

FEATURES

- SHIELDED POWER INDUCTOR
- ULTRA LOW PROFILE (1.0 ~ 4.5mm MAX. HEIGHT)
- SURFACE MOUNTABLE CONSTRUCTION
- INDUCTANCE VALUES UP TO 220 μ H
- TAPED AND REELED FOR AUTOMATIC INSERTION

New!

**RoHS
Compliant**

includes all homogeneous materials



*See Part Number System for Details

CHARACTERISTICS

Case Size	NPIS30L	NPIS32L	NPIS35L	NPIS40L	NPIS42L	NPIS48L	NPIS62L	NPIS60L	NPIS65L	NPIS80L
Inductance Range	1.0 ~ 47 μ H	1.0 ~ 47 μ H	1.0 ~ 47 μ H	1.0 ~ 47 μ H	1.0 ~ 47 μ H	1.0 ~ 220 μ H	2.5 ~ 100 μ H	0.8 ~ 10 μ H	1.0 ~ 100 μ H	0.9 ~ 100 μ H
Temperature Range	-25°C ~ +120°C*									
Temperature Rise at I rms	+40°C max.									
Inductance Change at I sat	- 30% max.									
Inductance Tolerance	\pm 20% (M), \pm 30% (Y)									
Resistance to Solder Heat	255°C for 10 seconds									

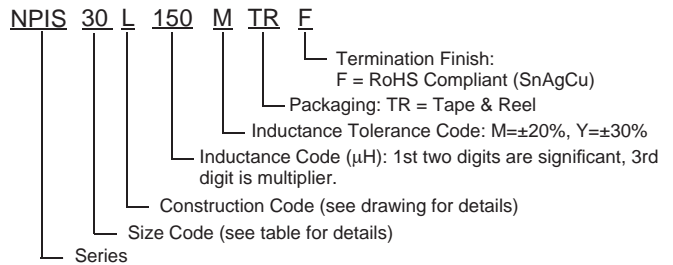
*Ambient plus temperature rise

DIMENSIONS (mm)

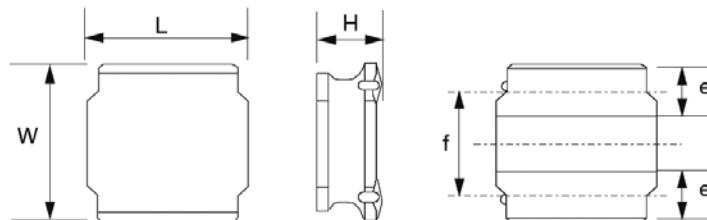
Case Size	L	W	H max.	e	e Δ	f
NPIS30L	3.0 \pm 0.1	3.0 \pm 0.1	1.0	0.9 \pm 0.2	-	1.9 \pm 0.2
NPIS32L	3.0 \pm 0.1	3.0 \pm 0.1	1.2		-	
NPIS35L	3.0 \pm 0.1	3.0 \pm 0.1	1.5		-	
NPIS40L	4.0 \pm 0.2	4.0 \pm 0.2	1.0	1.1 \pm 0.2	-	2.5 \pm 0.2
NPIS42L	4.0 \pm 0.2	4.0 \pm 0.2	1.2		-	
NPIS48L	4.0 \pm 0.2	4.0 \pm 0.2	1.8		-	
NPIS62L	6.0 \pm 0.2	6.0 \pm 0.2	1.2	1.35 \pm 0.2	0.3 \pm 0.2	4.0 \pm 0.2
NPIS60L	6.0 \pm 0.2	6.0 \pm 0.2	2.0			
NPIS65L	6.0 \pm 0.2	6.0 \pm 0.2	4.5			
NPIS80L	8.0 \pm 0.2	8.0 \pm 0.2	4.0*	1.6 \pm 0.3	-	5.6 \pm 0.3

