NPIS Shielded Power Inductors

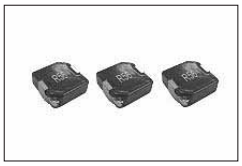
NPIS__P Series

FEATURES

- SHIELDED POWER INDUCTOR
- HIGH CURRENT (UP TO 75 AMPS)
- SURFACE MOUNTABLE CONSTRUCTION
- LOW PROFILE (3.0, 3.5, 4.0 & 5mm MAXIMUM HEIGHT)
- TAPED AND REELED FOR AUTOMATIC INSERTION
- FOR USE IN DC/DC CONVERTERS

RoHS Compliant
includes all homogeneous materials

*See Part Number System for Details



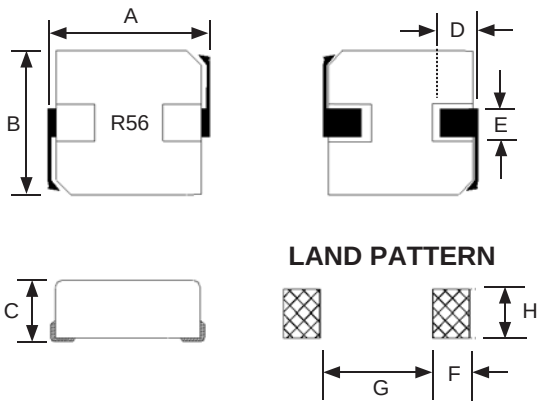
CHARACTERISTICS

Case Size	NPIS_P
Inductance Range	0.1 ~ 10µH
Ambient Operating Temperature Range	-55°C ~ +125°C
Maximum Component Temperature (Ambient + Self-Heating)	+155°C
Temperatrue Rise at Irms	+40°C max.
Inductance Change at Isat	-20% typical
Inductance Tolerance	20% (M)
Resistance to Solder Heat	260°C for 5 seconds

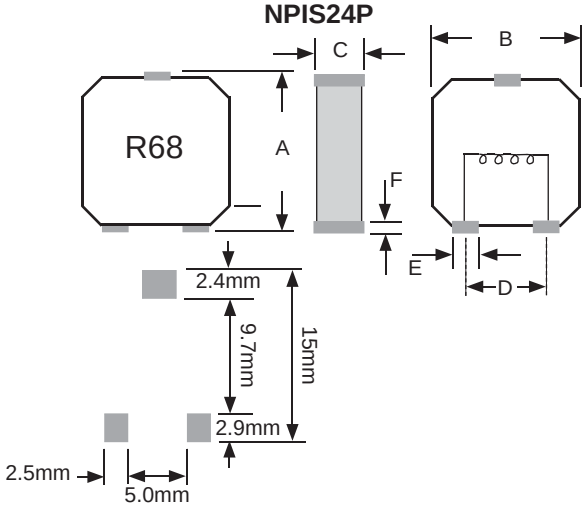
DIMENSIONS (mm)

Series	A	B	C	D	E	F	G	H
NPIS60P	7.8 max.	7.0 max.	2.4 max.	1.6 ± 0.5	2.1 ± 0.5	2.5	3.7	3.5
NPIS63P	7.8 max.	7.0 max.	3.2 max.	1.6 ± 0.5	2.1 ± 0.5	2.5	3.7	3.5
NPIS14P	11.8 max.	10.5 max.	4.2 max.	2.2 ± 0.5	2.9 ± 0.5	3.5	5.4	4.5
NPIS23P	13.9 max.	13.5 max.	3.8 max.	2.5 ± 0.5	3.0 ± 0.5	3.35	7.1	4.5
NPIS25P	13.9 max.	13.5 max.	5.2 max.	2.5 ± 0.5	3.0 ± 0.5	3.35	7.1	4.5
NPIS24P	13.9 max.	13.9 max.	5.4 max.	7.6 ± 0.3	2.0 ± 0.3	2.2 ± 0.3	-	-

