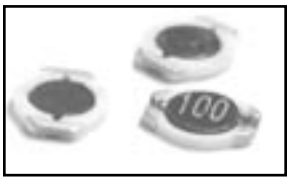
FEATURES

- ULTRA LOW PROFILE (1.2mm MAX. HEIGHT)
- SURFACE MOUNTABLE CONSTRUCTION
- HIGH INDUCTANCE (UP TO 330µH)
- TAPED AND REELED FOR AUTOMATIC INSERTION

RoHS Compliant
includes all homogeneous materials
*See Part Number System for Details



CHARACTERISTICS

Case Size	NPI17L
Inductance Range	1.2µH ~ 330µH
Temperature Range	-20°C ~ +105°C
Temperatrue Rise at Irms	40°C max.
Inductance Change at Isat	-30% typical
Inductance Tolerance	20% (M)
Resistance to Solder Heat	260°C for 5 seconds

PART NUMBER SYSTEM

NPI 17 L 4R7 M TR F

- F — RoHS compliant
- TR — Packaging: TR = Tape & Reel
- M — Inductance Tolerance Code: M=±20%
- 4R7 — Inductance Code (µH): 1st two digits are significant, 3rd digit is multiplier for values from 10µH and up.
- L — Construction Code (see drawing for details)
- 17 — Size Code (see table for details)
- NPI — Series

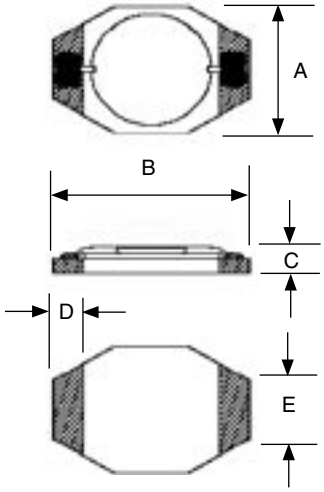
Part Number	STANDARD VALUES - CASE SIZE 17 (5.5 x 6.6 x 1.2mm)			
	Inductance Value (µH)	DC Resistance (Ω)	DC Current Isat (Irms)	Test Frequency
NPI17L1R2MTRF	1.2µH ±20%	0.12	2.10	100KHz
NPI17L1R5MTRF	1.5µH ±20%	0.15	1.90	
NPI17L2R2MTRF	2.2µH ±20%	0.20	1.60	
NPI17L3R3MTRF	3.3µH ±20%	0.25	1.30	
NPI17L4R7MTRF	4.7µH ±20%	0.28	1.10	
NPI17L6R8MTRF	6.8µH ±20%	0.32	0.90	
NPI17L100MTRF	10µH ±20%	0.41	0.80	
NPI17L150MTRF	15µH ±20%	0.60	0.65	
NPI17L220MTRF	22µH ±20%	0.85	0.50	
NPI17L330MTRF	33µH ±20%	1.30	0.40	
NPI17L470MTRF	47µH ±20%	1.80	0.35	
NPI17L680MTRF	68µH ±20%	2.50	0.30	
NPI17L101MTRF	100µH ±20%	3.50	0.25	
NPI17L151MTRF	150µH ±20%	5.00	0.18	
NPI17L221MTRF	220µH ±20%	8.00	0.16	
NPI17L331MTRF	330µH ±20%	15.0	0.13	

Maximum +40°C temperature rise at Irms. Typical -30% inductance change at Isat.

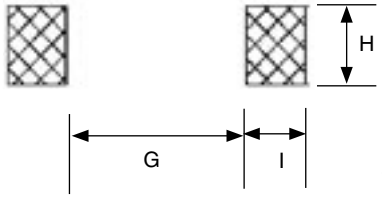
PART AND LAND PATTERN DIMENSIONS

Series	A	B	C	D (ref)	E (ref)	I (ref)	G (ref)	H (ref)
NPI17L	5.5 Max	6.60 Max	1.20 Max	0.75	2.50	1.1	4.7	2.5

