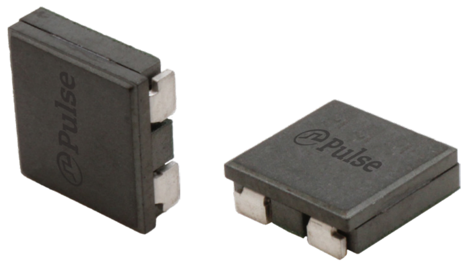
SMT Power Inductor

PSiP Power Bead - PGL6478.XXXHL Series



- *Designed for PSiP Power Supply*
- ***Height:*** *3.55mm Max*
- ***Footprint:*** *10.05mm x 10.05mm Max*
- ***Current Rating:*** *up to 33A*
- ***Inductance Range:*** *120nH to 280nH*

Electrical Specifications @ 25°C - Operating Temperature -40°C to +125°C									
Part Number	Inductance[1] @0A DC nH±15%	Inductance[2] @Irated (nH TYP)	Irated[3] (A)	DCR[4] (mΩ)	Saturation Current[5]			Heating Current (A TYP)	Height (mm)
					@25°C	@100°C	@125°C		
PGL6478.121HLT	120	117	45		62	45	44		3.3±0.25
PGL6478.141HLT	140	132	37		51	37	36		3.3±0.25
PGL6478.171HLT	170	162	31	0.45±15%	44	31	30	33	3.3±0.25
PGL6478.221HLT	220	212	24		36	24	23		3.3±0.25
PGL6478.281HLT	280	260	15		23	15	14		3.3±0.25

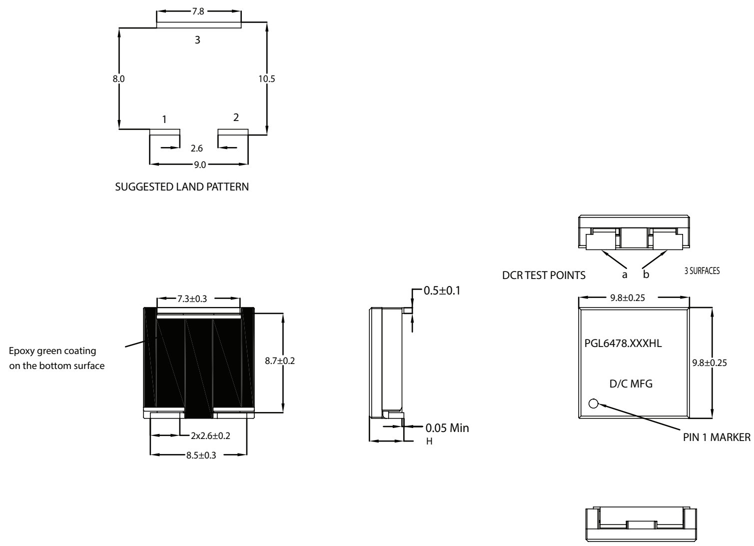
Notes

1. Inductance measured at 100KHz, 0.1V
2. Inductance at Irated is the value of the inductance at @25°C at the listed rated current
3. The rated as listed is either the saturation current (25°C or 100°C) or the heating current depending on which value is lower.
4. The nominal DCR is measured from point ① to point ②
5. The saturation current is the current is the current which causes the inductance to drop by approximately 20% at the stated ambient temperatures (25°C, 100°C, 125°C). This current is determined by placing the component in the specified ambient environemnt and applying a short duration Pulse current (to eliminate self-healing effects) to the component.
6. The heating current is the DC current ehich causes the part temperature to increase by approximately 40°C when used in a typical application.
7. In high volt*time applications, additional heating in the compnenet can occur due to core losses in the inductor which may neccessitate derating the current in order to limit the temperature rise of the component. To detemine the approximate total lossed (or temperature rise) for a given application, the coreloss and temperature rise curves can be used.
8. Parts with the HLT suffix are sold in tape and reel packgingg. Pulsecomplies to industry standard tape and reel specification EIA-481. The tape and reel for this product has a width (W=24), pitch (P0=16mm) and depth (Ko=3.4mm). Samples of these parts can be ordered by removing the HLT suffix and replacing with HL.
9. The temperature of the component (ambient plus temoperature rise) must be within the stated operating temperature range.

