

## FEATURES

- SHIELDED POWER INDUCTOR
- HIGH CURRENT (UP TO 9.8 AMPS)
- SURFACE MOUNTABLE CONSTRUCTION
- HIGH INDUCTANCE (UP TO 1000 $\mu$ H)
- TAPED AND REELED FOR AUTOMATIC INSERTION
- FOR USE IN DC/DC CONVERTERS

**RoHS  
Compliant**  
includes all homogeneous materials

\*See Part Number System for Details



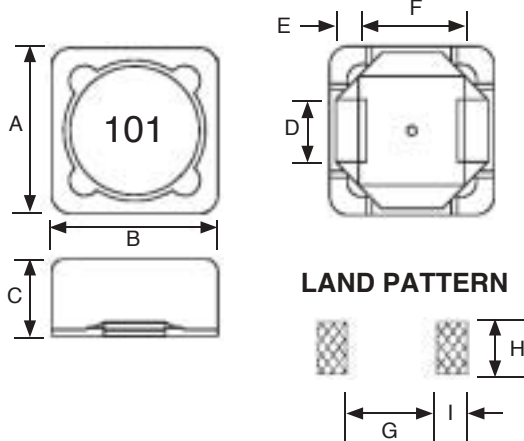
## CHARACTERISTICS

Case Size	NPIS73H	NPIS74H	NPIS24H	NPIS25H	NPIS27H
Inductance Range	6.8 ~ 1,000 $\mu$ H	10 ~ 1,000 $\mu$ H	3.3 ~ 330 $\mu$ H	1.5 ~ 1,000 $\mu$ H	1.2 ~ 1,000 $\mu$ H
Temperature Range	-40°C ~ +85°C				
Temperature Rise at Irms	+40°C max.				
Inductance Change at Isat	-10% typical		-20% typical		
Inductance Tolerance	10% (K), 15% (L), 20% (M), 30% (Y)				
Resistance to Solder Heat	260°C for 10 seconds				

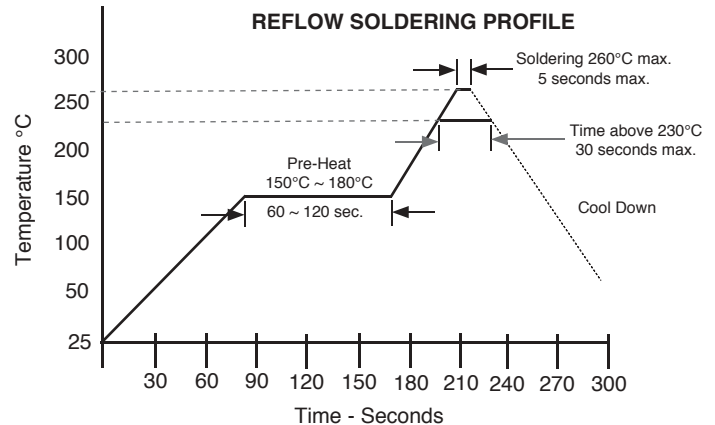
## DIMENSIONS (mm)

Series	A	B	C	D	E	F	G	H	I
NPIS73H	7.3 $\pm$ 0.3	7.3 $\pm$ 0.3	3.4 max	2.7 $\pm$ 0.2	1.2 ref.	5.1 $\pm$ 0.2	5.1	3.1	1.2
NPIS74H	7.3 $\pm$ 0.3	7.3 $\pm$ 0.3	4.5 max	2.7 $\pm$ 0.2	1.2 ref.	5.1 $\pm$ 0.2	5.1	3.1	1.2
NPIS24H	12.5 $\pm$ 0.3	12.5 $\pm$ 0.3	5.0 max	5.0 $\pm$ 0.2	2.2 $\pm$ 0.2	7.6 $\pm$ 0.2	7.0	5.4	2.8
NPIS25H	12.5 $\pm$ 0.3	12.5 $\pm$ 0.3	6.0 max	5.0 $\pm$ 0.2	2.2 $\pm$ 0.2	7.6 $\pm$ 0.2	7.0	5.4	2.8
NPIS27H	12.5 $\pm$ 0.3	12.5 $\pm$ 0.3	8.0 max	5.0 $\pm$ 0.2	2.2 $\pm$ 0.2	7.6 $\pm$ 0.2	7.0	5.4	2.8

