

FEATURES

- SHIELDED POWER INDUCTOR
- SMALL SIZE WITH CURRENT RATINGS TO 3.0 AMPS)
- SURFACE MOUNTABLE CONSTRUCTION
- HIGH INDUCTANCE (UP TO 100μH)
- 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	NPIS42D	NPIS43D	NPIS52D	NPIS53D	NPIS63D	NPIS64D
Inductance Range	10 ~ 180μH	1.2 ~ 180μH	4.1 ~ 100μH	2.6 ~ 100μH	3.0 ~ 100μH	3.3 ~ 100μH
Temperature Range	-55°C ~ +125°C					
Temperature Rise at IDC	40°C max.					
Inductance Change at IDC	35% typical					
Inductance Tolerance	20% (M)					
Resistance to Solder Heat	250°C for 10 seconds					

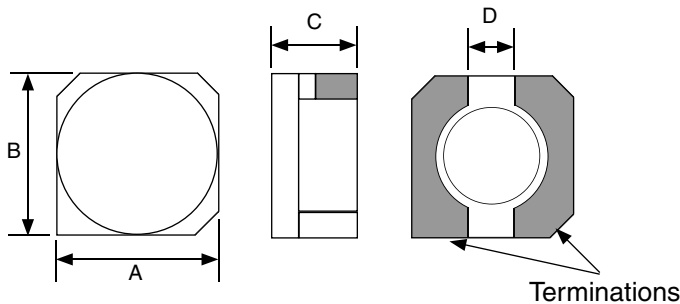
DIMENSIONS (mm)

Series	A	B	C	D
NPIS42D	4.8 ± 0.5	4.8 ± 0.5	2.0 max	1.6 ref
NPIS43D	4.8 ± 0.5	4.8 ± 0.5	3.0 max	1.6 ref
NPIS52D	5.6 ± 0.5	5.6 ± 0.5	2.0 max	2.0 ref
NPIS53D	5.6 ± 0.5	5.6 ± 0.5	3.0 max	2.0 ref
NPIS63D	6.6 ± 0.5	6.6 ± 0.5	3.0 max	2.0 ref
NPIS64D	6.6 ± 0.5	6.6 ± 0.5	4.0 max	2.0 ref

PART NUMBER SYSTEM

NPIS 42 D 150 M TR F

- Series
- Size Code (see table for details)
- Construction Code (see drawing for details)
- Inductance Code (μH): 1st two digits are significant, 3rd digit is multiplier.
- Inductance Tolerance Code: M=±20%
- Packaging: TR = Tape & Reel
- Termination Finish: F = Standard Pb-free (100%Sn) B = Sn-Pb (Optional)



Part Number	STANDARD VALUES - CASE SIZE 42 (4.8 x 4.8 x 2.0mm)			
	Inductance Value (μH)	DC Resistance (Ω)	DC Current (IDC)	Test Frequency
NPIS42D100MTRF	10 ± 20%	0.2	0.61	100KHz
NPIS42D120MTRF	12 ± 20%	0.21	0.55	
NPIS42D150MTRF	15 ± 20%	0.24	0.5	
NPIS42D180MTRF	18 ± 20%	0.338	0.48	
NPIS42D220MTRF	22 ± 20%	0.397	0.41	
NPIS42D270MTRF	27 ± 20%	0.441	0.35	
NPIS42D330MTRF	33 ± 20%	0.69	0.32	
NPIS42D390MTRF	39 ± 20%	0.709	0.3	
NPIS42D470MTRF	47 ± 20%	0.992	0.28	
NPIS42D560MTRF	56 ± 20%	1.08	0.26	
NPIS42D680MTRF	68 ± 20%	1.3	0.24	
NPIS42D820MTRF	82 ± 20%	1.56	0.22	
NPIS42D101MTRF	100 ± 20%	1.73	0.2	
NPIS42D121MTRF	120 ± 20%	2.39	0.18	
NPIS42D151MTRF	150 ± 20%	1.35	0.15	
NPIS42D181MTRF	180 ± 20%	1.54	0.14	