Mechanical

Schematics

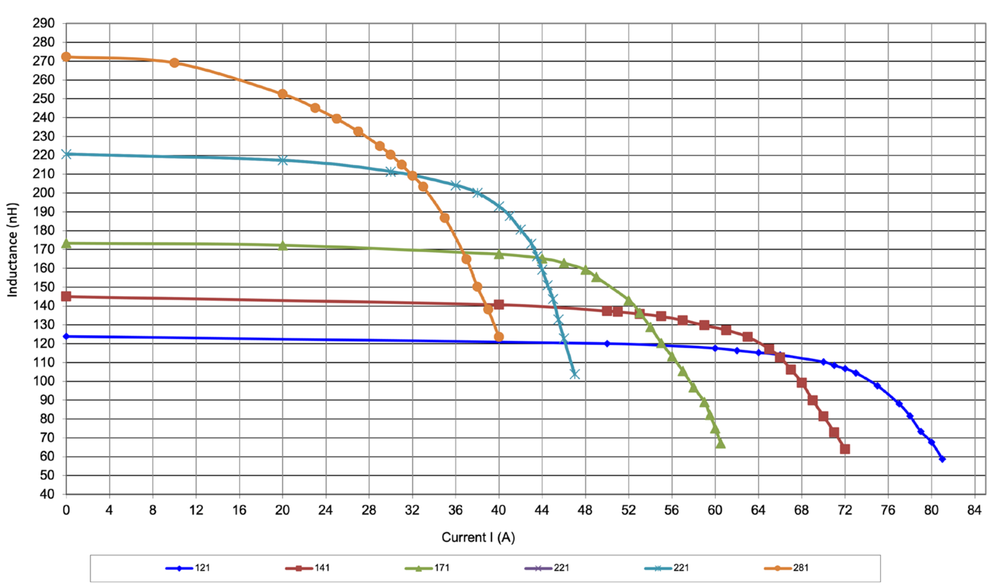
PGL6478.XXXHLT



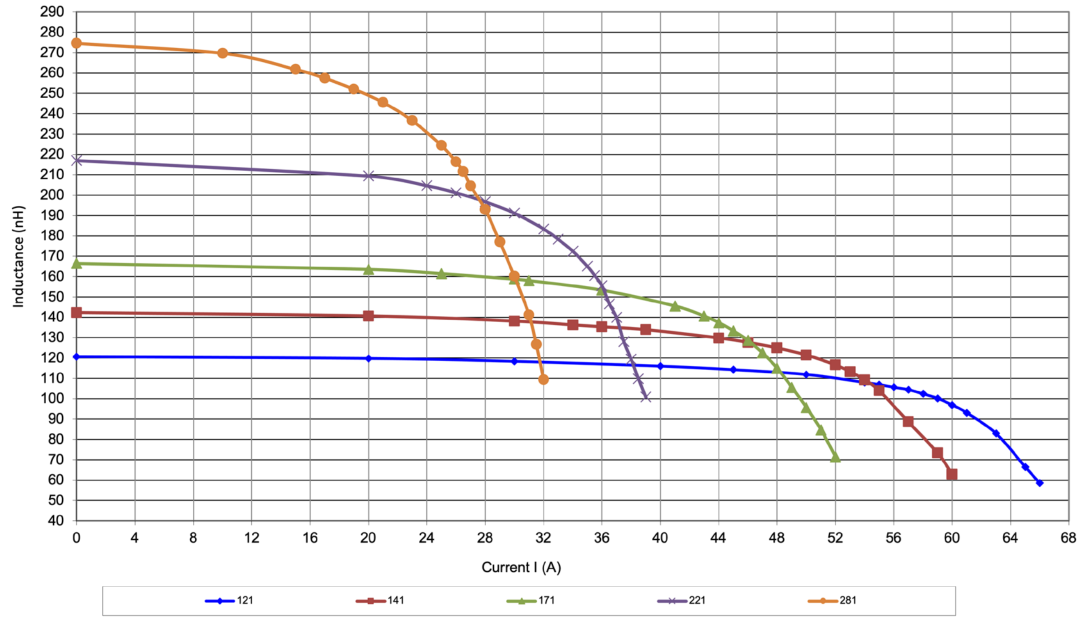
Weight................1.4grms
Tape & Reel.........1000/Reel
Dimensions: mm