## COMPONENT

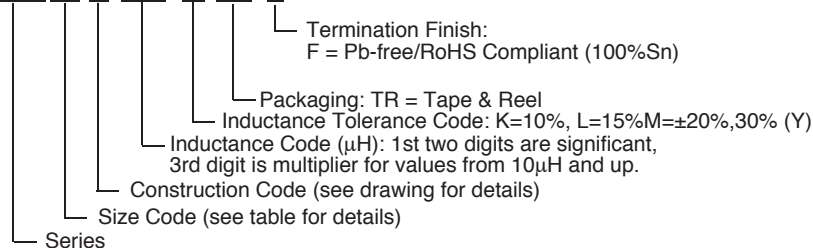


## REFLOW SOLDERING PROFILE



## PART NUMBER SYSTEM

NPIS 24 H 560 M TR F



Part Number	STANDARD VALUES - CASE SIZE 73 (7.3 x 7.3 x 3.5mm)			
	Inductance Value (μH)	DC Resistance (Ω)	DC Current Isat/Irms (Amps)	Test Frequency
NPIS73H6R8MTRF	6.8 ± 20%	0.053	2.50	1KHz
NPIS73H100MTRF	10 ± 20%	0.072	1.68	
NPIS73H120MTRF	12 ± 20%	0.098	1.52	
NPIS73H150MTRF	15 ± 20%	0.130	1.33	
NPIS73H180MTRF	18 ± 20%	0.140	1.20	
NPIS73H220MTRF	22 ± 20%	0.190	1.07	
NPIS73H270MTRF	27 ± 20%	0.210	0.96	
NPIS73H330MTRF	33 ± 20%	0.240	0.91	
NPIS73H390MTRF	39 ± 20%	0.320	0.77	
NPIS73H470MTRF	47 ± 20%	0.360	0.76	
NPIS73H560MTRF	56 ± 20%	0.470	0.68	
NPIS73H680MTRF	68 ± 20%	0.520	0.61	
NPIS73H820MTRF	82 ± 20%	0.690	0.57	
NPIS73H101MTRF	100 ± 20%	0.790	0.50	
NPIS73H121MTRF	120 ± 20%	0.890	0.49	
NPIS73H151MTRF	150 ± 20%	1.270	0.43	
NPIS73H181MTRF	180 ± 20%	1.450	0.39	
NPIS73H221MTRF	220 ± 20%	1.650	0.35	
NPIS73H271MTRF	270 ± 20%	2.310	0.32	
NPIS73H331MTRF	330 ± 20%	2.620	0.28	
NPIS73H391MTRF	390 ± 20%	2.940	0.26	
NPIS73H471MTRF	470 ± 20%	4.180	0.24	
NPIS73H561MTRF	560 ± 20%	4.670	0.22	
NPIS73H681MTRF	680 ± 20%	5.730	0.19	
NPIS73H821MTRF	820 ± 20%	6.540	0.18	
NPIS73H102MTRF	1000 ± 20%	9.440	0.16	

Maximum +40°C temperature rise at Irms. Maximum -10% inductance change at Isat.

