PF0560.252NLT Datasheet

DiGi Electronics Part Number	PF0560.252NLT-DG
Manufacturer	Pulse Electronics
Manufacturer Product Number	PF0560.252NLT
Description	FIXED IND 2.5UH 6.1A 10.5MOHM SM
Detailed Description	2.5 µH Shielded Wirewound Inductor 6.1 A 10.5mOhm Max Nonstandard

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
PF0560.252NLT	Pulse Electronics
Series:	Product Status:
PF0560NL	Active
Type:	Material - Core:
Wirewound	-
Inductance:	Tolerance:
2.5 µH	±30%
Current Rating (Amps):	Current - Saturation (Isat):
6.1 A	7.5A
Shielding:	DC Resistance (DCR):
Shielded	10.5mOhm Max
Q @ Freq:	Frequency - Self Resonant:
-	40MHz
Ratings:	Operating Temperature:
-	-40°C ~ 125°C
Inductance Frequency - Test:	Features:
100 kHz	-
Mounting Type:	Package / Case:
Surface Mount	Nonstandard
Supplier Device Package:	Size / Dimension:
-	0.409" L x 0.406" W (10.40mm x 10.30mm)
Height - Seated (Max):	
0.157" (4.00mm)	

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8504.50.4000	

SMT Power Inductors

Shielded Drum Core - PF0560NL Series

- ***Height:*** *4.0mm Max*
- ***Footprint:*** *10.4 x 10.4mm Max*
- ***Current Rating:*** *up to 6.5A*
- ***Inductance Range:*** *1.5µH to 330µH*
- *260°C reflow peak temperature qualified*
- *Leaded technology compatible*

Electrical Specifications @ 25°C - Operating Temperature -40°C to +125°C[6]								
Part[2,3] Number	Inductance @ 0A$_{DC}$ (µH)	Inductance @ Irated (µH TYP)	Irated[5] (A)	DCR (mΩ MAX)	Saturation[6] Current I$_{SAT}$ -35% (A)	Heating[7] Current IDC +30°C (A)	Core Loss[8] Factor (K2)	SRF (MHZ)
PF0560.152NL	1.5 ±30%	1.5	6.5	8.1	10	6.5	260	>40
PF0560.252NL	2.5 ±30%	2.5	6.1	10.5	7.5	6.1	330	>40
PF0560.382NL	3.8 ±30%	3.8	5.5	13	6.0	5.5	420	39
PF0560.522NL	5.2 ±30%	5.2	5.4	22	5.5	5.4	480	34
PF0560.702NL	7.0 ±30%	7.0	4.5	27	4.8	4.5	500	29
PF0560.103NL	10 ±30%	10	3.8	35	4.4	3.8	630	25
PF0560.153NL	15 ±30%	15	3.1	50	3.6	3.1	790	19
PF0560.223NL	22 ±30%	22	2.5	73	2.9	2.5	910	17
PF0560.333NL	33 ±30%	33	2.2	93	2.3	2.2	1200	14
PF0560.473NL	47 ±25%	47	1.9	128	2.1	1.9	1300	10
PF0560.683NL	68 ±25%	68	1.42	213	1.5	1.42	1700	9.0
PF0560.104NL	100 ±25%	100	1.25	304	1.35	1.25	2000	6.6
PF0560.154NL	150 ±25%	150	0.85	506	1.15	0.85	2400	5.4
PF0560.224NL	220 ±25%	220	0.7	756	0.92	0.7	2900	5.2
PF0560.334NL	330 ±25%	330	0.52	1090	0.70	0.52	3580	3.2