*NPIS80L 0.9 μ H - 6R8 μ H is 4.2mm height

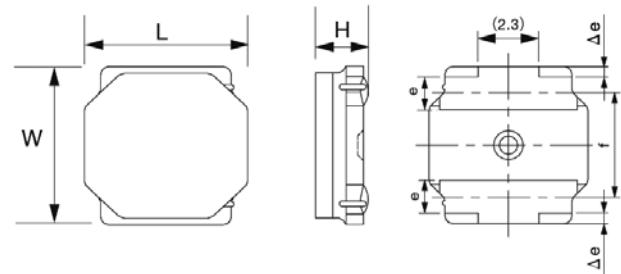
PART NUMBER SYSTEM



NPIS30L, 32L, 35L, 40L, 42L, 48L & 80L



NPIS62, 60L & 65L



Part Number	STANDARD VALUES - CASE SIZE (3.0 x 3.0 x 1.0mm)				Test Frequency
	Inductance Value (μ H)	DC Resistance (Ω) \pm 20%	DC Current Isat (Amps)	DC Current I rms (Amps)	
NPIS30L1R0YTRF	1.0 \pm 30%	0.065	1.30	1.40	100KHz
NPIS30L1R5YTRF	1.5 \pm 30%	0.080	1.20	1.30	
NPIS30L2R2MTRF	2.2 \pm 20%	0.095	1.10	1.10	
NPIS30L3R3MTRF	3.3 \pm 20%	0.14	0.87	0.94	
NPIS30L4R7MTRF	4.7 \pm 20%	0.19	0.75	0.78	
NPIS30L6R8MTRF	6.8 \pm 20%	0.30	0.61	0.63	
NPIS30L100MTRF	10 \pm 20%	0.45	0.50	0.51	
NPIS30L150MTRF	15 \pm 20%	0.74	0.40	0.40	
NPIS30L220MTRF	22 \pm 20%	1.03	0.35	0.35	
NPIS30L330MTRF	33 \pm 20%	1.55	0.26	0.275	
NPIS30L470MTRF	47 \pm 20%	2.05	0.22	0.235	

Maximum +40°C temperature rise at I rms. Maximum -30% inductance change at Isat.



Part Number	STANDARD VALUES - CASE SIZE 30 (3.0 x 3.0 x 1.2mm)				Test Frequency
	Inductance Value (μH)	DC Resistance (Ω) ±20%	DC Current Isat (Amps)	DC Current Irms (Amps)	
NPIS32L1R0YTRF	1.0 ± 30%	0.05	1.50	1.49	100KHz
NPIS32L1R5YTRF	1.5 ± 30%	0.06	1.36	1.40	
NPIS32L2R2MTRF	2.2 ± 20%	0.08	1.10	1.20	
NPIS32L3R3MTRF	3.3 ± 20%	0.10	0.91	1.05	
NPIS32L4R7MTRF	4.7 ± 20%	0.13	0.77	0.98	
NPIS32L6R8MTRF	6.8 ± 20%	0.19	0.67	0.74	
NPIS32L100MTRF	10 ± 20%	0.29	0.54	0.63	
NPIS32L150MTRF	15 ± 20%	0.45	0.44	0.485	
NPIS32L220MTRF	22 ± 20%	0.63	0.375	0.42	
NPIS32L330MTRF	33 ± 20%	1.03	0.31	0.33	
NPIS32L470MTRF	47 ± 20%	1.45	0.25	0.28	

Maximum +40°C temperature rise at Irms. Maximum -30% inductance change at Isat.

Part Number	STANDARD VALUES - CASE SIZE (3.0 x 3.0 x 1.5mm)				Test Frequency
	Inductance Value (μH)	DC Resistance (Ω) ±20%	DC Current Isat (Amps)	DC Current Irms (Amps)	
NPIS35L1R0YTRF	1.0 ± 30%	0.03	2.10	2.10	100KHz
NPIS35L1R5YTRF	1.5 ± 30%	0.04	1.80	1.82	
NPIS35L2R2MTRF	2.2 ± 20%	0.06	1.48	1.50	
NPIS35L3R3MTRF	3.3 ± 20%	0.08	1.21	1.23	
NPIS35L4R7MTRF	4.7 ± 20%	0.12	1.02	1.04	
NPIS35L6R8MTRF	6.8 ± 20%	0.16	0.87	0.88	
NPIS35L100MTRF	10 ± 20%	0.23	0.70	0.71	
NPIS35L150MTRF	15 ± 20%	0.36	0.56	0.56	
NPIS35L220MTRF	22 ± 20%	0.52	0.47	0.47	
NPIS35L330MTRF	33 ± 20%	0.84	0.39	0.37	
NPIS35L470MTRF	47 ± 20%	1.34	0.32	0.30	

Maximum +40°C temperature rise at Irms. Maximum -30% inductance change at Isat.