Part Number	STANDARD VALUES - CASE SIZE 43 (4.8 x 4.8 x 3.0mm)			Test Frequency
	Inductance Value (μH)	DC Resistance (Ω)	DC Current (IDC)	
NPIS43D1R2MTRF	1.2 ± 20%	0.0236	2.56	100KHz
NPIS43D1R8MTRF	1.8 ± 20%	0.0275	2.20	
NPIS43D2R2MTRF	2.2 ± 20%	0.0313	2.04	
NPIS43D2R7MTRF	2.7 ± 20%	0.0433	1.60	
NPIS43D3R3MTRF	3.3 ± 20%	0.0492	1.57	
NPIS43D3R9MTRF	3.9 ± 20%	0.0648	1.44	
NPIS43D4R7MTRF	4.7 ± 20%	0.0720	1.32	
NPIS43D5R6MTRF	5.6 ± 20%	0.1009	1.17	
NPIS43D6R8MTRF	6.8 ± 20%	0.1089	1.12	
NPIS43D8R2MTRF	8.2 ± 20%	0.1175	1.04	
NPIS43D100MTRF	10 ± 20%	0.1283	1.00	
NPIS43D120MTRF	12 ± 20%	0.1316	0.84	
NPIS43D150MTRF	15 ± 20%	0.1490	0.76	
NPIS43D180MTRF	18 ± 20%	0.1660	0.72	
NPIS43D220MTRF	22 ± 20%	0.2350	0.70	
NPIS43D270MTRF	27 ± 20%	0.2810	0.58	
NPIS43D330MTRF	33 ± 20%	0.3780	0.56	
NPIS43D390MTRF	39 ± 20%	0.3837	0.50	
NPIS43D470MTRF	47 ± 20%	0.5870	0.48	
NPIS43D560MTRF	56 ± 20%	0.6245	0.41	
NPIS43D680MTRF	68 ± 20%	0.6990	0.35	
NPIS43D820MTRF	82 ± 20%	0.9148	0.32	
NPIS43D101MTRF	100 ± 20%	1.020	0.29	
NPIS43D121MTRF	120 ± 20%	1.270	0.27	
NPIS43D151MTRF	150 ± 20%	1.350	0.24	
NPIS43D181MTRF	180 ± 20%	1.540	0.22	

Part Number	STANDARD VALUES - CASE SIZE 52 (5.6 x 5.6 x 2.0mm)			
	Inductance Value (μH)	DC Resistance (Ω)	DC Current (IDC)	Test Frequency
NPIS52D4R1MTRF	4.1 ± 20%	0.057	1.95	100KHz
NPIS52D5R4MTRF	5.4 ± 20%	0.076	1.60	
NPIS52D6R2MTRF	6.2 ± 20%	0.096	1.40	
NPIS52D8R9MTRF	8.9 ± 20%	0.116	1.25	
NPIS52D100MTRF	10 ± 20%	0.124	1.20	
NPIS52D120MTRF	12 ± 20%	0.153	1.10	
NPIS52D150MTRF	15 ± 20%	0.196	0.97	
NPIS52D180MTRF	18 ± 20%	0.210	0.85	
NPIS52D220MTRF	22 ± 20%	0.290	0.80	
NPIS52D270MTRF	27 ± 20%	0.330	0.75	
NPIS52D330MTRF	33 ± 20%	0.386	0.65	
NPIS52D390MTRF	39 ± 20%	0.520	0.57	
NPIS52D470MTRF	47 ± 20%	0.595	0.54	
NPIS52D560MTRF	56 ± 20%	0.665	0.50	
NPIS52D680MTRF	68 ± 20%	0.840	0.43	
NPIS52D820MTRF	82 ± 20%	0.978	0.41	
NPIS52D101MTRF	100 ± 20%	1.200	0.36	

