

FEATURES

- SHIELDED POWER INDUCTOR
- HIGH CURRENT (UP TO 9.8 AMPS)
- SURFACE MOUNTABLE CONSTRUCTION
- HIGH INDUCTANCE (UP TO 1000 μ 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



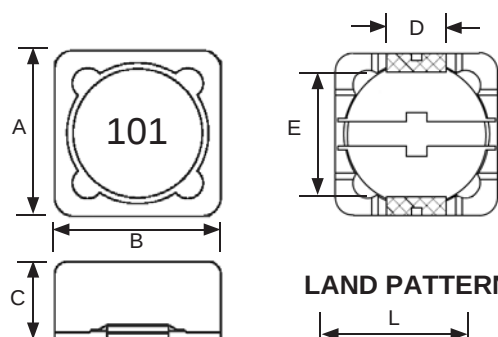
CHARACTERISTICS

Case Size	NPIS73H	NPIS74H	NPIS24H	NPIS25H	NPIS27H
Inductance Range	6.8 ~ 1,000μH	10 ~ 1,000μH	3.3 ~ 330μH	1.5 ~ 1,000μH	1.2 ~ 1,000μH
Ambient Operating Temperature Range	-40°C ~ +85°C				
Maximum Component Temperature (Ambient + Self-Heating)	+125°C				
Temperatrue 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				

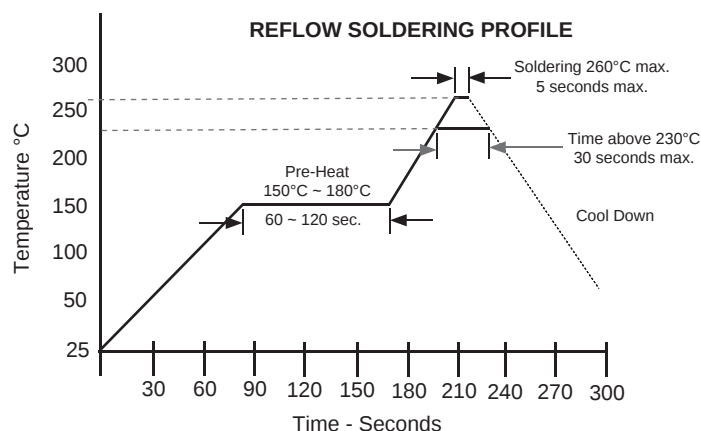
DIMENSIONS (mm)

Series	A	B	C	D	E	G	H	L
NPIS73H	7.5 max.	7.5 max.	3.4 max.	2.7 $\pm$ 0.2	5.1 $\pm$ 0.2	5.1	3.1	7.5
NPIS74H	7.5 max.	7.5 max.	4.5 max.	2.7 $\pm$ 0.2	5.1 $\pm$ 0.2	5.1	3.1	7.5
NPIS24H	12.8 max.	12.8 max.	5.0 max.	5.0 ref.	7.6 ref.	7.0	5.4	12.6
NPIS25H	12.8 max.	12.8 max.	6.0 max.	5.0 ref.	7.6 ref.	7.0	5.4	12.6
NPIS27H	12.8 max.	12.8 max.	8.0 max.	5.0 ref.	7.6 ref.	7.0	5.4	12.6

COMPONENT



REFLOW SOLDERING PROFILE



PART NUMBER SYSTEM

NPIS 24 H 560 M TR N F

- Termination Finish:
F = Pb-free/RoHS Compliant (100%Sn)
- Optional 90° Taping Orientation
- Packaging: TR = Tape & Reel
- Inductance Tolerance Code: K=10%, L=15%, M=±20%, 30% (Y)
- Inductance Code (μ H): 1st two digits are significant, 3rd digit is multiplier for values from 10 μ H and up.
- Construction Code (see drawing for details)
- Size Code (see table for details)
- Series