Part Number	STANDARD VALUES - CASE SIZE (4.0 x 4.0 x 1.0mm)				Test Frequency
	Inductance Value (μH)	DC Resistance (Ω) ±20%	DC Current Isat (Amps)	DC Current Irms (Amps)	
NPIS40L1R0YTRF	1.0 ± 30%	0.10	1.80	1.05	100KHz
NPIS40L2R2YTRF	2.2 ± 30%	0.15	1.15	0.89	
NPIS40L3R3MTRF	3.3 ± 20%	0.18	1.10	0.82	
NPIS40L4R7MTRF	4.7 ± 20%	0.21	0.90	0.75	
NPIS40L6R8MTRF	6.8 ± 20%	0.30	0.74	0.62	
NPIS40L100MTRF	10 ± 20%	0.38	0.56	0.60	
NPIS40L150MTRF	15 ± 20%	0.51	0.47	0.51	
NPIS40L220MTRF	22 ± 20%	0.87	0.36	0.40	
NPIS40L330MTRF	33 ± 20%	1.54	0.28	0.30	
NPIS40L470MTRF	47 ± 20%	1.81	0.24	0.28	

Maximum +40°C temperature rise at Irms. Maximum -30% inductance change at Isat.

Part Number	STANDARD VALUES - CASE SIZE (4.0 x 4.0 x 1.2mm)				Test Frequency
	Inductance Value (μH)	DC Resistance (Ω) ±20%	DC Current Isat (Amps)	DC Current Irms (Amps)	
NPIS42L1R0YTRF	1.0 ± 30%	0.06	2.50	1.50	100KHz
NPIS42L2R2MTRF	2.2 ± 20%	0.09	1.65	1.20	
NPIS42L3R3MTRF	3.3 ± 20%	0.13	1.20	0.98	
NPIS42L4R7MTRF	4.7 ± 20%	0.14	1.05	0.96	
NPIS42L6R8MTRF	6.8 ± 20%	0.18	0.90	0.84	
NPIS42L100MTRF	10 ± 20%	0.24	0.74	0.77	
NPIS42L150MTRF	15 ± 20%	0.40	0.56	0.60	
NPIS42L220MTRF	22 ± 20%	0.48	0.51	0.54	
NPIS42L330MTRF	33 ± 20%	0.81	0.40	0.42	
NPIS42L470MTRF	47 ± 20%	1.00	0.35	0.37	

Maximum +40°C temperature rise at Irms. Maximum -30% inductance change at Isat.

Part Number	STANDARD VALUES - CASE SIZE (4.0 x 4.0 x 1.8mm)				Test Frequency
	Inductance Value (μH)	DC Resistance (Ω) ±20%	DC Current Isat (Amps)	DC Current Irms (Amps)	
NPIS48L1R0YTRF	1.0 ± 30%	0.03	4.00	1.83	100KHz
NPIS48L2R2MTRF	2.2 ± 20%	0.06	2.70	1.44	
NPIS48L3R3MTRF	3.3 ± 20%	0.07	2.00	1.23	
NPIS48L4R7MTRF	4.7 ± 20%	0.09	1.70	1.20	
NPIS48L6R8MTRF	6.8 ± 20%	0.11	1.45	1.06	
NPIS48L100MTRF	10 ± 20%	0.18	1.20	0.84	
NPIS48L150MTRF	15 ± 20%	0.25	0.94	0.65	
NPIS48L220MTRF	22 ± 20%	0.36	0.80	0.59	
NPIS48L330MTRF	33 ± 20%	0.53	0.65	0.49	
NPIS48L470MTRF	47 ± 20%	0.65	0.57	0.42	
NPIS48L680MTRF	68 ± 20%	1.00	0.47	0.32	
NPIS48L101MTRF	100 ± 20%	1.50	0.40	0.27	
NPIS48L151MTRF	150 ± 20%	2.50	0.31	0.22	
NPIS48L221MTRF	220 ± 20%	4.00	0.27	0.17	

Maximum +40°C temperature rise at Irms. Maximum -30% inductance change at Isat.

Part Number	STANDARD VALUES - CASE SIZE (6.0 x 6.0 x 1.2mm)				Test Frequency
	Inductance Value (μH)	DC Resistance (Ω) ±20%	DC Current Isat (Amps)	DC Current Irms (Amps)	
NPIS62L2R5YTRF	2.5 ± 30%	0.09	2.10	1.73	100KHz
NPIS62L4R0YTRF	4.0 ± 30%	0.105	1.80	1.57	
NPIS62L5R3MTRF	5.3 ± 20%	0.110	1.50	1.40	
NPIS62L6R8MTRF	6.8 ± 20%	0.165	1.30	1.18	
NPIS62L100MTRF	10 ± 20%	0.235	1.00	1.00	
NPIS62L150MTRF	15 ± 20%	0.33	0.80	0.79	
NPIS62L220MTRF	22 ± 20%	0.53	0.76	0.63	
NPIS62L330MTRF	33 ± 20%	0.70	0.59	0.53	
NPIS62L470MTRF	47 ± 20%	1.05	0.52	0.46	
NPIS62L680MTRF	68 ± 20%	1.35	0.44	0.41	
NPIS62L101MTRF	100 ± 20%	2.18	0.35	0.32	

Maximum +40°C temperature rise at Irms. Maximum -30% inductance change at Isat.

