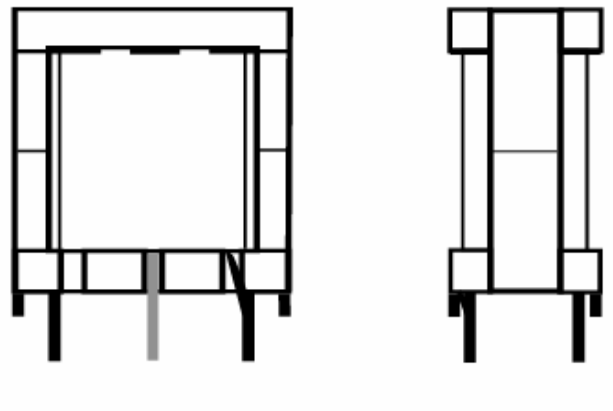
PRIMEWORLD LIMITED

TXL16 RANGE OF HIGH FREQUENCY SWITCHING REGULATOR INDUCTORS



TECHNICAL DESCRIPTION:

Primeworld TXL16--- range of high current inductors is designed to operate in high frequency switching regulator circuits. Windings are “Class 155” (IEC 60317-0-1) or higher temperature enamelled copper wire, wound on a vertical EF16 bobbin. One version of the bobbin with no pins and no stand-offs simply holds the *SnCu* tinned lead-outs in place, the other with four pins, terminates them on to two of the diagonally opposite tin plated pins using *SnCu solder . Bobbin material is Phenolic PM8375 of Sumitomo (Sumidurez) with a flammability rating of UL94 V-0 @ 0.49mm that also withstands assembly process temperatures of up to 260 deg C.*

High frequency low loss ferrite cores used in TXL16 series make them a superior choice for high frequency switching regulators. TXL16 range not only offers lower core losses but also low ripple current by keeping inductance constant over the load range. Vertical mounting configuration and its narrow width allow TXL16 range to directly replace toroidal inductors using iron powder and other costly alloy materials.

The TXL16 range is designed for use in buck regulators, boost regulators, isolated power supplies and dc/dc converters operating up to 500KHz.

RATINGS AND CHARACTERISTICS:

Maximum Working Voltage: 250V ac rms. 400V dc

Rated current: See tables for TXL16--- range

Inductance: See tables for TXL16--- range

DC Resistance: See tables for TXL16--- range

Climatic category: 25/105/56

Maximum temperature range:

Operating: -25 to +105 °C

Storage: -55 to 125 °C

Mass: 10g max

Vibration: Frequency sweep of 10Hz to 55Hz with 0.35mm displacement for 6 hours. IEC68-2-6 Test Fc

Requirement: No visible damage, Inductance +/- 10%

Bump: **1000** bumps of each 16ms with acceleration of 98m/s. IEC68-2-29 Test Eb

Requirement: No visible damage, Inductance +/- 10%.

Resistance to soldering heat: Solder bath for 10s @ 260 °C, 6mm from body IEC68-2-20A Method 1B

Solderability: Maximum soldering time, 2.5s @ 260 °C Solder globule test, IEC 68-2-20Ta.

Robustness of terminations:

1Kg (10N) IEC 68-2-21 Test Ua Tensile
500g (5N) IEC 68-2-21 Test Ub Bending

Requirement: No visible damage to the body. No deviation in nominal inductance and dc resistance.

INSPECTION REQUIREMENTS

Visual inspection: Random Sample **Failure Criteria:**

Marking
- Non-legible marking.
- Missing or double marking.

Package
- Dimensions out of tolerance.
- Broken or damaged plastic.
- Contamination by oil, flux, etc.
- Voids, holes or cracks.

Leads
- Broken, cracked or loose lead.
- More than 10% non-plated surface in the soldering area.
- Blistering, peeling or other surface defects exposing base material.
- Contamination by oil, flux, etc.

Packing
- Inconsistent mechanical strength.
- Incorrect labelling and sealing.
- Incorrect quantity and type.

Inductance: 100% **Limits:**

+/- 20% for L < 100uH @ 10KHz, 0.1V ac rms.
+/- 10% for L > 100uH @ 10KHz, 0.1V ac rms.

DC resistance: 100% **Limits:** **+**5% -10%.

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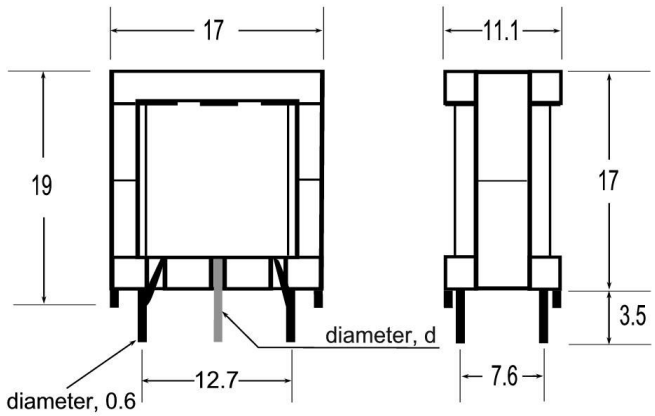
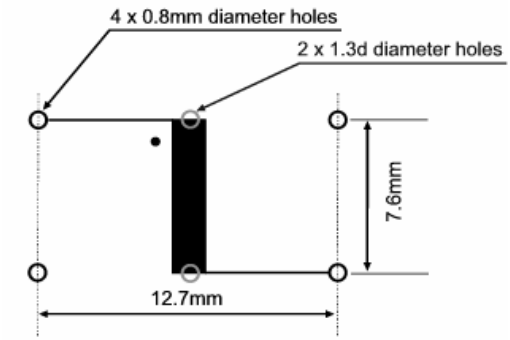
TXL16--- RANGE:

	NOMINAL	DC	CONTINUOUS	SATURATING	MAX	Lead Dia.
CODE	INDUCTANCE	RESISITANCE	DC CURRENT	DC CURRENT	ET_{OP}	d
TXL16___	L_n (µH) @ 1KHz	(OHM) MAX	(A) @ 85° C	(A) @ 90% L_n	(V.µsec)	(mm) MAX
TXL16SSA	10	0.011	6.88	9.7	19.9	1.1
TXL16SSB	15	0.013	6.22	7.9	24.4	1.1
TXL16SSC	22	0.024	4.54	6.5	29.5	0.9
TXL16SSD	33	0.038	3.64	5.3	36.2	0.8
TXL16SPD	38	0.052	3.10	5.0	38.8	0.7
TXL16SSE	47	0.046	3.29	4.5	43.2	0.8
TXL16SSF	68	0.073	2.62	3.7	51.9	0.7
TXL16SSG	100	0.090	2.36	3.1	63.0	0.7
TXL16SPG	114	0.096	2.28	2.8	66.5	0.7
TXL16SSH	150	0.115	2.08	2.5	77.1	0.7
TXL16SPH	180	0.151	1.82	2.3	84.5	0.6
TXL16SSI	220	0.198	1.59	2.1	93.4	0.6
TXL16SSJ	330	0.365	1.17	1.7	114.4	0.5
TXL16APA	3.6	0.009	7.38	16.1	11.9	0.8
TXL16BPW	1000	1.099	0.67	1.0	199.1	0.35

Mechanical Data



Mounting Detail



Sixth Letter of component code indicates terminal orientation and bobbin type
Mounting detail: Top (component side) view – Letter A – 4 pin bobbin
Bottom (solder side) view – Letter B – 4 pin bobbin
Central leadouts only at diameter d – Letter S – no other pins, length 5-10mm

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