Part Number	STANDARD VALUES - CASE SIZE 74 (7.3 x 7.3 x 4.50mm)			
	Inductance Value (μH)	DC Resistance (Ω)	DC Current Isat/Irms (Amps)	Test Frequency
NPIS74H100MTRF	10 ± 20%	0.049	1.84	1KHz
NPIS74H120MTRF	12 ± 20%	0.058	1.71	
NPIS74H150MTRF	15 ± 20%	0.081	1.47	
NPIS74H180MTRF	180 ± 20%	0.091	1.31	
NPIS74H220MTRF	22 ± 20%	0.110	1.23	
NPIS74H270MTRF	27 ± 20%	0.150	1.12	
NPIS74H330MTRF	33 ± 20%	0.170	0.96	
NPIS74H390MTRF	39 ± 20%	0.230	0.91	
NPIS74H470MTRF	47 ± 20%	0.260	0.88	
NPIS74H560MTRF	56 ± 20%	0.350	0.75	
NPIS74H680MTRF	68 ± 20%	0.380	0.69	
NPIS74H820MTRF	82 ± 20%	0.430	0.61	
NPIS74H101MTRF	100 ± 20%	0.610	0.60	
NPIS74H121MTRF	120 ± 20%	0.660	0.52	
NPIS74H151MTRF	150 ± 20%	0.880	0.46	
NPIS74H181MTRF	180 ± 20%	0.980	0.42	
NPIS74H221MTRF	220 ± 20%	1.170	0.37	
NPIS74H271MTRF	270 ± 20%	1.640	0.34	
NPIS74H331MTRF	330 ± 20%	1.860	0.32	
NPIS74H391MTRF	390 ± 20%	2.850	0.29	
NPIS74H471MTRF	470 ± 20%	3.010	0.27	
NPIS74H561MTRF	560 ± 20%	3.620	0.23	
NPIS74H681MTRF	680 ± 20%	4.630	0.22	
NPIS74H821MTRF	820 ± 20%	5.200	0.20	
NPIS74H102MTRF	1000 ± 20%	6.000	0.18	

Maximum +40°C temperature rise at Irms. Maximum -10% inductance change at Isat.

Part Number	STANDARD VALUES - CASE SIZE 24 (12.5 x 12.5 x 5.0mm)			
	Inductance Value ( $\mu$ H)	DC Resistance ( $\Omega$ )	DC Current Isat/Irms (Amps)	Test Frequency
NPIS24H3R3MTRF	3.3 $\pm$ 20%	0.015	6.5	100KHz
NPIS24H4R7MTRF	4.7 $\pm$ 20%	0.018	5.7	
NPIS24H6R8MTRF	6.8 $\pm$ 20%	0.023	4.9	
NPIS24H100MTRF	10 $\pm$ 20%	0.028	4.5	
NPIS24H120MTRF	12 $\pm$ 20%	0.038	4.0	
NPIS24H150MTRF	15 $\pm$ 20%	0.052	3.2	
NPIS24H180MTRF	18 $\pm$ 20%	0.060	3.1	
NPIS24H220MTRF	22 $\pm$ 20%	0.070	2.9	
NPIS24H270MTRF	27 $\pm$ 20%	0.080	2.8	
NPIS24H330MTRF	33 $\pm$ 20%	0.097	2.7	
NPIS24H390MTRF	39 $\pm$ 20%	0.132	2.1	
NPIS24H470MTRF	47 $\pm$ 20%	0.150	1.9	
NPIS24H560MTRF	56 $\pm$ 20%	0.190	1.8	
NPIS24H680MTRF	68 $\pm$ 20%	0.220	1.5	
NPIS24H820MTRF	82 $\pm$ 20%	0.260	1.3	
NPIS24H101MTRF	100 $\pm$ 20%	0.308	1.2	
NPIS24H121MTRF	120 $\pm$ 20%	0.380	1.1	
NPIS24H151MTRF	150 $\pm$ 20%	0.520	0.95	
NPIS24H181MTRF	180 $\pm$ 20%	0.600	0.85	
NPIS24H221MTRF	220 $\pm$ 20%	0.700	0.80	
NPIS24H271MTRF	270 $\pm$ 20%	0.860	0.60	
NPIS24H331MTRF	330 $\pm$ 20%	0.980	0.50	

