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SMT Power Inductor

PSiP Power Bead - PGL6477.XXXHL Series

Pulse a YAGEO company



- *Designed for PSiP Power Supply*
- ***Current Rating 22A***
- ***Inductance Range:*** *105nH to 215nH*
- ***Height:*** *5.4mm Max*
- ***Footprint:*** *6.45mm x 6.45mm Max*

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] (A TYP)			Heating Current[6] (A TYP) TYP.	Height (mm)
					@25°C	@100°C	@125°C		
PGL6477.101HL	105	105	22	0.4±12%	50	39.5	37	22	5.2±0.2
PGL6477.121HL	117	116	22		43	34	33		5.2±0.2
PGL6477.141HL	140	138	22		36	28.5	27		5.2±0.2
PGL6477.161HL	160	158	22		31	24.5	23		5.15±0.2
PGL6477.181HL	184	177	20		27	21	20		5.15±0.2
PGL6477.201HL	200	185	19		25	19	18		5.15±0.2
PGL6477.221HL	215	205	17.5		23	17.5	16		5.15±0.2

Notes

1. Inductance measured at 100KHz, 0.1V
2. Inductance at Irated is the value of the inductance at @25°C at the listed rater 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=16), pitch (P0=12mm) and depth (Ko=5.6mm). 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.

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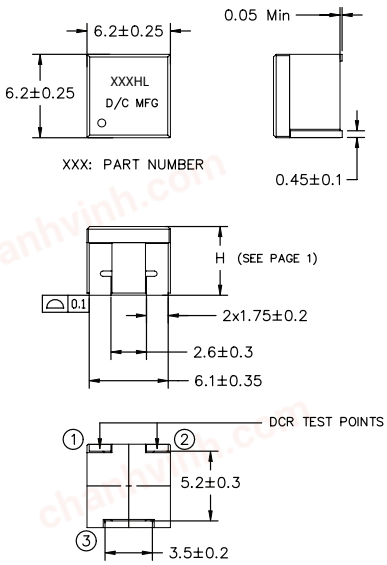
SMT Power Inductor

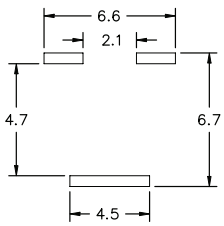
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Mechanical