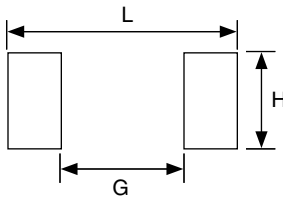
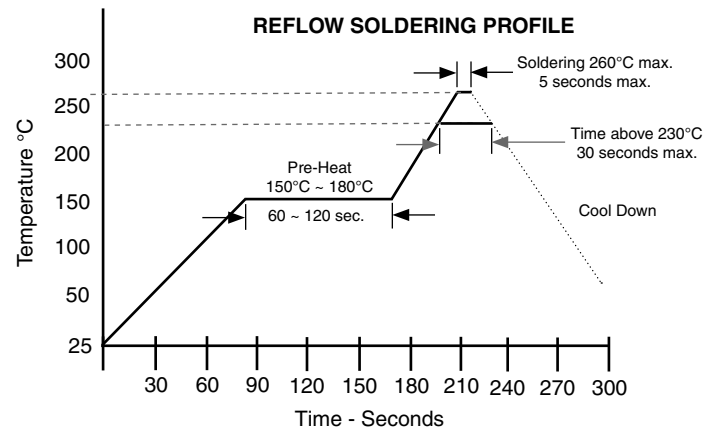
Part Number	STANDARD VALUES - CASE SIZE 52 (5.6 x 5.6 x 3.0mm)			
	Inductance Value (μH)	DC Resistance (Ω)	DC Current (IDC)	Test Frequency
NPIS53D2R6MTRF	2.6 ± 20%	0.018	2.6	100KHz
NPIS53D3R0MTRF	3.0 ± 20%	0.024	2.4	
NPIS53D4R2MTRF	4.2 ± 20%	0.031	2.2	
NPIS53D5R3MTRF	5.3 ± 20%	0.038	1.9	
NPIS53D6R2MTRF	6.2 ± 20%	0.045	1.8	
NPIS53D8R2MTRF	8.2 ± 20%	0.053	1.6	
NPIS53D100MTRF	10 ± 20%	0.065	1.3	
NPIS53D120MTRF	12 ± 20%	0.076	1.2	
NPIS53D150MTRF	15 ± 20%	0.103	1.1	
NPIS53D180MTRF	18 ± 20%	0.110	1.0	
NPIS53D220MTRF	22 ± 20%	0.122	0.90	
NPIS53D270MTRF	27 ± 20%	0.175	0.85	
NPIS53D330MTRF	33 ± 20%	0.189	0.75	
NPIS53D390MTRF	39 ± 20%	0.212	0.70	
NPIS53D470MTRF	47 ± 20%	0.260	0.62	
NPIS53D560MTRF	56 ± 20%	0.305	0.58	
NPIS53D680MTRF	68 ± 20%	0.355	0.52	
NPIS53D820MTRF	82 ± 20%	0.463	0.46	
NPIS53D101MTRF	100 ± 20%	0.520	0.42	



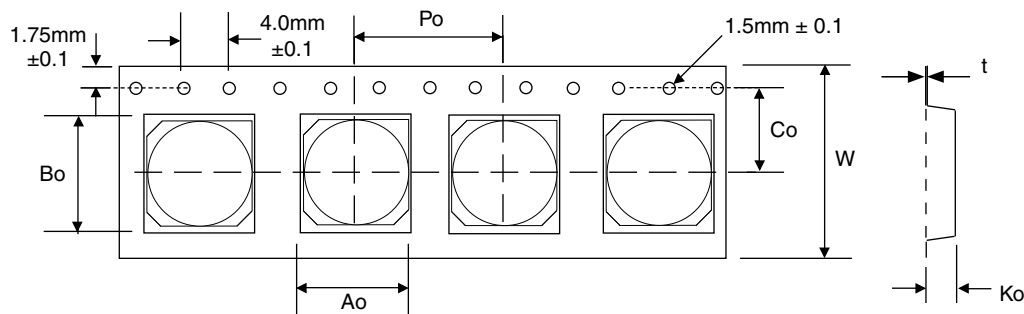
Part Number	STANDARD VALUES - CASE SIZE 63 (6.6 x 6.6 x 3.0mm)			Test Frequency
	Inductance Value (μH)	DC Resistance (Ω)	DC Current (IDC)	
NPIS63D3R0MTRF	3.0 ± 20%	0.024	3.00	100KHz
NPIS63D3R9MTRF	3.9 ± 20%	0.027	2.60	
NPIS63D5R0MTRF	5.0 ± 20%	0.031	2.40	
NPIS63D6R0MTRF	6.0 ± 20%	0.035	2.26	
NPIS63D7R3MTRF	7.3 ± 20%	0.054	2.10	
NPIS63D8R6MTRF	8.6 ± 20%	0.058	1.85	
NPIS63D100MTRF	10 ± 20%	0.065	1.70	
NPIS63D120MTRF	12 ± 20%	0.070	1.55	
NPIS63D150MTRF	15 ± 20%	0.084	1.40	
NPIS63D180MTRF	18 ± 20%	0.095	1.32	
NPIS63D220MTRF	22 ± 20%	0.128	1.20	
NPIS63D270MTRF	27 ± 20%	0.142	1.05	
NPIS63D330MTRF	33 ± 20%	0.165	0.97	
NPIS63D390MTRF	39 ± 20%	0.210	0.86	
NPIS63D470MTRF	47 ± 20%	0.238	0.80	
NPIS63D560MTRF	56 ± 20%	0.277	0.73	
NPIS63D680MTRF	68 ± 20%	0.304	0.65	
NPIS63D820MTRF	82 ± 20%	0.390	0.60	
NPIS63D101MTRF	100 ± 20%	0.535	0.54	