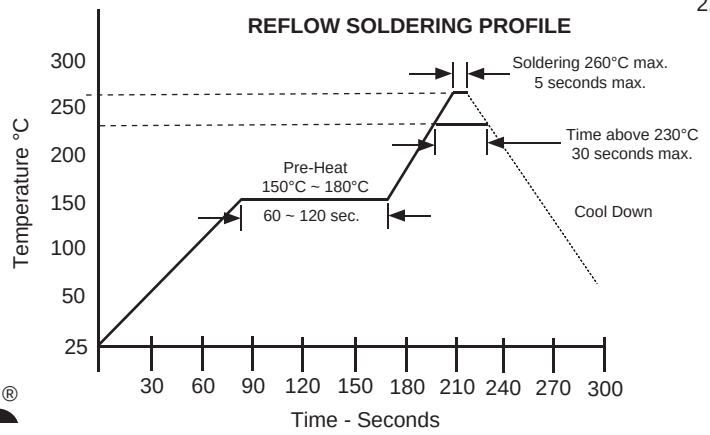
NPIS60P, 63P, 14P, 23P & 25P



NPIS24P



REFLOW SOLDERING PROFILE



Part Number	STANDARD VALUES - CASE SIZE 60 (7.8 X 7.0 X 2.4mm)				
	Inductance Value (µH)	DC Resistance (mΩ)	DC Current Irms (Amps)	DC Current Isat (Amps)	Test Frequecy
NPIS60PR10MTRF	0.1	1.7	30	50	100KHz
NPIS60PR22MTRF	0.22	3.2	21	34	
NPIS60PR33MTRF	0.33	4.1	18	22	
NPIS60PR47MTRF	0.47	6.5	13.5	21	
NPIS60PR68MTRF	0.68	9.4	11	18	
NPIS60PR82MTRF	0.82	11.8	10	17	
NPIS60P1R0MTRF	1.0	14.2	9	16	
NPIS60P1R5MTRF	1.5	21.2	7.5	15	
NPIS60P2R2MTRF	2.2	34	6.5	14	
NPIS60P3R3MTRF	3.3	51.2	5	13	
NPIS60P4R7MTRF	4.7	63	4.5	10	
NPIS60P6R8MTRF	6.8	95	3.5	9.0	
NPIS60P8R2MTRF	8.2	106	3	8	
NPIS60P100MTRF	10	129	2.5	7	

Maximum +40°C temperature rise at Irms. Typical -20% inductance change at Isat.

Part Number	STANDARD VALUES - CASE SIZE 63 (7.8 X 7.0 X 3.2mm)				
	Inductance Value (µH)	DC Resistance (mΩ)	DC Current Irms (Amps)	DC Current Isat (Amps)	Test Frequecy
NPIS63PR10MTRF	0.1	1.7	32.5	42	100KHz
NPIS63PR15MTRF	0.15	2.5	26	38	
NPIS63PR20MTRF	0.20	3.0	24	36	
NPIS63PR22MTRF	0.22	2.8	23	36	
NPIS63PR33MTRF	0.33	3.9	20	30	
NPIS63PR47MTRF	0.47	4.2	17.5	26	
NPIS63PR68MTRF	0.68	5.5	15.5	23	
NPIS63PR82MTRF	0.82	8.0	13	20	
NPIS63P1R0MTRF	1.0	10	11	16	
NPIS63P1R5MTRF	1.5	15	9	14	
NPIS63P2R2MTRF	2.2	20	8	12	
NPIS63P3R3MTRF	3.3	30	6	10	
NPIS63P4R7MTRF	4.7	40	5.5	6.5	
NPIS63P6R8MTRF	6.8	60	4.5	6.0	
NPIS63P8R2MTRF	8.2	68	4.0	5.5	
NPIS63P100MTRF	10	105	3.0	4.5	

Maximum +40°C temperature rise at Irms. Typical -20% inductance change at Isat.

PART NUMBER SYSTEM

NPIS 23 P 5R6 M TR F

- F — Termination Finish: F = RoHS Compliant (100%Sn)
- TR — Packaging: TR = Tape & Reel
- M — Inductance Tolerance Code: M=±20%
- 5R6 — Inductance Code (µH): 1st two digits are significant, 3rd digit is multiplier for values from 10µH and up.
- P — Construction Code (see drawing for details)
- 23 — Size Code (see table for details)
- NPIS — Series

Part Number	STANDARD VALUES - CASE SIZE 14 (11.8 X 10.5 X 4.2mm)				
	Inductance Value (µH)	DC Resistance (mΩ)	DC Current Irms (Amps)	DC Current Isat (Amps)	Test Frequecy
NPIS14PR36MTRF	0.36	1.4	28	40	100KHz
NPIS14PR47MTRF	0.47	1.6	26	38	
NPIS14PR56MTRF	0.56	1.9	25	36	
NPIS14PR68MTRF	0.68	2.4	23	32	
NPIS14PR75MTRF	0.75	2.2	22	31	
NPIS14PR82MTRF	0.82	2.6	21.5	30	
NPIS14P1R0MTRF	1.0	3.5	20	28	
NPIS14P1R5MTRF	1.5	7.5	12	20	
NPIS14P2R2MTRF	2.2	8.6	11.5	16.5	
NPIS14P3R3MTRF	3.3	10	10	14	
NPIS14P4R7MTRF	4.7	13.5	8	13	
NPIS14P5R6MTRF	5.6	16	7	12	
NPIS14P6R8MTRF	6.8	20	6.5	11	
NPIS14P8R2MTRF	8.2	32.5	5	8	

Maximum +40°C temperature rise at Irms. Typical -20% inductance change at Isat.

