PA4025.181HLT Datasheet

DiGi Electronics Part Number	PA4025.181HLT-DG
Manufacturer	Pulse Electronics
Manufacturer Product Number	PA4025.181HLT
Description	FIXED IND 180NH 58A 0.29MOHM SMD
Detailed Description	180 nH Shielded Inductor 58 A 0.29mOhm Nonstandard

https://www.DiGi-Electronics.com

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Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
PA4025.181HLT	Pulse Electronics
Series:	Product Status:
PA4025.XXXHL	Active
Type:	Material - Core:
-	-
Inductance:	Tolerance:
180 nH	±10%
Current Rating (Amps):	Current - Saturation (Isat):
58 A	75A
Shielding:	DC Resistance (DCR):
Shielded	0.29mOhm
Q @ Freq:	Frequency - Self Resonant:
-	-
Ratings:	Operating Temperature:
-	-40°C ~ 130°C
Inductance Frequency - Test:	Features:
100 kHz	-
Mounting Type:	Package / Case:
Surface Mount	Nonstandard
Supplier Device Package:	Size / Dimension:
-	0.409" L x 0.268" W (10.40mm x 6.80mm)
Height - Seated (Max):	
0.500" (12.70mm)	

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8504.50.8000	

SMT Power Inductors

Power Beads - PA4025.XXXHL Series

Pulse Electronics

- ***Current Rating:*** *Over 86Apk*
- ***Inductance Range:*** *150nH to 360nH*
- ***Height:*** *12.3mm Max*
- ***Footprint:*** *10.0mm x 6.8mm Max*
- *Halogen Free*

Electrical Specifications @ 25°C — Operating Temperature - 40°C to +130°C [7]

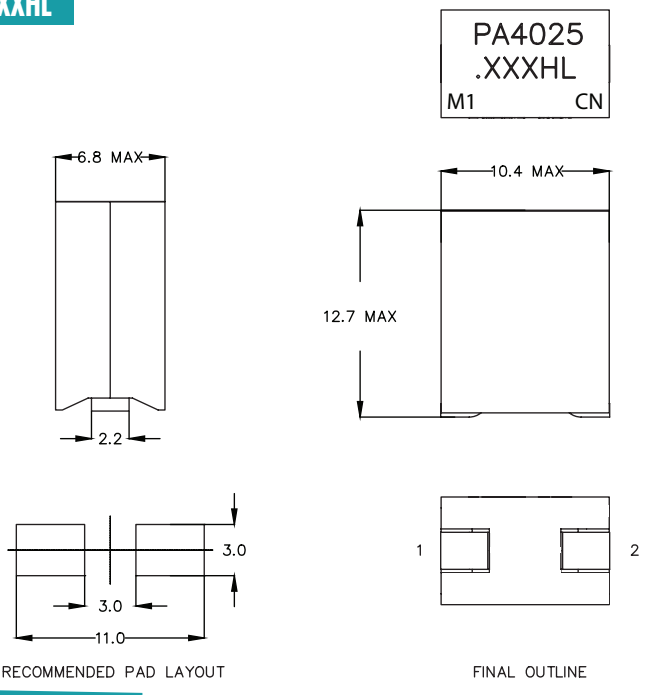
Part Number	Inductance[1] @ 0Adc (nH +/- 10%)	Inductance[2] @Irated (nH TYP)	Irated[3] (ADC)	DCR[4] (mW nominal)	Saturation Current[5] (A TYP)		Heating Current[6] (A TYP)
					25°C	100°C	
PA4025.151HL	150	150	58	0.29 +/- 10%	75+	75+	58
PA4025.181HL	180	180	58		75+	75+	
PA4025.231HL	230	185	62		75	62	
PA4025.361HL	360	350	36		46	36	
PA4025.471HL	470	460	25		35	25	

NOTES:

1. Inductance measured at 100kHz, 100mVrms.
2. Inductance at Irated is the value of the inductance at 25°C at the listed rated current.
3. The rated current 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 ⓐ to point ⓑ, as shown below on the mechanical drawing.
5. The saturation current is the typical current which causes the inductance to drop by 20% at the stated ambient temperatures (25°C, 100°C). This current is determined by placing the component in the specified ambient environment and applying a short duration pulse current (to eliminate self-heating effects) to the component.
6. The heating current is the DC current which 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 component 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 determine the approximate total losses (or temperature rise) for a given application, the coreloss and temperature rise curves can be used.
8. Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PA4025.361HL becomes PA4025.361HLT).
   Pulse complies to industry standard tape and reel specification EIA481. The tape and reel for this product has a width (W=32mm), pitch (Po=16mm) and depth (Ko=13mm).
9. The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.