Part Number	STANDARD VALUES - CASE SIZE (6.0 x 6.0 x 2.0mm)				
	Inductance Value (μH)	DC Resistance (Ω) ±30%	DC Current Isat (Amps)	DC Current Irms (Amps)	Test Frequency
NPIS60L0R8YTRF	0.8 ± 30%	0.02	5.50	3.80	100KHz
NPIS60L1R5YTRF	1.5 ± 30%	0.026	4.00	3.20	
NPIS60L2R2YTRF	2.2 ± 30%	0.034	3.20	2.70	
NPIS60L3R3YTRF	3.3 ± 30%	0.040	2.80	2.60	
NPIS60L4R7YTRF	4.7 ± 30%	0.058	2.40	2.00	
NPIS60L6R8YTRF	6.8 ± 30%	0.085	2.00	1.80	
NPIS60L100MTRF	10 ± 20%	0.125	1.70	1.40	

Maximum +40°C temperature rise at Irms. Maximum -30% inductance change at Isat.

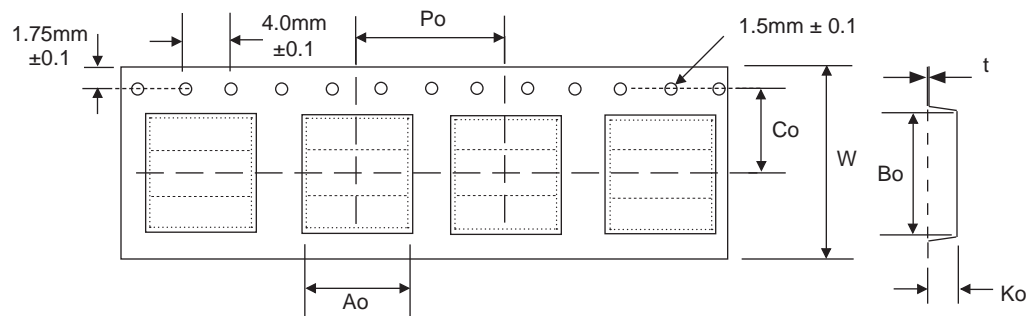
Part Number	STANDARD VALUES - CASE SIZE (6.0 x 6.0 x 4.5mm)				
	Inductance Value (μH)	DC Resistance (Ω) ±30%	DC Current Isat (Amps)	DC Current Irms (Amps)	Test Frequency
NPIS65L1R0YTRF	1.0 ± 30%	0.014	8.50	4.20	100KHz
NPIS65L1R3YTRF	1.3 ± 30%	0.016	8.00	4.00	
NPIS65L1R8YTRF	1.8 ± 30%	0.018	7.00	3.70	
NPIS65L2R3YTRF	2.3 ± 30%	0.021	6.00	3.50	
NPIS65L3R0YTRF	3.0 ± 30%	0.024	5.00	3.20	
NPIS65L4R5MTRF	4.5 ± 20%	0.031	4.00	3.00	
NPIS65L6R3MTRF	6.3 ± 20%	0.038	3.80	2.80	
NPIS65L100MTRF	10 ± 20%	0.047	3.00	2.50	
NPIS65L150MTRF	15 ± 20%	0.077	2.30	1.90	
NPIS65L220MTRF	22 ± 20%	0.115	1.90	1.50	
NPIS65L330MTRF	33 ± 20%	0.145	1.50	1.40	
NPIS65L470MTRF	47 ± 20%	0.220	1.30	1.10	
NPIS65L680MTRF	68 ± 20%	0.330	1.00	0.90	
NPIS65L101MTRF	100 ± 20%	0.500	0.80	0.70	

Maximum +40°C temperature rise at Irms. Maximum -30% inductance change at Isat.

