

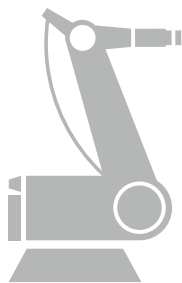
CATALOG 2014

For
High Quality
Equipment

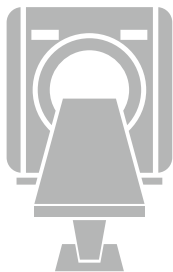
English



SMART METER



INDUSTRIAL
ROBOT

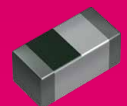
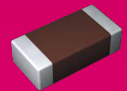


MEDICAL
EQUIPMENT



AUTOMOTIVE

TAIYO YUDEN



SMD POWER INDUCTORS(NR SERIES H TYPE/S TYPE/V TYPE)



REFLOW

PARTS NUMBER

N	R	△	4	0	1	8	T	△	1	0	0	M	△	V
①	②	③	④	⑤	⑥	⑦								

△=Blank space

①Series name

Code	Series name
NRH	Coating resin specification
NRS	
NRV	

②Dimensions (L × W × H)

Code	Dimensions (L × W × H) [mm]
2410	2.4 × 2.4 × 1.0
2412	2.4 × 2.4 × 1.2
3010	3.0 × 3.0 × 1.0
3012	3.0 × 3.0 × 1.2
3015	3.0 × 3.0 × 1.5
4010	4.0 × 4.0 × 1.0
4012	4.0 × 4.0 × 1.2
4018	4.0 × 4.0 × 1.8
5010	4.9 × 4.9 × 1.0
5012	4.9 × 4.9 × 1.2
5014	4.9 × 4.9 × 1.4
5020	4.9 × 4.9 × 2.0
5024	4.9 × 4.9 × 2.4
5030	4.9 × 4.9 × 3.0
5040	4.9 × 4.9 × 4.0
6010	6.0 × 6.0 × 1.0
6012	6.0 × 6.0 × 1.2
6014	6.0 × 6.0 × 1.4
6020	6.0 × 6.0 × 2.0
6028	6.0 × 6.0 × 2.8
6045	6.0 × 6.0 × 4.5
8030	8.0 × 8.0 × 3.0
8040	8.0 × 8.0 × 4.0

③Packaging

Code	Packaging
T△	Taping

④Nominal inductance

Code (example)	Nominal inductance [μH]
2R2	2.2
100	10
101	100

※R=Decimal point

⑤Inductance tolerance

Code	Inductance tolerance
M	±20%
N	±30%

⑥Internal code

Code	Internal code
△	Standard

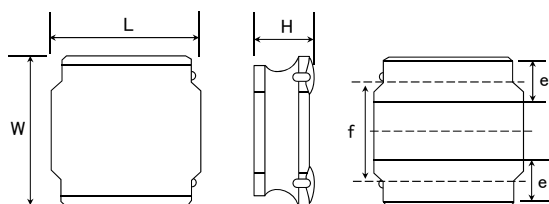
⑦Internal code

Code	Internal code
V	Industrial, Automotive Comfort, and Safety

OPERATING TEMP.

● -40~125°C (Including self-generated heat)

STANDARD EXTERNAL DIMENSIONS / STANDARD QUANTITY



Recommended Land Patterns

Type	A	B	C
NRH2410	0.7	1.45	2.0
NRH2412			(2.4)*
NRH3010	0.8	2.2	2.7
NRH3012, NRV3012			(3.1)*
NRS3015			
NRS4010	1.2	2.8	3.7
NRS4012			(4.1)*
NRS4018			
NRS8030	1.8	5.6	7.5
NRS8040			(7.9)*

Unit: mm

(*)*: It is a pattern for confirmation of the solder fillet

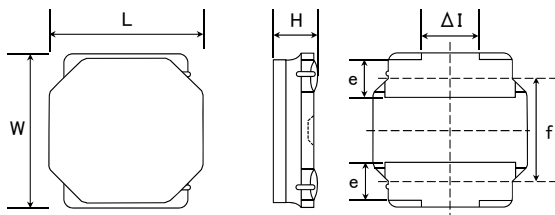
Type	L	W	H	e	f	Standard quantity [pcs] Taping
NRH2410	2.4±0.1 (0.095±0.004)	2.4±0.1 (0.095±0.004)	1.0 max (0.039 max)	0.6±0.2 (0.024±0.008)	1.45±0.2 (0.057±0.008)	2500
NRH2412	2.4±0.1 (0.095±0.004)	2.4±0.1 (0.095±0.004)	1.2 max (0.047 max)	0.6±0.2 (0.024±0.008)	1.45±0.2 (0.057±0.008)	2500
NRH3010	3.0±0.1 (0.118±0.004)	3.0±0.1 (0.118±0.004)	1.0 max (0.039 max)	0.9±0.2 (0.035±0.008)	1.9±0.2 (0.075±0.008)	2000
NRH3012	3.0±0.1 (0.118±0.004)	3.0±0.1 (0.118±0.004)	1.2 max (0.047 max)	0.9±0.2 (0.035±0.008)	1.9±0.2 (0.075±0.008)	2000
NRV3012	3.0±0.1 (0.118±0.004)	3.0±0.1 (0.118±0.004)	1.2 max (0.047 max)	0.9±0.2 (0.035±0.008)	1.9±0.2 (0.075±0.008)	2000