Mechanical

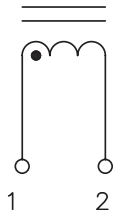
PA4025.XXXHL



RECOMMENDED PAD LAYOUT

FINAL OUTLINE

Schematics



Weight . . . . . xx grams
Tape & Reel . . . . . xx/reel

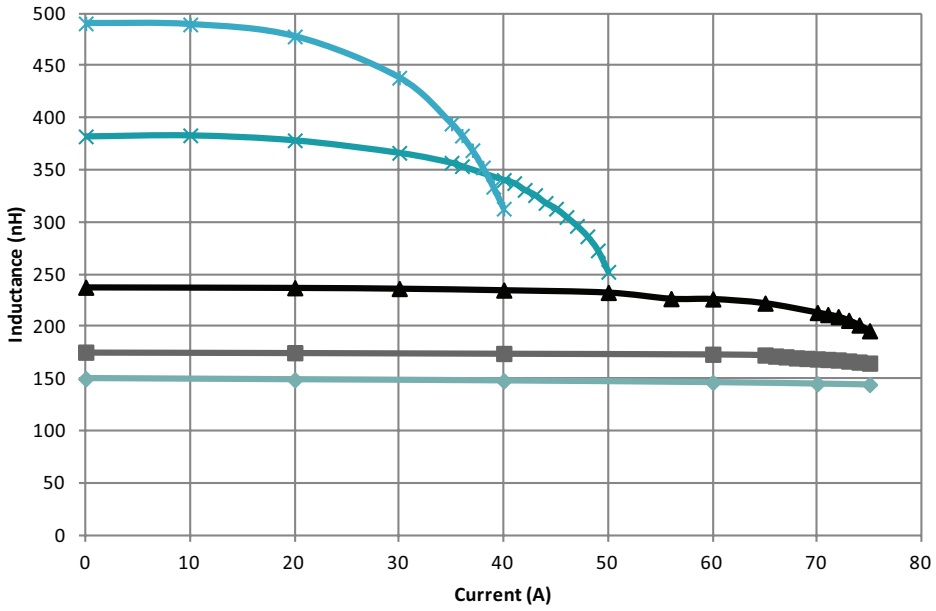
Dimensions: Inches / mm

Unless otherwise specified, all tolerances are ± .010 / 0,25

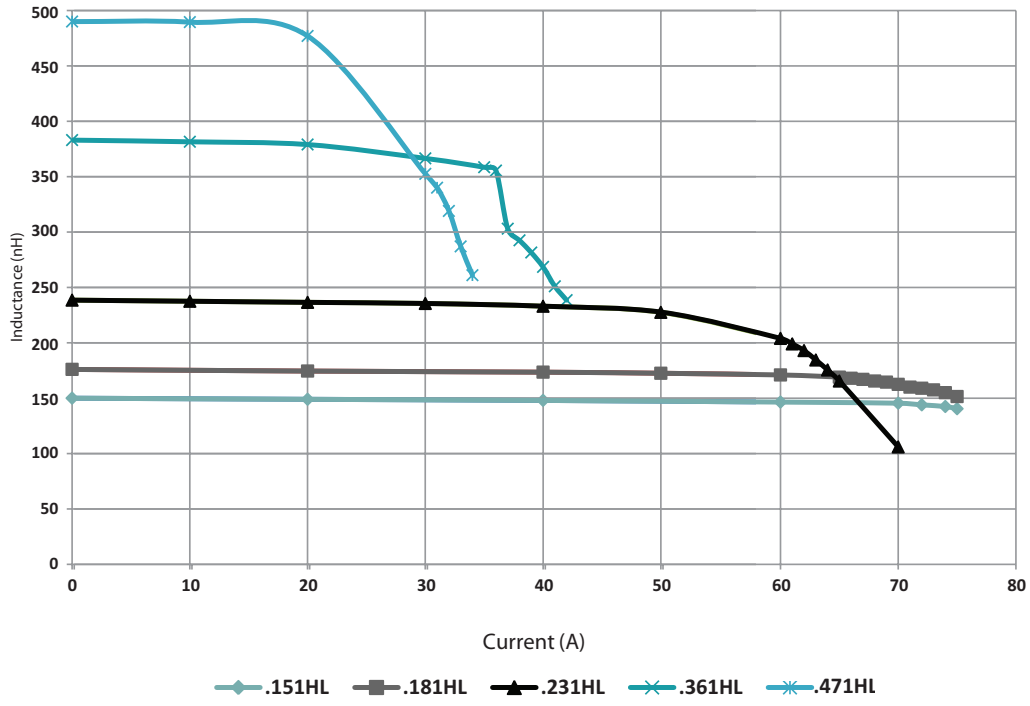
SMT Power Inductors

Power Beads - PA4025.XXXHL Series

PA4025.XXXHL, Lvsl, 25C



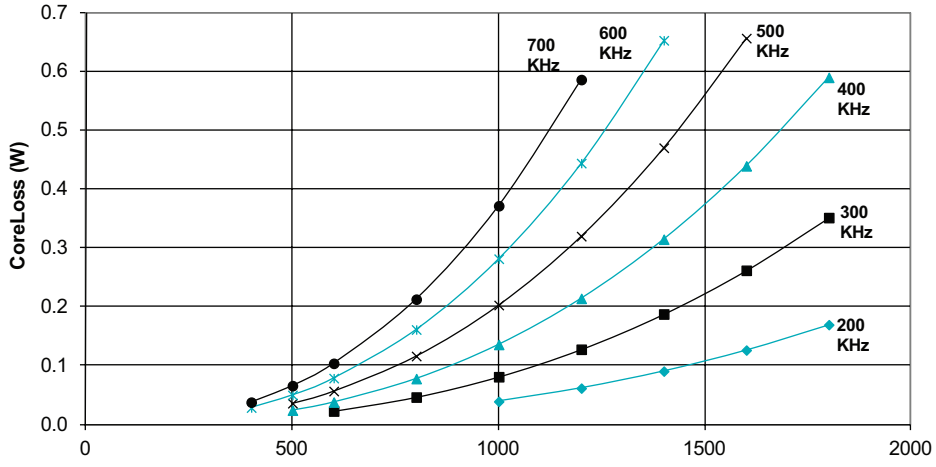