Part Number	STANDARD VALUES - CASE SIZE 23 (13.9 X 13.5 X 3.8mm)				
	Inductance Value (µH)	DC Resistance (mΩ)	DC Current Irms (Amps)	DC Current Isat (Amps)	Test Frequecy
NPIS23PR10MTRF	0.1	0.96	43	56	100KHz
NPIS23PR15MTRF	0.15	1.2	41	52	
NPIS23PR22MTRF	0.22	1.3	38.5	52	
NPIS23PR33MTRF	0.33	1.5	37	50	
NPIS23PR47MTRF	0.47	2	32	44	
NPIS23PR60MTRF	0.60	2.5	30	42	
NPIS23PR68MTRF	0.68	2.5	30	40	
NPIS23PR82MTRF	0.82	3	25	38	
NPIS23P1R0MTRF	1.0	3.5	24	36	
NPIS23P1R5MTRF	1.5	5.5	20	28	
NPIS23P1R8MTRF	1.8	7	17	24	
NPIS23P2R2MTRF	2.2	8	16	20	
NPIS23P3R3MTRF	3.3	12	14	18	
NPIS23P4R7MTRF	4.7	15	12	16	
NPIS23P5R6MTRF	5.6	18	10	14	
NPIS23P6R8MTRF	6.8	20	9	13	
NPIS23P8R2MTRF	8.2	28	8.5	12	

Maximum +40°C temperature rise at Irms. Typical -20% inductance change at Isat.

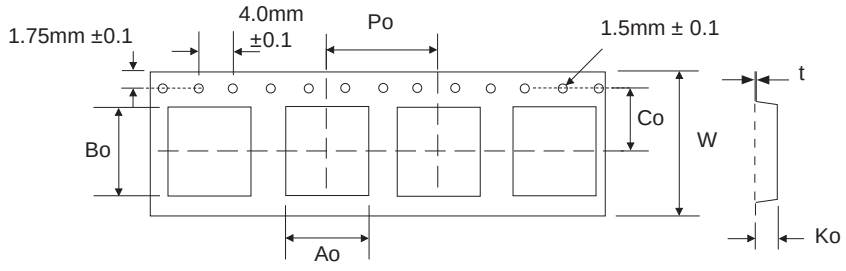
Part Number	STANDARD VALUES - CASE SIZE 25 (13.9 X 13.5 X 5.2mm)				
	Inductance Value (µH)	DC Resistance (mΩ)	DC Current Irms (Amps)	DC Current Isat (Amps)	Test Frequecy
NPIS25PR36MTRF	0.36	1.1	41	75	100KHz
NPIS25PR47MTRF	0.47	1.3	38	65	
NPIS25PR50MTRF	0.50	1.5	36	55	
NPIS25PR56MTRF	0.56	1.5	36	55	
NPIS25PR68MTRF	0.68	1.7	34	54	
NPIS25P1R0MTRF	1.0	2.5	29	50	
NPIS25P1R5MTRF	1.5	4.1	23	48	
NPIS25P2R2MTRF	2.2	5.5	20	32	
NPIS25P4R7MTRF	4.7	15	12	27	
NPIS25P8R2MTRF	8.2	28	8.5	12	
NPIS25P100MTRF	10	34	7.0	9.5	

Maximum +40°C temperature rise at Irms. Typical -20% inductance change at Isat.

Part Number	STANDARD VALUES - CASE SIZE 24 (13.9 X 13.9 X 5.4mm)				
	Inductance Value (µH)	DC Resistance (mΩ)	DC Current Irms (Amps)	DC Current Isat (Amps)	Test Frequecy
NPIS24PR68MTRF	0.68	1.5	29.7	38.8	100KHz
NPIS24P1R0MTRF	1.0	2.0	25.7	33.6	
NPIS24P1R2MTRF	1.2	2.6	23.1	26.9	
NPIS24P2R2MTRF	2.2	4.5	17.8	19.6	
NPIS24P3R3MTRF	3.3	7.0	14.4	17.5	
NPIS24P4R7MTRF	4.7	8.0	12.8	14.9	

Maximum +40°C temperature rise at Irms. Typical -20% inductance change at Isat.

Case Size	CARRIER TAPING DIMENSIONS (mm) AND REEL QUANTITY							
	Ao	Bo	Ko	Co	W	Po	t	Quantity
NPIS60P	7.0 ± 0.1	7.8 ± 0.1	2.6 ± 0.1	7.5 ± 0.1	16 ± 0.3	12.0 ± 0.1	0.35 ± 0.05	1000
NPIS63P	7.0 ± 0.1	7.8 ± 0.1	3.3 ± 0.1	7.5 ± 0.1	16 ± 0.3	12.0 ± 0.1	0.35 ± 0.05	1000
NPIS14P	10.5 ± 0.1	11.8 ± 0.1	4.5 ± 0.1	11.5 ± 0.1	24 ± 0.3	16.0 ± 0.1	0.35 ± 0.05	900
NPIS23P	13.5 ± 0.1	13.9 ± 0.1	4.5 ± 0.1	11.5 ± 0.1	24 ± 0.3	16.0 ± 0.1	0.35 ± 0.05	600
NPIS25P	13.5 ± 0.1	13.9 ± 0.1	5.6 ± 0.1	11.5 ± 0.1	24 ± 0.3	16.0 ± 0.1	0.35 ± 0.05	500
NPIS24P	13.9 ± 0.1	13.9 ± 0.1	5.6 ± 0.1	11.5 ± 0.1	24 ± 0.3	16.0 ± 0.1	0.40 ± 0.05	500



Tape Width	REEL DIMENSIONS (mm)			
	A(mm)	B(mm)	C(mm)	D(mm)
16mm	16.0 ±0.5	100 ±2.0	13 ±0.5	330
24mm	24.5 ±0.5