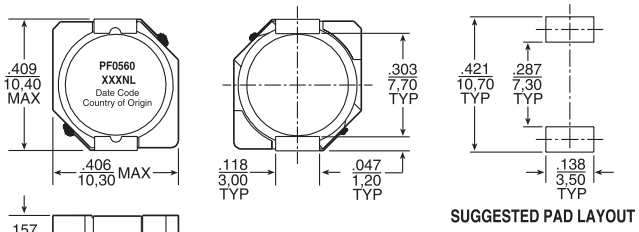
SMT Power Inductors

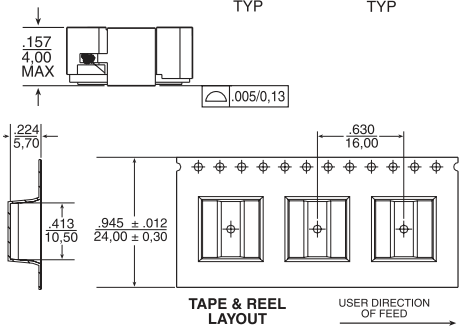
Shielded Drum Core - PF0560NL Series

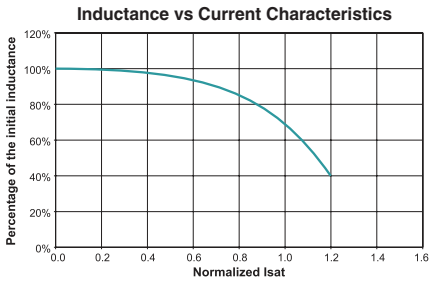
Mechanicals

Schematic

PF0560.XXXNL







Weight .....1.4 grams
Tape & Reel .....620 reel
Tray 60/tray
Dimensions: Inches / mm
Unless otherwise specified, all tolerances are: ± .004 / 0,10

Notes:

1. Unless otherwise specified, all testing is made at 100kHz, 0.1VAC.
2. Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e P1166.102NL becomes P1166.102NLT). Pulse complies with industry standard Tape and Tape & Reel specification EIA481.
3. The "NL" suffix indicates an RoHS-compliant part numer. Non-NL suffixed parts are not necessarily RoHS compliant, but are electrically and mechanically equivalent to NL versions. If a part number does not have the "NL" version, but an RoHS compliant version is required, please contact Pulse for availability.
4. Temperature of the component (ambient plus temperature rise) must be within specified operating temperature range.
5. The rated current (Irated) as listed is either the saturation current or the heating current depending on which value is lower.
6. The saturation current, Isat, is the current at which the component inductance drops by the indicated percentage (typical) at an ambient temperature of 25C. 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.
7. The heating current, Idc, is the DC current required to raise the component temperature by the indicated delta (approximately). The heating current isdetermined by mounting the component on a typical PCB and applying current for 30 minutes. The temperature is measured by placing the thermocouple on top of the unit under test.
8. In high volt*time (Et) or ripple current applications, additional heating in the component can occur due to core losses in the inductor which may necessitate derating the current in order to limit the temperature rise of the component. In order to determine the approximate total loss (or temperature rise) for a given application, both copper losses and core losses should be taken into account.

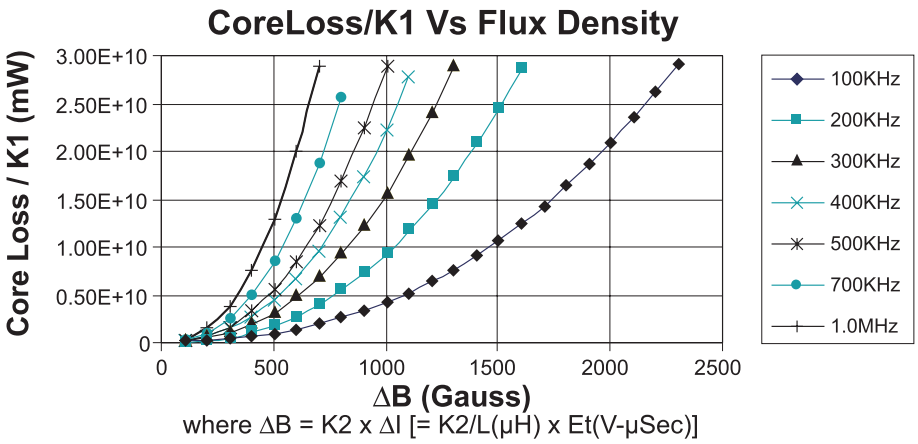
Estimated Temperature Rise:

Trise = [Total loss (mW) / K0]$^{.833}$(°C)
Total Loss = Copper loss + Core loss (mW)
Copper loss = I_{RMS}^2 x DCR (Typical) (mW)
Irms = $[I_{DC}^2 + \Delta I^2 /12]^{1/2}$ (A)
Core loss = K1 x f (kHz)$^{1.23}$ x Bac (Ga)$^{2.38}$ (mW)
Bac (peak to peak flux density) = K2 x ΔI (Ga)
[= K2/L (μH) x Et (V-μSec) (Ga)]
where f varies between 25kHz and 1MHz, and Bac is less than 2500 Gauss.
K2 is a core size and winding dependent value and is given for each p/n in the proceeding datasheets. K0 & K1 are platform and material dependant constants and are given in the table below for each platform.