Part Number	STANDARD VALUES - CASE SIZE 73 (7.5 x 7.5 x 3.4mm)			
	Inductance Value (μH)	DC Resistance (Ω)	DC Current Isat/Irms (Amps)	Test Frequency
NPIS73H6R8YTRF	6.8 ± 30%	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 (7.5 x 7.5 x 4.5mm)			
	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	18 ± 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	0.36	
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	0.26	
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 (12.8 x 12.8 x 5.0mm)			
	Inductance Value (μH)	DC Resistance (Ω)	DC Current Isat/Irms (Amps)	Test Frequency
NPIS24H3R3YTRF	3.3 ± 30%	0.015	6.5	100KHz
NPIS24H4R7YTRF	4.7 ± 30%	0.018	5.7	
NPIS24H6R8YTRF	6.8 ± 30%	0.023	4.9	
NPIS24H100MTRF	10 ± 20%	0.028	4.5	
NPIS24H120MTRF	12 ± 20%	0.038	4.0	
NPIS24H150MTRF	15 ± 20%	0.052	3.2	
NPIS24H180MTRF	18 ± 20%	0.060	3.1	
NPIS24H220MTRF	22 ± 20%	0.070	2.9	
NPIS24H270MTRF	27 ± 20%	0.080	2.8	
NPIS24H330MTRF	33 ± 20%	0.097	2.7	
NPIS24H390MTRF	39 ± 20%	0.132	2.1	
NPIS24H470MTRF	47 ± 20%	0.150	1.9	
NPIS24H560MTRF	56 ± 20%	0.190	1.8	
NPIS24H680MTRF	68 ± 20%	0.220	1.5	
NPIS24H820MTRF	82 ± 20%	0.260	1.3	
NPIS24H101MTRF	100 ± 20%	0.308	1.2	
NPIS24H121MTRF	120 ± 20%	0.380	1.1	
NPIS24H151MTRF	150 ± 20%	0.520	0.95	
NPIS24H181MTRF	180 ± 20%	0.600	0.85	
NPIS24H221MTRF	220 ± 20%	0.700	0.80	
NPIS24H271MTRF	270 ± 20%	0.860	0.60	
NPIS24H331MTRF	330 ± 20%	0.980	0.50	