Typical Performance Curves

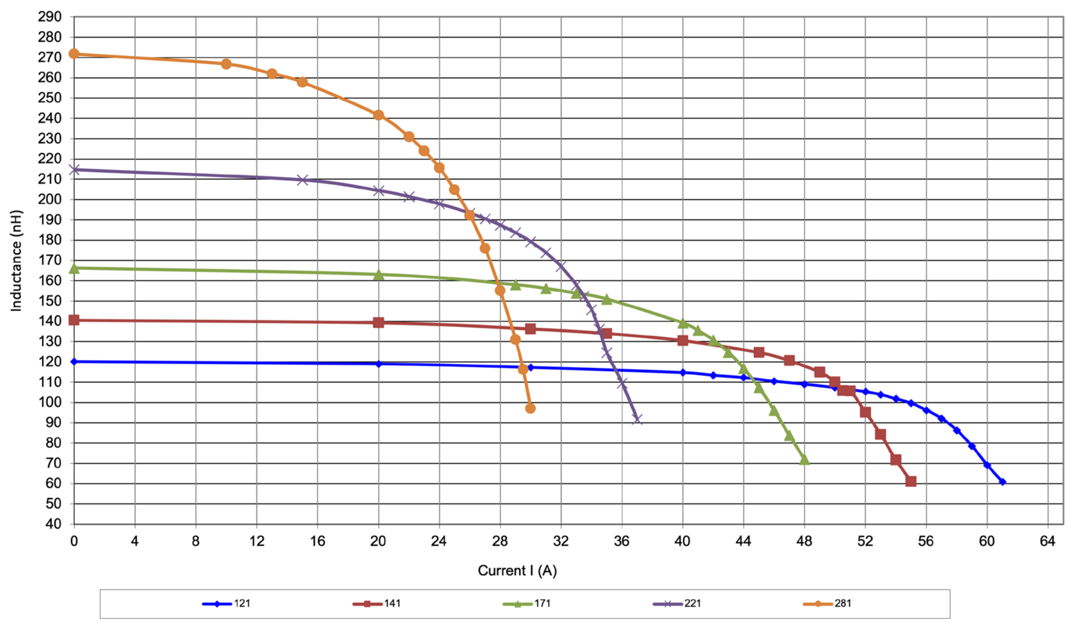
PGL6478.XXXHL L vs I curve 25°C



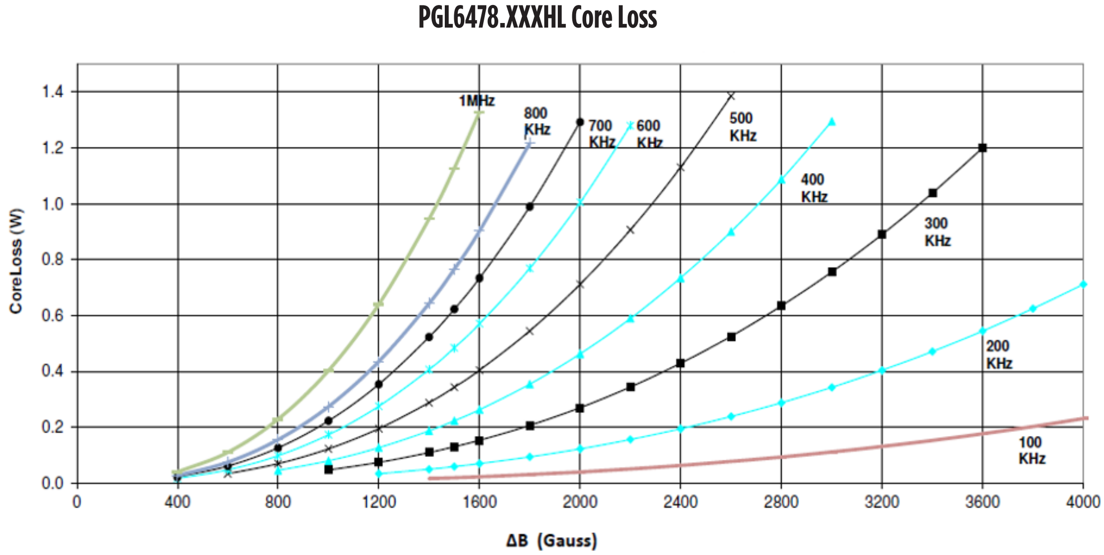
PGL6478.XXXHL L vs I curve 100°C



PGL6478.XXXHL L vs I curve 125°C

