98	1.50	24	22	52	M194
3-Turn Series									
PL10112	0.95	42	1.15	1.43	1.00	68	54	42	M194
PL10113	1.40	36	1.15	1.43	1.50	43	35	42	M194
PL10114	1.90	25	1.15	1.43	2.00	29	25	42	M194
PL10115	2.40	20	1.15	1.43	2.50	23	21	42	M194
PL10116	2.80	15	1.15	1.43	3.00	18	16	42	M194
PL10117	3.40	12	1.15	1.43	3.50	15	13	42	M194
4-Turn Series									
PL10118	1.60	37	1.44	1.80	1.60	55	43	37	M194
PL10119	2.40	30	1.44	1.80	2.42	35	27	37	M194
PL10120	3.30	17	1.44	1.80	3.60	20	18	37	M194
PL10121	4.00	14	1.44	1.80	4.40	16	15	37	M194
PL10122	4.90	11	1.44	1.80	5.34	13	12	37	M194
PL10123	5.80	9	1.44	1.80	6.20	11	10	37	M194

NOTES:

1. Optional Tape and Reel packaging can be ordered by adding a "T" suffix to the end of the part number (i.e. PL10123T).
2. Parts can be ordered Non-Lead by adding "NL" to the part number (i.e. PL10123NL).
3. Web: <http://www.pulseelectronics-milaero.com> home page, click on "PRODUCT FINDER" and enter the part number.



Weight..... 10.8 grams MAX
Tape & Reel..... 250/reel

Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are ± .010
0.25

MILITARY/AEROSPACE POWER PRODUCTS

SMT CURRENT SENSE TRANSFORMERS

Height: 5.5mm Max

Footprint: 8.4mm x 7.2mm Max

Frequency Range: 50kHz to 1MHz

Electrical Specifications @ 25°C — Operating Temperature -55°C to +130°C

Part Number	Turns Ratio	Current * Rating (A)	Secondary Inductance (mH MIN)	DCR (mΩ MAX)		Hipot (VDC)	Data Sheet
				Primary (8-7)	Secondary (1-3)		
PL3250	1:20	10	0.08	6	550	700	M278
PL3251	1:30	10	0.18	6	870	700	M278
PL3252	1:40	10	0.32	6	1140	700	M278

Electrical Specifications @ 25°C — Operating Temperature -55°C to +130°C

Part Number	Turns Ratio	Current * Rating (A)	Secondary Inductance (mH MIN)	DCR (mΩ MAX)		Hipot (Vrms)	Data Sheet
				Primary (8-7)	Secondary (1-3)		
PL3258	1:20	20	0.08	0.75	550	1000	M279
PL3259	1:30	20	0.18	0.75	870	1000	M279
PL3260	1:40	20	0.32	0.75	1140	1000	M279

1. Parts can be ordered Non-Lead by adding "NL" to the part number (i.e. PL3265NL).
2. For Tape & Reel packaging, add the suffix "T" to the part number when ordering (i.e. PL3265NLT).
3. Web: <http://www.pulseelectronics-milaero.com> home page, click on "PRODUCT FINDER" and enter the part number.



GATE DRIVE TRANSFORMERS

1000Vdc -1500Vdc Basic & Functional Insulation

Part Number	Turns Ratio	Pri-Sec Insulation	MAX (v* usec)	Primary Inductance (μH MAX)	Leakage Inductance (μH MAX)	DCR Primary (Ω MAX)	DCR Secondary (Ω MAX)	Package L/W/H (in.)	Insulation	Datasheet
PL1960	1:1	1500Vdc	9.7	785.0	.46	.60	.60	.265/.340/.140	FUNCTIONAL	M149
PL3280	1:1:1	1000Vrms	12.7	1140.0	.65	.75	.75	.340/.265/.140	FUNCTIONAL	M296
X-1569NL	1:1:1	1500Vdc	45.1	3330.0	.700	1.60	1.60	.355/.340/.300	FUNCTIONAL	M258
X-1622NL	1:1:1	1500Vrms	60.0	1800.0	1.50	1.60	1.60	.355/.340/.300	FUNCTIONAL	M295
PL3057NL	2.5:1:1	1500Vrms	27.2	1200.0	.80	.91	.38	.355/.340/.300	BASIC	M294
PL3172NL	1:1	1500Vrms	27.2	1200.0	.50	.91	.91	.355/.340/.300	BASIC	M297