▶ This catalog contains the typical specification only due to the limitation of space. When you consider the purchase of our products, please check our specification. For details of each product (characteristics graph, reliability information, precautions for use, and so on), see our Web site (<http://www.ty-top.com/>).

NRS3015	3.0±0.1 (0.118±0.004)	3.0±0.1 (0.118±0.004)	1.5 max (0.059 max)	0.9±0.2 (0.035±0.008)	1.9±0.2 (0.075±0.008)	2000
NRS4010	4.0±0.2 (0.157±0.008)	4.0±0.2 (0.157±0.008)	1.0 max (0.039 max)	1.1±0.2 (0.043±0.008)	2.5±0.2 (0.098±0.008)	5000
NRS4012	4.0±0.2 (0.157±0.008)	4.0±0.2 (0.157±0.008)	1.2 max (0.047 max)	1.1±0.2 (0.043±0.008)	2.5±0.2 (0.098±0.008)	4500
NRS4018	4.0±0.2 (0.157±0.008)	4.0±0.2 (0.157±0.008)	1.8 max (0.071 max)	1.1±0.2 (0.043±0.008)	2.5±0.2 (0.098±0.008)	3500
NRS8030	8.0±0.2 (0.315±0.008)	8.0±0.2 (0.315±0.008)	3.0 max (0.118 max)	1.60±0.3 (0.063±0.012)	5.6±0.3 (0.22±0.012)	1000
NRS8040	8.0±0.2 (0.315±0.008)	8.0±0.2 (0.315±0.008)	*1) 4.2 max (0.165 max) *2) 4.0 max (0.157 max)	1.60±0.3 (0.063±0.012)	5.6±0.3 (0.22±0.012)	1000

*1) 0R9~6R8 type, *2) 100~101type

Unit: mm (inch)



Recommended Land Patterns

Type	A	B	C
NRS5010	1.5	3.6	4.0 (4.4)*
NRS5012			
NRS5014			
NRS5020			
NRS5024			
NRS5030	1.6	4.7	5.7 (6.1)*
NRS5040			
NRS6010			
NRS6012			
NRS6014			
NRS6020			
NRS6028			
NRS6045			