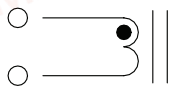
PGL6477.XXXHL





SUGGESTED PAD LAYOUT

Schematics

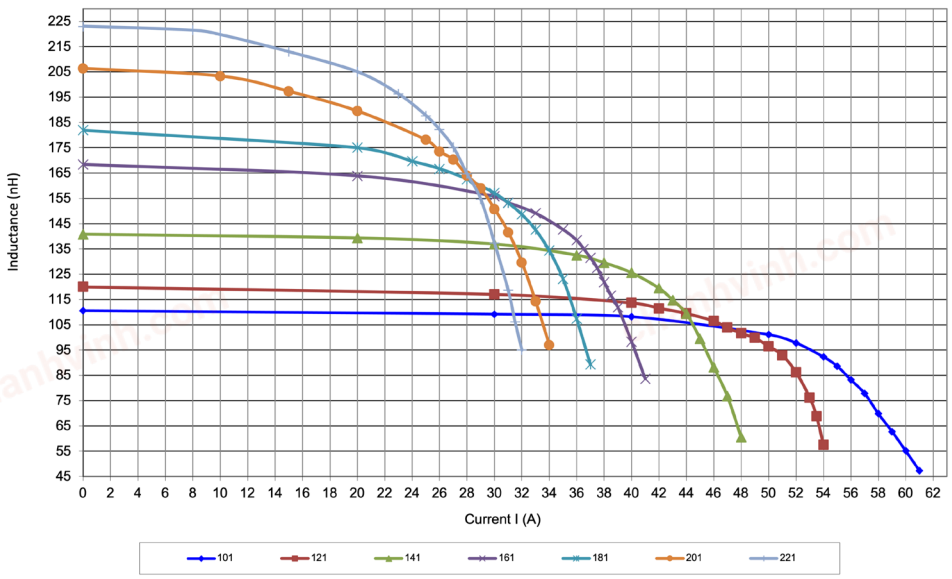


SCHEMATIC

Weight.....1.0grms
Tape & Reel.....800/Reel
Dimensions: mm

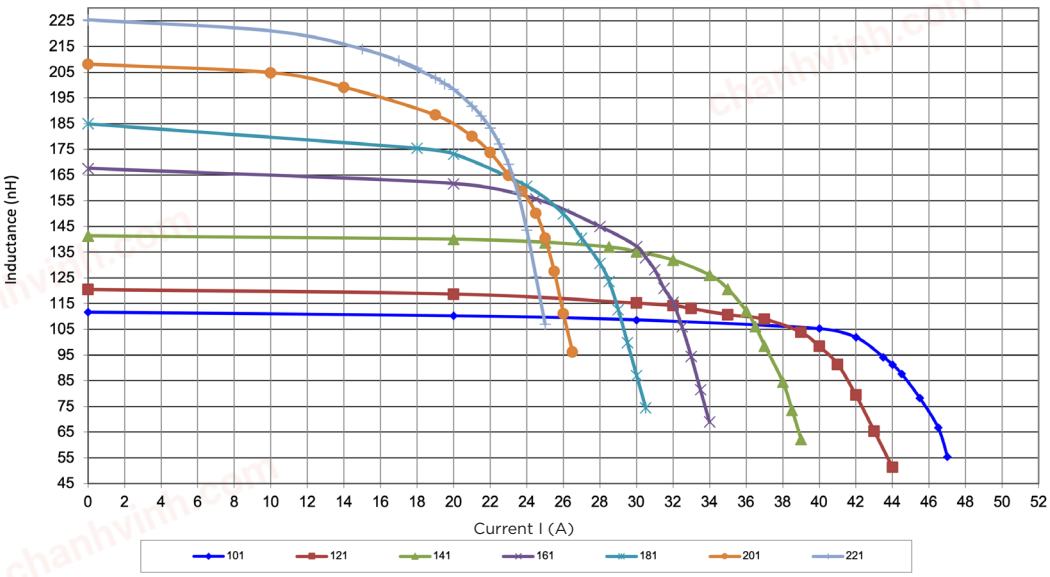
Typical Performance Curves

PGL6477.XXXHL L vs I curve 25°C

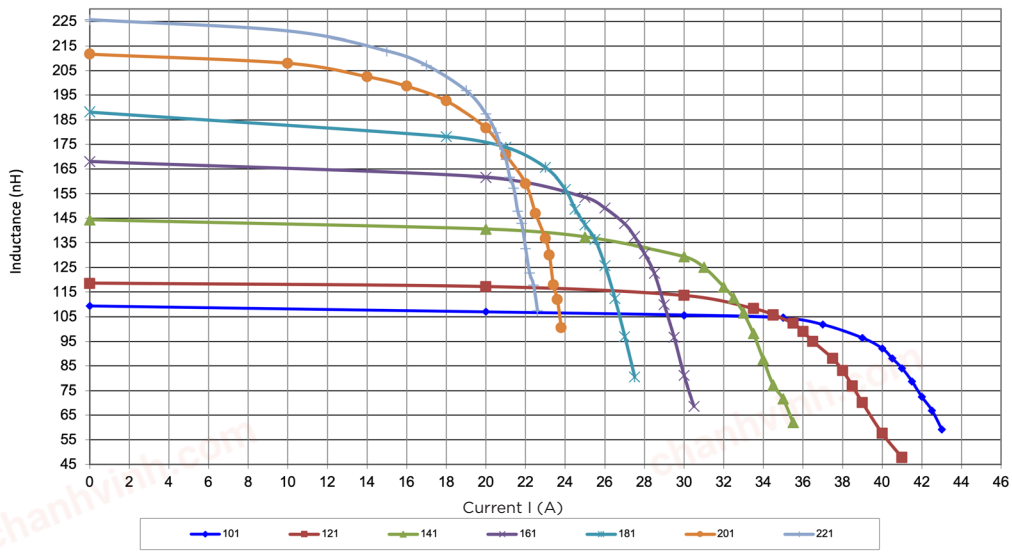


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PGL6477.XXXHL L vs I curve 100°C



