

HIGH CURRENT SELF-LEADED SMT INDUCTORS

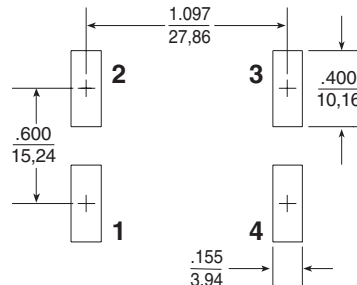


- Materials meet UL 94V-0 rating
- Frequency range of up to 1 MHz
- Can be used in series, parallel or as a 1:1 coupled inductor

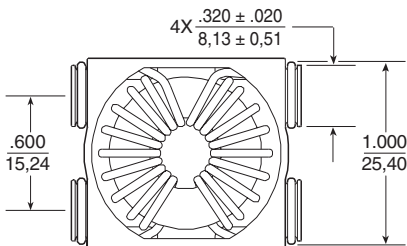
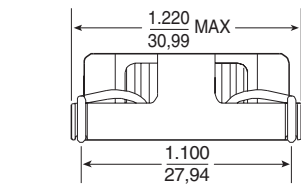
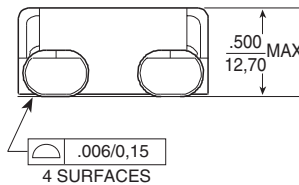
Electrical Specifications @ 25°C — Operating Temperature -40°C to +130°C

ID		Reference Values				Control Values		Calculation Data
Part Number	Hookup	I _{dc} (amp)	L @ DC L _{DC} (μH)	ET (V-μsec)	Storage Capacity (μJoules)	L w/o DC L ₀ ±15% (μH)	DCR (MAX) (mΩ)	ET ₁₀₀ (V-μsec)
P0595	Series	9.5	18.10	18.0	816	38.00	16.8	7.22
P0596	Series	12.0	12.80	8.4	922	28.68	12.0	8.33
P0597	Series	13.5	9.80	12.0	893	20.40	8.8	9.84
P0598	Series	17.0	6.40	8.4	919	13.80	5.6	12.03
P0595	Parallel	19.0	4.52	9.0	816	9.50	4.2	14.43
P0599	Series	19.0	4.30	8.4	780	8.40	4.4	15.46
P0596	Parallel	24.0	3.20	4.2	922	7.17	3.0	16.65
P0597	Parallel	27.0	2.45	6.0	893	5.10	2.2	19.68
P0598	Parallel	34.0	1.60	4.2	919	3.45	1.4	24.05
P0599	Parallel	38.0	1.10	4.2	780	2.10	1.1	30.92

Mechanical



SUGGESTED PAD LAYOUT



Weight 18.7 grams
 Tape & Reel 75/reel
 Tube 20/tube

Dimensions: $\frac{\text{Inches}}{\text{mm}}$
 Unless otherwise specified,
 all tolerances are $\pm \frac{.010}{0,25}$

NOTES:

- Temperature rise is 55°C in typical buck or boost circuits operating at 300 KHz with the rated I_{dc} current and reference ET applied to the inductor.
- Total loss in the inductor is 1.8 watts for 55°C temperature rise above ambient.
- To estimate temperature rise in a given application, determine total losses (copper losses + core losses) and apply this formula:
 $\text{TempRise (C)} = (\text{Total Losses(W)})^{.833} \times 33.783$
- For copper losses, calculate: $\text{CopperLoss(mW)} = I_{dc}^2 \times \text{DCR}$
- For core loss, using frequency (f: hertz) and flux density (B: gauss): $\text{CoreLoss(mW)} = 1.0769E-09 \times f^{1.26} \times B^{2.11}$
- For flux density (B), calculate ET (V-μsec) for the application, and multiply by the ET₁₀₀ factor from the table.
- Add suffix "T" to part number for tape and reel package (i.e. P0595T).

Schematic