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

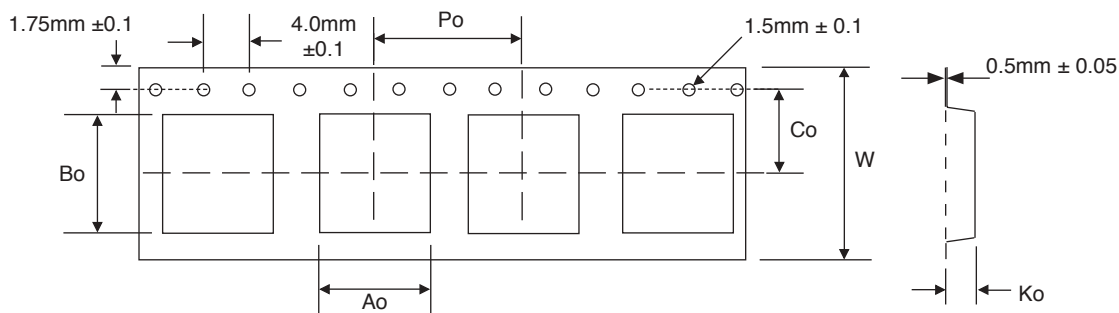
Part Number	STANDARD VALUES - CASE SIZE 25 (12.5 x 12.5 x 6.0mm)			
	Inductance Value ( $\mu$ H)	DC Resistance ( $\Omega$ )	DC Current Isat/Irms (Amps)	Test Frequency
NPIS25H1R5YTRF	1.5 $\pm$ 30%	0.012	8.0	100KHz
NPIS25H2R2YTRF	2.2 $\pm$ 30%	0.014	7.0	
NPIS25H3R1YTRF	3.1 $\pm$ 30%	0.017	6.0	
NPIS25H4R4YTRF	4.4 $\pm$ 30%	0.020	5.0	
NPIS25H5R2YTRF	5.2 $\pm$ 30%	0.021	4.4	
NPIS25H7R5YTRF	7.5 $\pm$ 30%	0.024	4.2	
NPIS25H100MTRF	10 $\pm$ 20%	0.025	4.0	1KHz
NPIS25H120MTRF	12 $\pm$ 20%	0.027	3.5	
NPIS25H150MTRF	15 $\pm$ 20%	0.030	3.3	
NPIS25H180MTRF	18 $\pm$ 20%	0.034	3.0	
NPIS25H220MTRF	22 $\pm$ 20%	0.036	2.8	
NPIS25H270MTRF	27 $\pm$ 20%	0.051	2.3	
NPIS25H330MTRF	33 $\pm$ 20%	0.057	2.1	
NPIS25H390MTRF	39 $\pm$ 20%	0.068	2.0	
NPIS25H470MTRF	47 $\pm$ 20%	0.075	1.8	
NPIS25H560MTRF	56 $\pm$ 20%	0.110	1.7	
NPIS25H680MTRF	68 $\pm$ 20%	0.120	1.5	
NPIS25H820MTRF	82 $\pm$ 20%	0.140	1.4	
NPIS25H101MTRF	100 $\pm$ 20%	0.160	1.3	
NPIS25H121MTRF	120 $\pm$ 20%	0.170	1.1	
NPIS25H151MTRF	150 $\pm$ 20%	0.230	1.0	
NPIS25H181MTRF	180 $\pm$ 20%	0.290	0.90	
NPIS25H221MTRF	220 $\pm$ 20%	0.400	0.80	
NPIS25H271MTRF	270 $\pm$ 20%	0.460	0.75	
NPIS25H331MTRF	330 $\pm$ 20%	0.510	0.68	
NPIS25H391MTRF	390 $\pm$ 20%	0.690	0.65	
NPIS25H471MTRF	470 $\pm$ 20%	0.770	0.58	
NPIS25H561MTRF	560 $\pm$ 20%	0.860	0.54	
NPIS25H681MTRF	680 $\pm$ 20%	1.20	0.48	
NPIS25H821MTRF	820 $\pm$ 20%	1.34	0.43	
NPIS25H102MTRF	1000 $\pm$ 20%	1.53	0.40	