Part Number	STANDARD VALUES - CASE SIZE 64 (6.6 x 6.6 x 4.0mm)			Test Frequency
	Inductance Value (μH)	DC Resistance (Ω)	DC Current (IDC)	
NPIS64D3R3MTRF	3.3 ± 20%	0.020	3.5	100KHz
NPIS64D5R0MTRF	5.0 ± 20%	0.024	2.9	
NPIS64D6R2MTRF	6.2 ± 20%	0.027	2.5	
NPIS64D7R4MTRF	7.4 ± 20%	0.031	2.3	
NPIS64D8R7MTRF	8.7 ± 20%	0.034	2.2	
NPIS64D100MTRF	10 ± 20%	0.038	2.0	
NPIS64D120MTRF	12 ± 20%	0.053	1.7	
NPIS64D150MTRF	15 ± 20%	0.057	1.6	
NPIS64D180MTRF	18 ± 20%	0.092	1.5	
NPIS64D220MTRF	22 ± 20%	0.096	1.3	
NPIS64D270MTRF	27 ± 20%	0.109	1.2	
NPIS64D330MTRF	33 ± 20%	0.124	1.1	
NPIS64D390MTRF	39 ± 20%	0.138	1.0	
NPIS64D470MTRF	47 ± 20%	0.155	0.95	
NPIS64D560MTRF	56 ± 20%	0.202	0.85	
NPIS64D680MTRF	68 ± 20%	0.234	0.75	
NPIS64D820MTRF	82 ± 20%	0.324	0.70	
NPIS64D101MTRF	100 ± 20%	0.358	0.65	

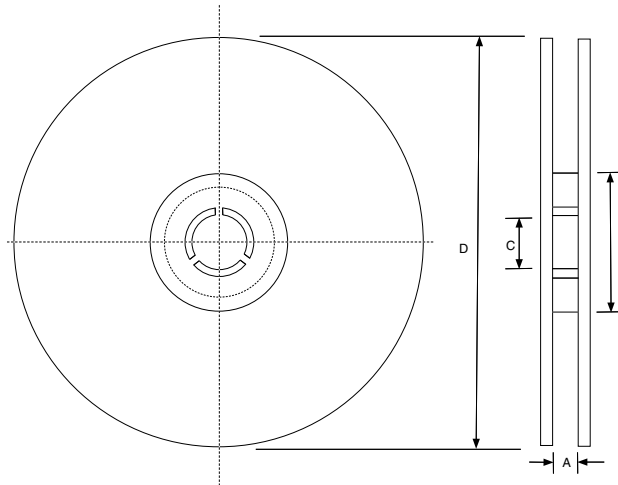
Case Size	LAND PATTERN DIMENSIONS (mm)		
	L	G	H
NPIS42D	5.3	1.5	5.3
NPIS43D			
NPIS52D	6.3	2	6.3
NPIS53D			
NPIS63D	7.3	2	7.3
NPIS64D			



Case Size	Reel Qty	CARRIER TAPE DIMENSIONS (mm)						
		W	A0	B0	Co	K0	Po	t
NPIS42D	4,000	12.0 ± 0.3	5.4 ± 0.15	5.4 ± 0.15	5.5 ± 0.1	2.1 ± 0.1	8 ± 0.1	0.3 ± 0.05
NPIS43D	2,500					3.3 ± 0.1		
NPIS52D	4,000		6.2 ± 0.15	6.2 ± 0.15		2.2 ± 0.1		
NPIS53D	2,500					3.2 ± 0.1		
NPIS63D	1,500	16.0 ± 0.3	7.4 ± 0.15	7.4 ± 0.15	7.5 ± 0.1	3.4 ± 0.1	12 ± 0.1	0.35 ± 0.05
NPIS64D	1,000	16.0 ± 0.3			7.5 ± 0.1			



Tape Width	REEL DIMENSIONS (mm)			
	A(mm)	B(mm)	C(mm)	D(mm)
12mm	12.5 ±0.1	100 ±1	13.0 ±0.5	330
16mm	16.5 ±0.1			



Size	REEL QUANTITY PER CASE SIZE					
	NPIS42D	NPIS43D	NPIS52D	NPIS53D	NPIS63D	NPIS64D
Qty./Reel	4000	2500	4000	2500	1500	1000
Tape Width	12mm	12mm	16mm	16mm	16mm	16mm