1. The maximum volt-μsec rating limits the peak flux density to 2200 Gauss when used in a unipolar drive application. For bi-polar drive applications a maximum volt-μsec of two times this rating is acceptable (ie: 2* (volt*μsec rating) Volt*μsec = (voltage applied to the primary) * dutycycle / Frequency = V * alpha / Freq_Hz = V * μsec
2. Leakage inductance is measured at primary terminals with all secondaries shorted.
3. Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the end of the part number (i.e. PL1960T).
4. The "NL" suffix indicates an RoHS-compliant part number. Non-NL suffixed parts are not necessarily RoHS compliant, but are electrically and mechanically equivalent to NL versions.
5. The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.
6. Web: <http://www.pulseelectronics-milaero.com> home page, click on "PRODUCT FINDER" and enter the part number.



Space Development/Testing/Validation Capabilities

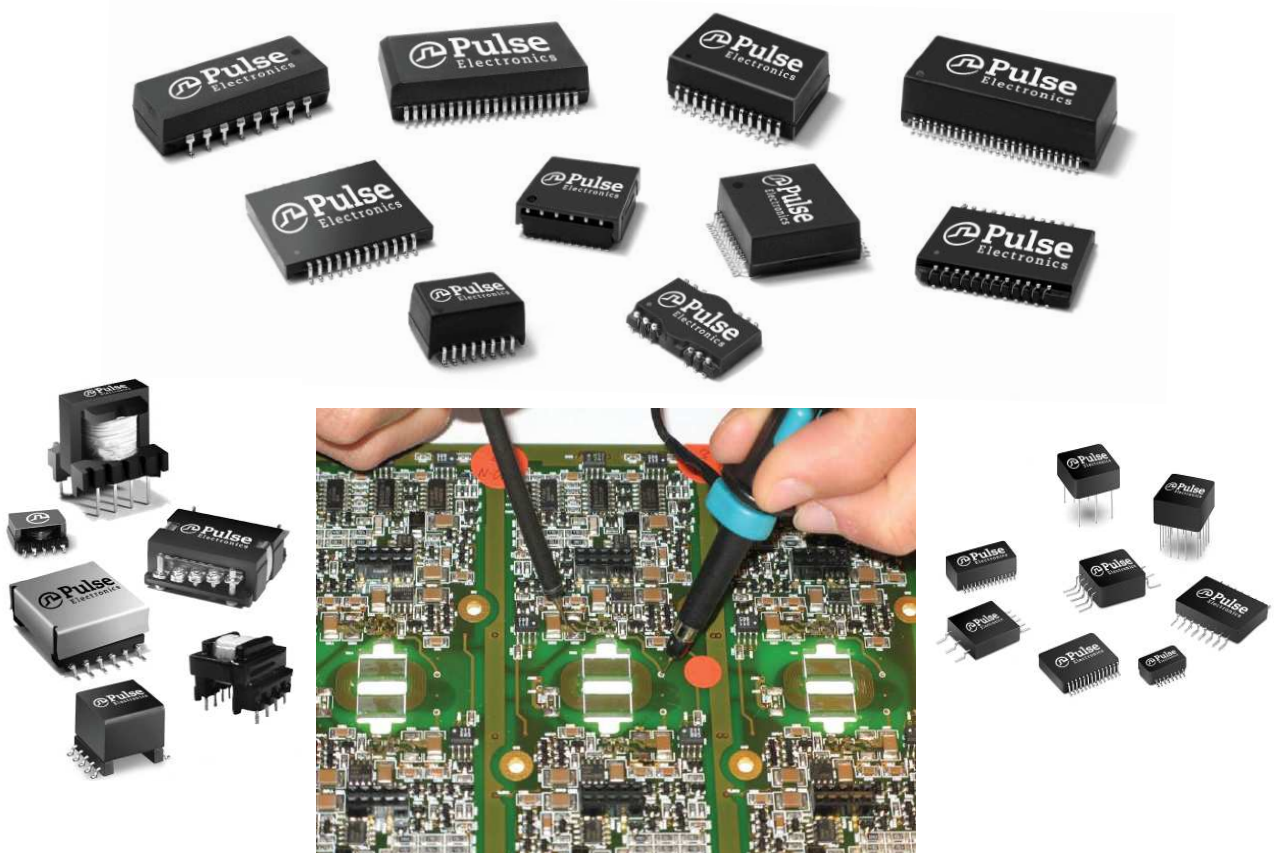
- MIL-STD-981
- NASA EEE-INST-002
- NASA-STD 8739.3
- IPC-STD-001DS
- MIL-PRF-21038
- MIL-PRF-27
- MIL-STD-202
- ECSS-Q-ST-70-38C
- AEC-Q200
- MIL-STD-883
- Custom Power
- Signal Design/Build