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

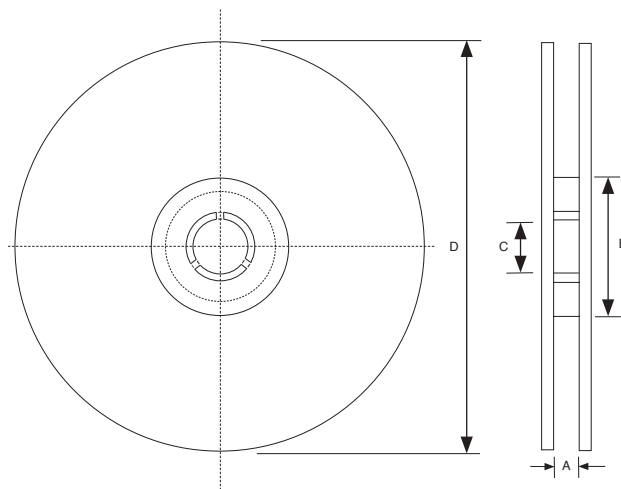
Part Number	STANDARD VALUES - CASE SIZE 27 (12.5 x 12.5 x 8mm)			
	Inductance Value (μH)	DC Resistance (Ω)	DC Current Isat/Irms (Amps)	Test Frequency
NPIS27H1R2YTRF	1.2 ± 30%	0.0070	9.80	100KHz
NPIS27H2R7YTRF	2.7 ± 30%	0.0115	8.00	
NPIS27H3R9YTRF	3.9 ± 30%	0.0135	7.50	
NPIS27H4R7YTRF	4.7 ± 30%	0.0158	6.80	
NPIS27H5R6YTRF	5.6 ± 30%	0.0176	6.60	
NPIS27H6R1YTRF	6.1 ± 30%	0.0176	6.60	
NPIS27H7R6YTRF	7.6 ± 30%	0.0200	5.90	
NPIS27H100MTRF	10 ± 20%	0.0216	5.40	1KHz
NPIS27H120MTRF	12 ± 20%	0.0243	4.90	
NPIS27H150MTRF	15 ± 20%	0.0270	4.50	
NPIS27H180MTRF	18 ± 20%	0.0392	3.90	
NPIS27H220MTRF	22 ± 20%	0.0432	3.60	
NPIS27H270MTRF	27 ± 20%	0.0459	3.40	
NPIS27H330MTRF	33 ± 20%	0.0648	3.00	
NPIS27H390MTRF	39 ± 20%	0.0729	2.75	
NPIS27H470MTRF	47 ± 20%	0.100	2.50	
NPIS27H560LTRF	56 ± 15%	0.110	2.35	
NPIS27H680LTRF	68 ± 15%	0.140	2.10	
NPIS27H820LTRF	82 ± 15%	0.160	1.95	
NPIS27H101LTRF	100 ± 15%	0.220	1.70	
NPIS27H121LTRF	120 ± 15%	0.250	1.60	
NPIS27H151LTRF	150 ± 15%	0.280	1.42	
NPIS27H181KTRF	180 ± 10%	0.350	1.30	
NPIS27H221KTRF	220 ± 10%	0.390	1.16	
NPIS27H271KTRF	270 ± 10%	0.560	1.06	
NPIS27H331KTRF	330 ± 10%	0.640	0.95	
NPIS27H391KTRF	390 ± 10%	0.700	0.88	
NPIS27H471KTRF	470 ± 10%	0.98	0.79	
NPIS27H561KTRF	560 ± 10%	1.07	0.73	
NPIS27H681KTRF	680 ± 10%	1.46	0.67	
NPIS27H821KTRF	820 ± 10%	1.64	0.60	
NPIS27H102KTRF	1000 ± 10%	1.82	0.55	

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

Case Size	TAPING DIMENSIONS (mm)					
	Ao	Bo	Ko	Co	W	Po
NPIS73H	7.6 ± 0.1	7.6 ± 0.1	4.0 ± 0.1	7.5 ± 0.1	16 ± 0.3	12.0 ± 0.1
NPIS74H			5.4 ± 0.1			
NPIS24H	12.9 ± 0.1	12.9 ± 0.1	4.9 ± 0.1	11.5 ± 0.1	24 ± 0.3	16.0 ± 0.1
NPIS25H			6.0 ± 0.1			
NPIS27H			8.1 ± 0.1			



Tape Width	REEL DIMENSIONS (mm)			
	A(mm)	B(mm)	C(mm)	D(mm)
16mm	16.5 ± 0.5	100 ± 2.0	13 ± 0.5	330
24mm	24.5 ± 0.1	100 ± 2.0	13 ± 0.5	330



Size	REEL QUANTITY PER CASE SIZE				
	NPIS73H	NPIS74H	NPIS24H	NPIS25H	NPIS27H
Quantity per reel	1,000	1,000	600	600	450
Tape Width	16mm		24mm		