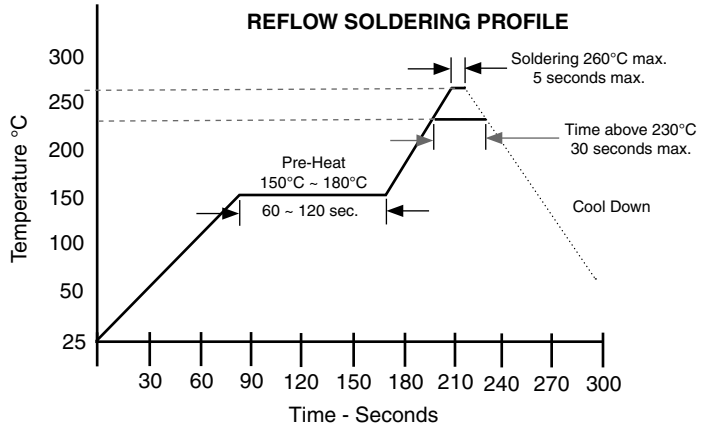
NPI17L



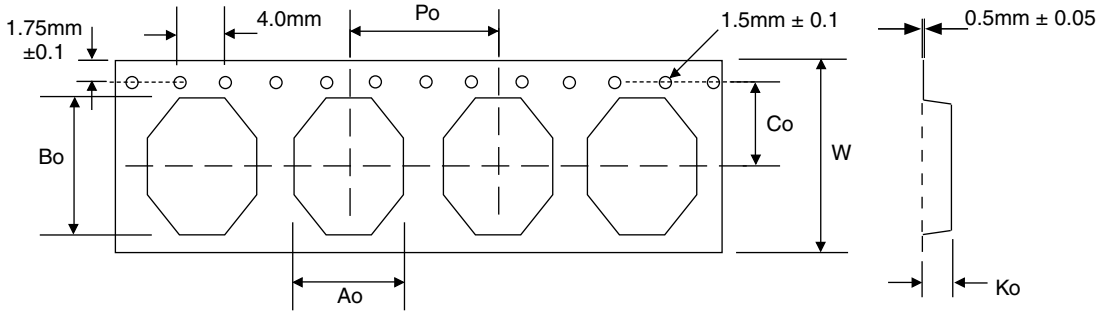
LAND PATTERN



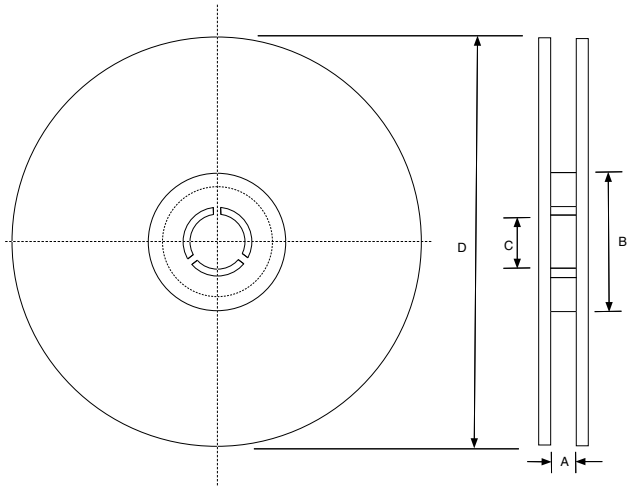
REFLOW SOLDERING PROFILE



Case Size	TAPING DIMENSIONS (mm)					
	Ao	Bo	Co	Ko	W	Po
NPI17L	5.8	6.8	7.5	1.4	16	8.0



Tape Width	REEL DIMENSIONS (mm) & QUANTITY				
	A(mm)	B(mm)	C(mm)	D(mm)	Qty/Reel
16mm	12.5±0.1	50±1	13±0.2	178	1,000

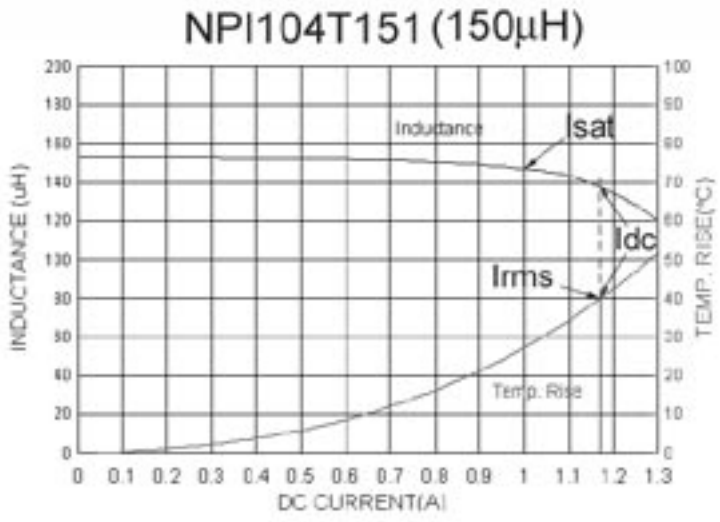


NPI & NPIS Series

Isat (**Saturation Current)** - is the current required to **decrease the inductance** value by the specified maximum amount (given as a percentage of the nominal inductance value).

Irms - is the current required to **increase the temperature** of the part a maximum specificed amount (given as a temperature rise in °C).

In some instances Isat and Irms are shown separately with a maximum decrease in inductance specified at one current rating (Isat) and a maximum temperature rise specificed at another current rating (Irms). In other cases one current value is given for both (specified as Idc) and represents the current at which a specified maximum inductance decrease and a maximum specified temperature rise can occur. The graph below illustrates change in inductance and temperature as current increases.



Based on the above graph Isat and Irms could be expressed as follows:

1. Isat and Irms can be shown as separate current values. The Isat current is a value of current that could potentially produce a specified maximum inductance change (-5%, -10%, -20%, etc. of the nominal value). In this case a 1.0A current has produced a -5% inductance change so 1.0A could be specified as the inductor's Isat current rating. The Irms could be expressed as the current that produces a +40°C temperature rise which in this case is about 1.18A.

2. Both Isat and Irms can be expressed using one current value (Idc). In the above graph 1.18A could be specified as the Idc for the part noting that at 1.18A a potential +40°C temperature rise (equivalent to Irms) and a -10% change in inductance (equivalent to Isat) could occur.