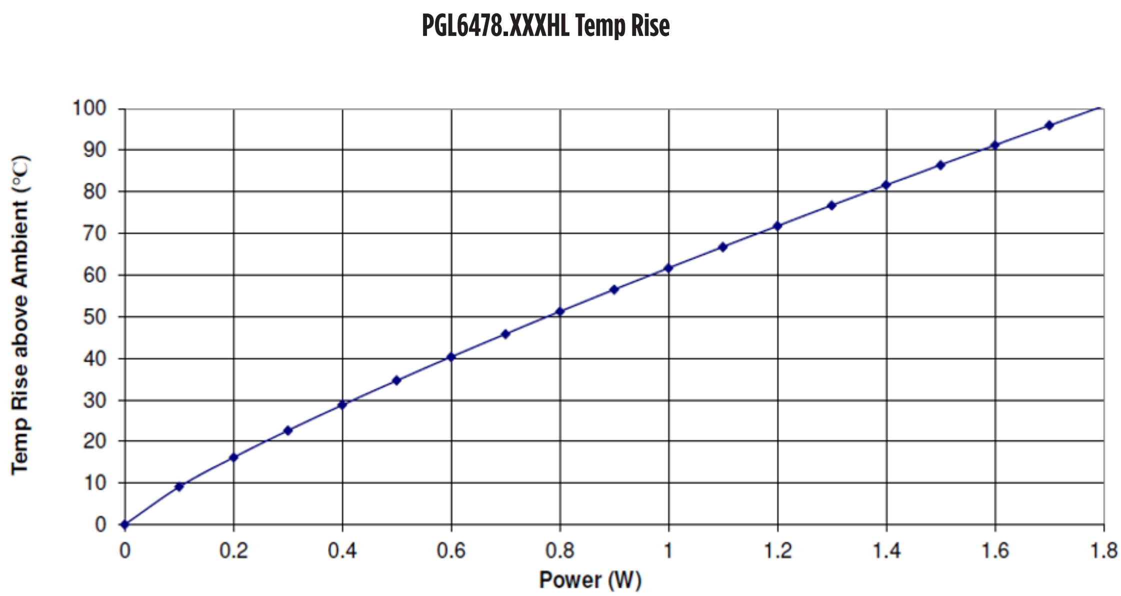


Core Loss



Where $\Delta B = 0.46 * L(nH) * \Delta I$

Temp Rise vs Power Dissipation



Total Power Dissipation (W) = CopperLoss + CoreLoss
CopperLoss = Irms^2 * Rdc(mOhms) / 1000
CoreLoss = (from table)