PA4025.XXXHL, Lvsl, 100C



SMT Power Inductors

Power Beads - PA4025.XXXHL Series

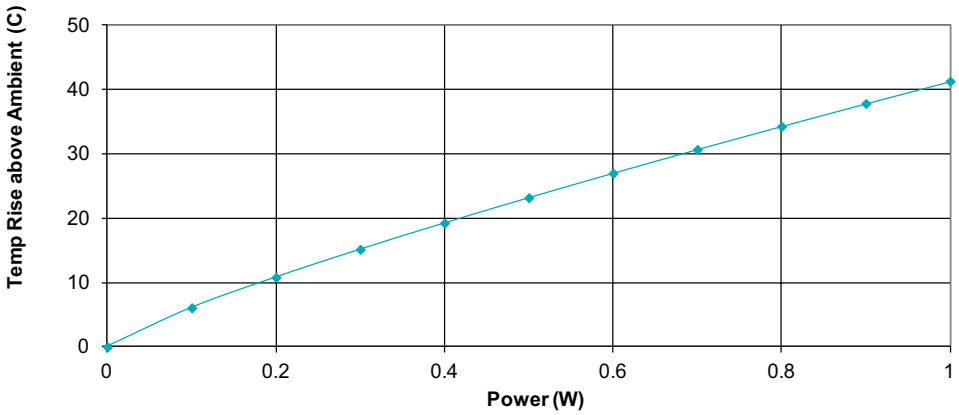
PA4025.XXXHL CoreLoss (W)



ΔB

where $\Delta B = 0.24 * L(nH) * \Delta I$

PA4025.XXXHL Temp Rise vs Power Dissipation



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

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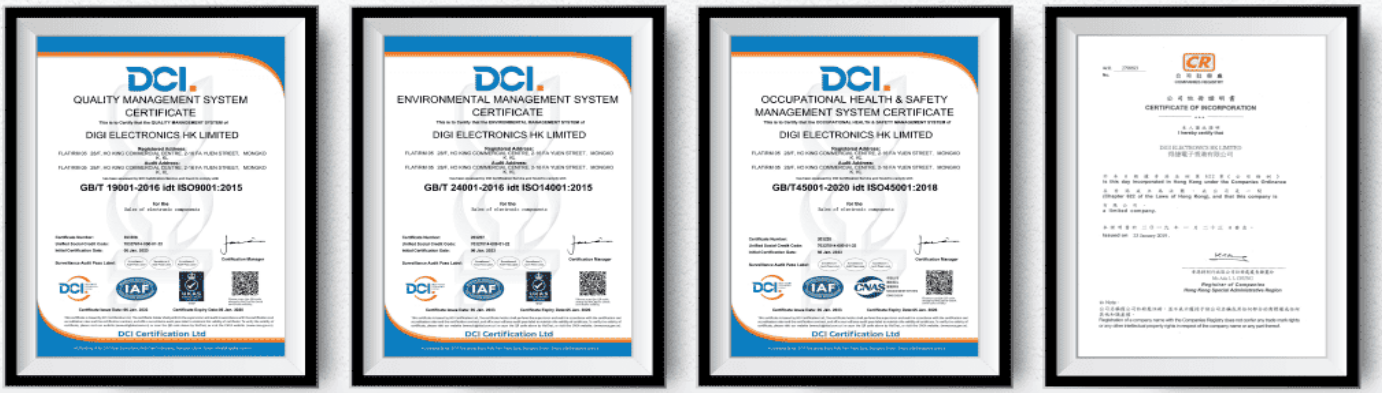

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