Program Participation

Orion	World View III	MagEIS	HPCA	STARMU	Advanced Composition Explorer (ACE)
GPS III	James Webb Telescope	International Space Station	GBD	Dragon 2	

Manufacturing Capabilities

Bobbin Winding	Toroid Winding	AS9100C Quality System
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MILITARY/AEROSPACE PRODUCTS

CUSTOM CAPABILITIES (continued)

Product Capability	PACKAGING	MAXIMUM POWER	MAXIMUM CURRENT	FREQUENCY
SINGLE INDUCTORS	Lamination, Toroidal, Tape Wound	4KVA		15- 2MHz
COMMON MODE CHOKES 1/3 Phase	Lamination, Toroidal, Tape Wound		500A	15 - 2400Hz
CHOKES 3 PHASE (LINE FILTERING)	Lamination, Tape Wound		500A	15 - 2400Hz
POWER TRANSFORMERS 1 Phase	Lamination, Toroidal, Tape Wound	10KVA		15 - 1200Hz
TRANSFORMERS Laminated 3 Phase	Lamination, Toroidal, Tape Wound	10KVA		15 - 1200Hz
TRANSFORMERS - Switchmode	Planar, Bobbin Wound, Toroidal	1KVA		20K- 1MHz
INDUCTORS - Switchmode Buck/Boost	Toroidal, Bobbin Wound	500VA		20K- 1MHz
TRANSFORMERS - Current Sense	Toroidal, Bobbin Wound	4KVA (burden)		15- 1MHz
TRANSFORMER MODULES -Current Sense 1/3 PHASE	Toroidal, Bobbin Wound	4KVA (burden)		15- 1MHz
TRANSFORMERS Gate Drive	Toroidal, Bobbin Wound			20KHz- 1MHz
CURRENT SENSE TRANSFORMERS	Lamination, Toroidal, Tape Wound	10KVA		15 - 1200Hz

Note: Magnetics for high temp requirement at +200°C

Testing Services

Testing capabilities for product qualification and design validation

ELECTRICAL

- Inductance with or without DC
- Turns Ratio
- HI-POT - Vac up to 5kv, Vdc up to 6kV
- Insulation Resistance
- Distortion
- Pulse Testing
- Thermal Rise
- Impedance
- Q (up to 1 Mhz)
- DCR
- SRF (up to 3Ghz)
- Leakage Inductance
- Voltage Ratio
- Insertion Loss

MECHANICAL

- Mechanical Shock
- Mechanical Vibration
- Solderability
- Resistance to Soldering Heat

ENVIRONMENTAL

- Humidity (to 90% RH)
- Moisture Resistance
- Thermal Shock
- Thermal Cycling
- High/Low Temperature Storage

ANALYTICAL

- X-Ray Imaging
- Real Time X-ray
- Plating composition analysis
- Detailed Inspection Plans
- First Article Inspection to AS9102