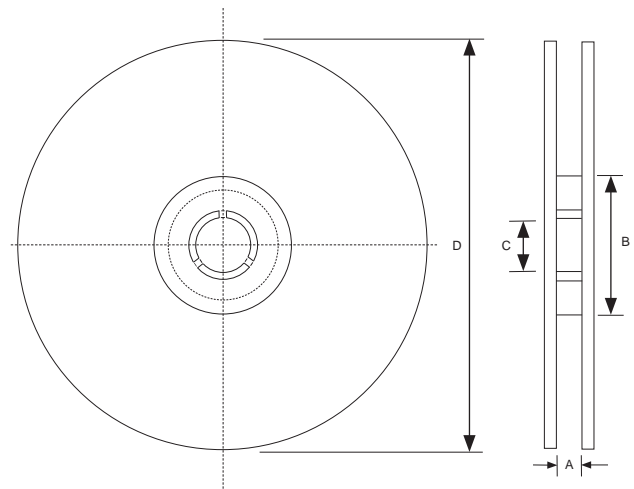
Part Number	STANDARD VALUES - CASE SIZE (8.0 x 8.0 x 4.0mm)				
	Inductance Value (μH)	DC Resistance (Ω) ±30%	DC Current Isat (Amps)	DC Current Irms (Amps)	Test Frequency
NPIS80L0R9YTRF	0.9 ± 30%	0.006	11.0	7.80	100KHz
NPIS80L1R4YTRF	1.4 ± 30%	0.007	9.00	7.00	
NPIS80L2R0YTRF	2.0 ± 30%	0.009	7.40	6.30	
NPIS80L3R6YTRF	3.6 ± 30%	0.015	5.30	4.90	
NPIS80L4R7YTRF	4.7 ± 30%	0.018	4.70	4.10	
NPIS80L6R8YTRF	6.8 ± 30%	0.025	4.00	3.70	
NPIS80L100MTRF	10 ± 20%	0.034	3.40	3.10	
NPIS80L150MTRF	15 ± 20%	0.050	2.70	2.40	
NPIS80L220MTRF	22 ± 20%	0.066	2.20	2.20	
NPIS80L330MTRF	33 ± 20%	0.100	1.90	1.70	
NPIS80L470MTRF	47 ± 20%	0.150	1.50	1.40	
NPIS80L680MTRF	68 ± 20%	0.230	1.20	1.10	
NPIS80L101MTRF	100 ± 20%	0.290	1.00	1.00	

Maximum +40°C temperature rise at Irms. Maximum -30% inductance change at Isat.

Case Size	Reel Qty	CARRIER TAPE DIMENSIONS (mm)						
		W	A0	B0	Co	K0	Po	t
NPIS30L	2,000	8.0 ± 0.20	3.2 ± 0.10	3.2 ± 0.10	3.5 ± 0.10	1.4 ± 0.10	4.0 ± 0.10	0.3 ± 0.05
NPIS32L						1.6 ± 0.10		
NPIS35L						1.9 ± 0.10		
NPIS40L	5,000	12.0 ± 0.30	4.3 ± 0.10	4.3 ± 0.10	5.5 ± 0.10	1.4 ± 0.10	8.0 ± 0.10	
NPIS42L						1.6 ± 0.10		
NPIS48L						2.1 ± 0.10		
NPIS62L	1,000		6.3 ± 0.10	6.3 ± 0.10	5.5 ± 0.10	1.6 ± 0.10		0.4 ± 0.10
NPIS60L	2,500					2.3 ± 0.10		
NPIS65L	1,500					4.7 ± 0.10		
NPIS80L	1,000	16.0 ± 0.30	8.3 ± 0.10	8.3 ± 0.10	7.5 ± 0.10	4.5 ± 0.10	12.0 ± 0.10	0.5 ± 0.10



Case Size	Tape Width	REEL DIMENSIONS (mm)			
		A(mm)	B(mm)	C(mm)	D(mm)
NPIS30L	8.0	10.0 ± 1.5	60 ± 1.0	13.0 ± 0.5	180 ± 3.0
NPIS32L					
NPIS35L					
NPIS40L	12.0	13.5 ± 1.0	80 ± 2.0		330 ± 3.0
NPIS42L					
NPIS48L					
NPIS62L					
NPIS60L	13.5 ± 1.0	80 ± 2.0	80 ± 2.0	180 ± 3.0	
NPIS65L					
NPIS80L	16.0	17.5 ± 1.0			330 ± 3.0



Case Size	LAND PATTERN DIMENSIONS (mm)		
	L	G	H
NPIS30L, 32L & 35L	2.2	0.8	2.7
NPIS40L, 42L & 48L	2.8	1.2	3.7
NPIS62L, 60L & 65L	4.7	1.6	5.7
NPIS80L	5.6	1.8	7.5