PGL6477.XXXHL L vs I curve 125°C



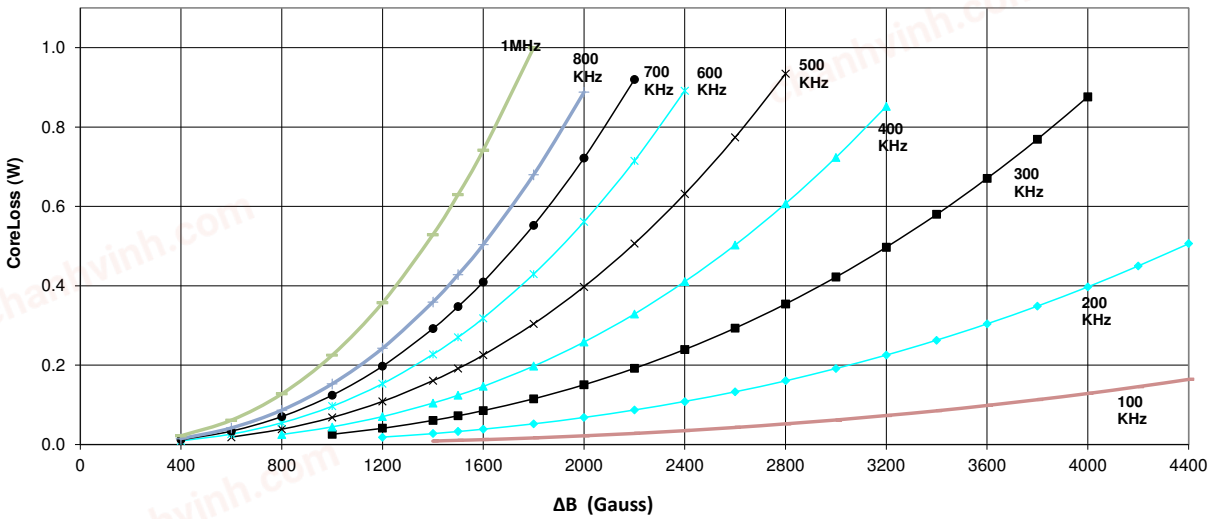
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Core Loss

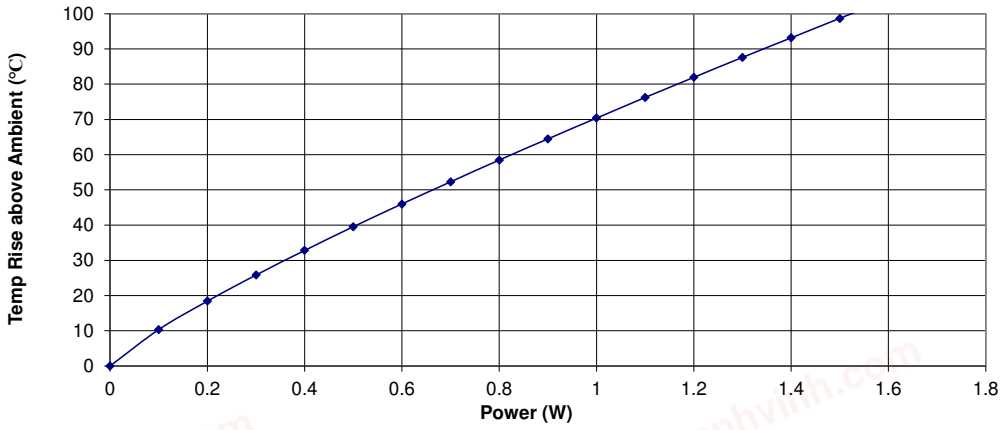
PGL6477.XXXHL Core Loss



Where $\Delta B = 0.8 * L(nH) * \Delta I$

Temp Rise vs Power Dissipation

PGL6477.XXXHLT Temp Rise



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

For More Information:

Americas - prodinfo_power_americas@yageo.com | **Europe -** prodinfo_power_emea@yageo.com | **Asia -** prodinfo_power_asia@yageo.com

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