SMT Power Inductors

Shielded Drum Core - PF0560NL Series

Part No.	Trise Factor (K0)	Core Loss Factor (K1)
PG0085/86	2.3	5.29E-10
PG0087	5.8	15.2E-10
PG0040/41	0.8	2.80E-10
P1174	0.8	6.47E-10
PF0601	4.6	14.0E-10
PF0464	3.6	24.7E-10
PF0465	3.6	33.4E-10
P1166	1.9	29.6E-10
P1167	2.1	42.2E-10
PF0560NL	5.5	136E-10
P1168/69	4.8	184E-10
P1170/71	4.3	201E-10
P1172/73	5.6	411E-10
PF0552NL	8.3	201E-10
PF0553NL	7.1	411E-10



Take note that the component's temperature rise varies depending on the system condition. It is suggested that the component be tested at the system level, to verify the temperature rise of the component during system operation.

For More Information

Pulse Worldwide Headquarters
15255 Innovation Drive Ste 100
San Diego, CA 92128
U.S.A.

Tel: 858 674 8100
Fax: 858 674 8262

Pulse Europe
Pulse Electronics GmbH
Am Rottland 12
58540 Meinerzhagen
Germany

Tel: 49 2354 777 100
Fax: 49 2354 777 168

Pulse China Headquarters
Pulse Electronics (ShenZhen) CO., LTD
D708, Shenzhen Academy of
Aerospace Technology,
The 10th Keji South Road,
Nanshan District, Shenzhen,
P.R. China 518057

Tel: 86 755 33966678
Fax: 86 755 33966700

Pulse North China
Room 2704/2705
Super Ocean Finance Ctr.
2067 Yan An Road West
Shanghai 200336
China

Tel: 86 21 62787060
Fax: 86 2162786973

Pulse South Asia
3 Fraser Street 0428
DUO Tower
Singapore 189352

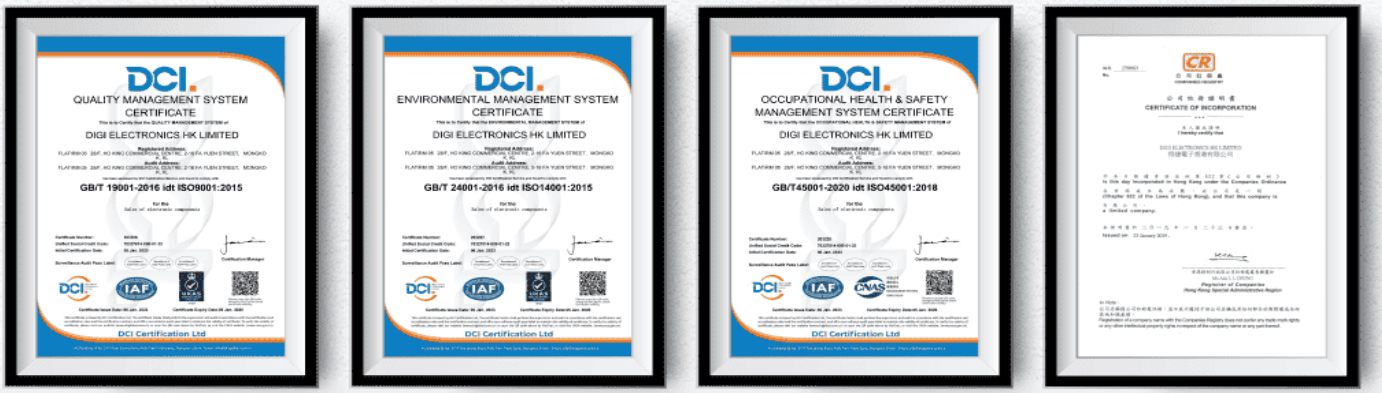
Tel: 65 6287 8998
Fax: 65 6280 0080

Pulse North Asia
1F., No.111 Xiyuan Road
Zhongli District
Taoyuan City 32057
Taiwan (R.O.C)

Tel: 886 3 4356768
Fax: 886 3 4356820

OUR CERTIFICATE

DiGi provide top-quality products and perfect service for customer worldwide through standardization, technological innovation and continuous improvement. DiGi through third-party certification, we striciy control the quality of products and services. Welcome your RFQ to Email: Info@DiGi-Electronics.com



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.