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

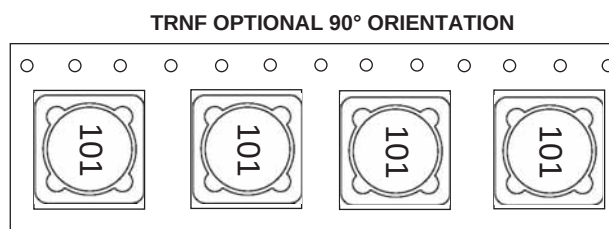
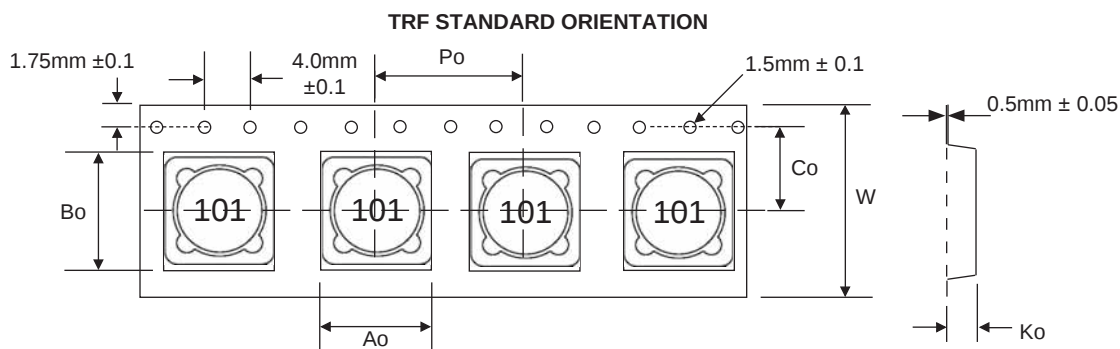
Part Number	STANDARD VALUES - CASE SIZE 25 (12.8 x 12.8 x 6.0mm)			
	Inductance Value (μH)	DC Resistance (Ω)	DC Current Isat/Irms (Amps)	Test Frequency
NPIS25H1R5YTRF	1.5 ± 30%	0.012	8.0	100KHz
NPIS25H2R2YTRF	2.2 ± 30%	0.014	7.0	
NPIS25H3R1YTRF	3.1 ± 30%	0.017	6.0	
NPIS25H4R4MTRF	4.4 ± 20%	0.020	5.0	
NPIS25H4R7YTRF	4.7 ± 30%	0.021	4.8	
NPIS25H5R2YTRF	5.2 ± 30%	0.021	4.4	
NPIS25H6R8MTRF	6.8 ± 20%	0.018	6.0	
NPIS25H7R5YTRF	7.5 ± 30%	0.024	4.2	
NPIS25H100MTRF	10 ± 20%	0.025	4.0	1KHz
NPIS25H120MTRF	12 ± 20%	0.027	3.5	
NPIS25H150MTRF	15 ± 20%	0.030	3.3	
NPIS25H180MTRF	18 ± 20%	0.034	3.0	
NPIS25H220MTRF	22 ± 20%	0.036	2.8	
NPIS25H270MTRF	27 ± 20%	0.051	2.3	
NPIS25H330MTRF	33 ± 20%	0.057	2.1	
NPIS25H390MTRF	39 ± 20%	0.068	2.0	
NPIS25H470MTRF	47 ± 20%	0.075	1.8	
NPIS25H560MTRF	56 ± 20%	0.110	1.7	
NPIS25H680MTRF	68 ± 20%	0.120	1.5	
NPIS25H820MTRF	82 ± 20%	0.140	1.4	
NPIS25H101MTRF	100 ± 20%	0.160	1.3	
NPIS25H121MTRF	120 ± 20%	0.170	1.1	
NPIS25H151MTRF	150 ± 20%	0.230	1.0	
NPIS25H181MTRF	180 ± 20%	0.290	0.90	
NPIS25H221MTRF	220 ± 20%	0.400	0.80	
NPIS25H271MTRF	270 ± 20%	0.460	0.75	
NPIS25H331MTRF	330 ± 20%	0.510	0.68	
NPIS25H391MTRF	390 ± 20%	0.690	0.65	
NPIS25H471MTRF	470 ± 20%	0.770	0.58	
NPIS25H561MTRF	560 ± 20%	0.860	0.54	
NPIS25H681MTRF	680 ± 20%	1.20	0.48	
NPIS25H821MTRF	820 ± 20%	1.34	0.43	
NPIS25H102MTRF	1000 ± 20%	1.53	0.40	

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

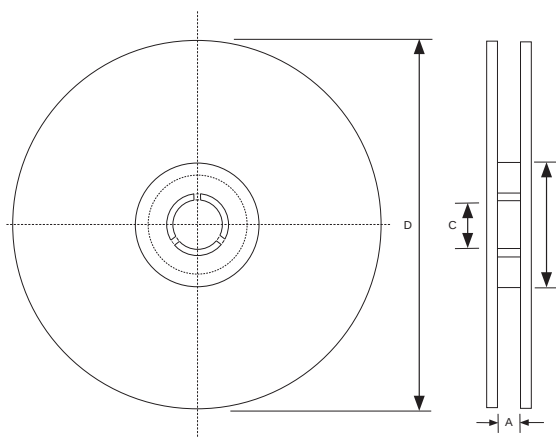
Part Number	STANDARD VALUES - CASE SIZE 27 (12.8 x 12.8 x 8.0mm)			
	Inductance Value (μH)	DC Resistance (Ω)	DC Current Isat/Irms (Amps)	Test Frequency
NPIS27H1R2YTRF	1.2 ± 30%	0.0070	9.80	100KHz
NPIS27H2R7YTRF	2.7 ± 30%	0.0115	8.00	
NPIS27H3R9YTRF	3.9 ± 30%	0.0135	7.50	
NPIS27H4R7YTRF	4.7 ± 30%	0.0158	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	400
Tape Width	16mm		24mm		