

## 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



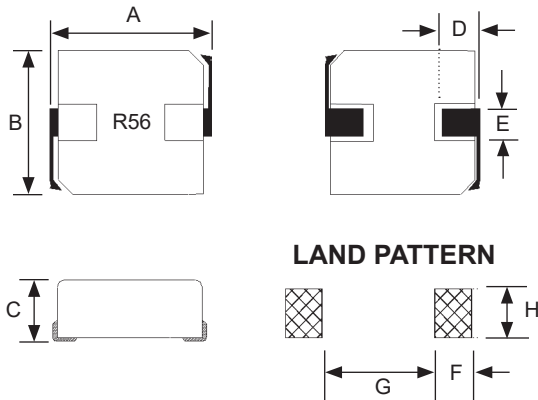
## CHARACTERISTICS

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
Temperature 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

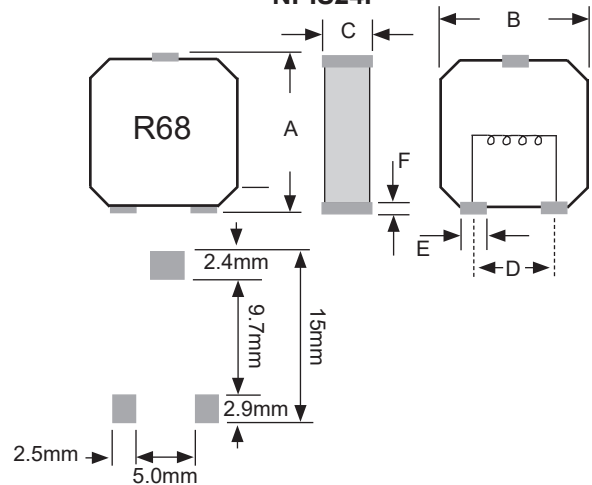
## DIMENSIONS (mm)

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	-	-

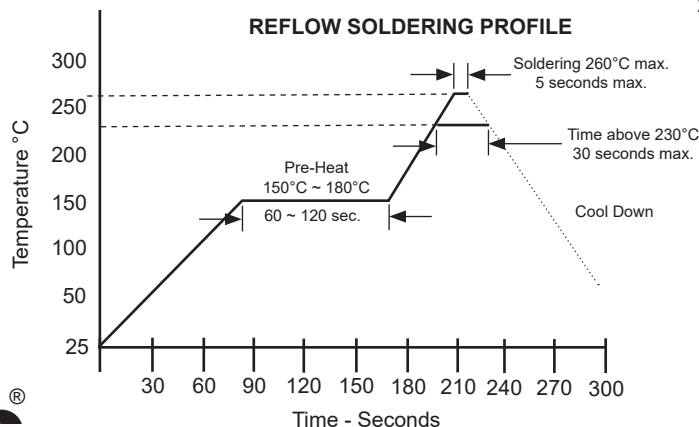
### NPIS60P, 63P, 14P, 23P & 25P



### NPIS24P



### REFLOW SOLDERING PROFILE



Part Number	STANDARD VALUES - CASE SIZE 60 (7.8 X 7.0 X 2.4mm)				Test Frequency
	Inductance Value (μH)	DC Resistance (mΩ)	DC Current Irms (Amps)	DC Current Isat (Amps)	
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	

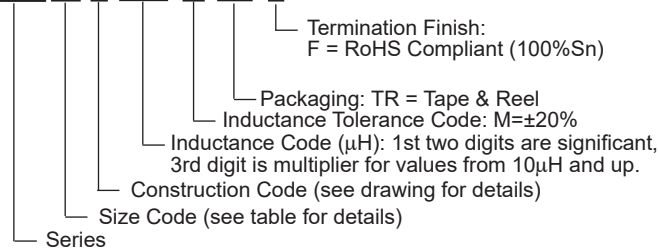
Maximum +40°C temperature rise at Irms. Typical -20% inductance change at Isat.

Part Number	STANDARD VALUES - CASE SIZE 63 (7.8 X 7.0 X 3.2mm)				Test Frequency
	Inductance Value (μH)	DC Resistance (mΩ)	DC Current Irms (Amps)	DC Current Isat (Amps)	
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 E



Part Number	STANDARD VALUES - CASE SIZE 14 (11.8 X 10.5 X 4.2mm)				Test Frequency
	Inductance Value (μH)	DC Resistance (mΩ)	DC Current Irms (Amps)	DC Current Isat (Amps)	
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)				Test Frequency
	Inductance Value (μH)	DC Resistance (mΩ)	DC Current Irms (Amps)	DC Current Isat (Amps)	
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)				Test Frequency
	Inductance Value (μH)	DC Resistance (mΩ)	DC Current Irms (Amps)	DC Current Isat (Amps)	
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	

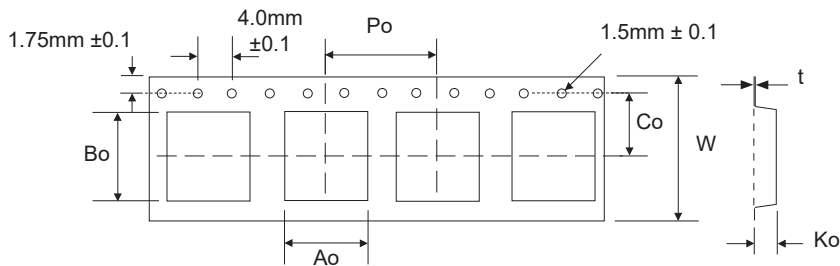
Maximum +40°C temperature rise at Irms. Typical -20% inductance change at Isat.



Part Number	STANDARD VALUES - CASE SIZE 24 (13.9 X 13.9 X 5.4mm)				Test Frequency
	Inductance Value (μH)	DC Resistance (mΩ)	DC Current Irms (Amps)	DC Current Isat (Amps)	
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							Quantity
	Ao	Bo	Ko	Co	W	Po	t	
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			