Unit: mm

(*) : It is a pattern for confirmation of the solder fillet

Type	L	W	H	e	f	ΔI	Standard quantity [pcs] Taping
NRS5010	4.9±0.2 (0.193±0.008)	4.9±0.2 (0.193±0.008)	1.0 max (0.039 max)	1.2±0.2 (0.047±0.008)	3.3±0.2 (0.130±0.008)	1.3typ (0.051typ)	1000
NRS5012	4.9±0.2 (0.193±0.008)	4.9±0.2 (0.193±0.008)	1.2 max (0.047 max)	1.2±0.2 (0.047±0.008)	3.3±0.2 (0.130±0.008)	1.3typ (0.051typ)	1000
NRS5014	4.9±0.2 (0.193±0.008)	4.9±0.2 (0.193±0.008)	1.4 max (0.055 max)	1.2±0.2 (0.047±0.008)	3.3±0.2 (0.130±0.008)	1.3typ (0.051typ)	1000
NRS5020	4.9±0.2 (0.193±0.008)	4.9±0.2 (0.193±0.008)	2.0 max (0.079 max)	1.2±0.2 (0.047±0.008)	3.3±0.2 (0.130±0.008)	1.3typ (0.051typ)	800
NRS5024	4.9±0.2 (0.193±0.008)	4.9±0.2 (0.193±0.008)	*3) 2.5 max (0.098 max) *4) 2.4 max (0.094 max)	1.2±0.2 (0.047±0.008)	3.3±0.2 (0.130±0.008)	1.3typ (0.051typ)	2500
NRS5030	4.9±0.2 (0.193±0.008)	4.9±0.2 (0.193±0.008)	*5) 3.1 max (0.122 max) *6) 3.0 max (0.118 max)	1.2±0.2 (0.047±0.008)	3.3±0.2 (0.130±0.008)	1.3typ (0.051typ)	500
NRS5040	4.9±0.2 (0.193±0.008)	4.9±0.2 (0.193±0.008)	*7) 4.1 max (0.161 max) *8) 4.0 max (0.157 max)	1.2±0.2 (0.047±0.008)	3.3±0.2 (0.130±0.008)	1.3typ (0.051typ)	1500
NRS6010	6.0±0.2 (0.236±0.008)	6.0±0.2 (0.236±0.008)	1.0 max (0.039 max)	1.35±0.2 (0.053±0.008)	4.0±0.2 (0.157±0.008)	2.3typ (0.091typ)	1000
NRS6012	6.0±0.2 (0.236±0.008)	6.0±0.2 (0.236±0.008)	1.2 max (0.047 max)	1.35±0.2 (0.053±0.008)	4.0±0.2 (0.157±0.008)	2.3typ (0.091typ)	1000
NRS6014	6.0±0.2 (0.236±0.008)	6.0±0.2 (0.236±0.008)	1.4 max (0.055 max)	1.35±0.2 (0.053±0.008)	4.0±0.2 (0.157±0.008)	2.3typ (0.091typ)	1000
NRS6020	6.0±0.2 (0.236±0.008)	6.0±0.2 (0.236±0.008)	2.0 max (0.079 max)	1.35±0.2 (0.053±0.008)	4.0±0.2 (0.157±0.008)	2.3typ (0.091typ)	2500
NRS6028	6.0±0.2 (0.236±0.008)	6.0±0.2 (0.236±0.008)	2.8 max (0.110 max)	1.35±0.2 (0.053±0.008)	4.0±0.2 (0.157±0.008)	2.3typ (0.091typ)	2000
NRS6045	6.0±0.2 (0.236±0.008)	6.0±0.2 (0.236±0.008)	4.5 max (0.177 max)	1.35±0.2 (0.053±0.008)	4.0±0.2 (0.157±0.008)	2.3typ (0.091typ)	1500

*3) 1R0~1R5 type, *4) 2R2~330 type

*5) R47~100 type, *6) 150~470 type

*7) 1R5~100 type, *8) 150~470 type

Unit: mm (inch)

■ PARTS NUMBER

● NRH2410 Shielded type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 20\%$)	Rated current ※) [mA]		Measuring frequency [kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRH2410T R68NN 4V	RoHS	0.68	$\pm 30\%$	120	0.060	2,200	1,570	100
NRH2410T 1R0NN 4V	RoHS	1.0	$\pm 30\%$	106	0.070	1,800	1,410	100
NRH2410T 1R5MN V	RoHS	1.5	$\pm 20\%$	94	0.110	1,550	1,160	100
NRH2410T 2R2MN V	RoHS	2.2	$\pm 20\%$	77	0.150	1,290	970	100
NRH2410T 3R3MN V	RoHS	3.3	$\pm 20\%$	56	0.220	1,000	770	100
NRH2410T 4R7MN V	RoHS	4.7	$\pm 20\%$	50	0.290	880	670	100
NRH2410T 6R8MN V	RoHS	6.8	$\pm 20\%$	43	0.410	750	570	100
NRH2410T 100MN V	RoHS	10	$\pm 20\%$	32	0.690	550	450	100
NRH2410T 150MN V	RoHS	15	$\pm 20\%$	27	1.02	470	370	100
NRH2410T 220MN V	RoHS	22	$\pm 20\%$	22	1.47	390	300	100

● NRH2412 Shielded type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 20\%$)	Rated current ※) [mA]		Measuring frequency [kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRH2412T R47NNGJV	RoHS	0.47	$\pm 30\%$	180	0.050	2,900	2,100	100
NRH2412T 1R0NNGHV	RoHS	1.0	$\pm 30\%$	101	0.077	2,350	1,300	100
NRH2412T 1R5NNGHV	RoHS	1.5	$\pm 30\%$	89	0.100	2,100	1,150	100
NRH2412T 2R2MNGHV	RoHS	2.2	$\pm 20\%$	72	0.140	1,700	1,000	100
NRH2412T 3R3MNGHV	RoHS	3.3	$\pm 20\%$	56	0.225	1,400	750	100
NRH2412T 4R7MNGHV	RoHS	4.7	$\pm 20\%$	45	0.300	1,150	650	100
NRH2412T 6R8MNGHV	RoHS	6.8	$\pm 20\%$	34	0.420	950	550	100
NRH2412T 100MNGHV	RoHS	10	$\pm 20\%$	29	0.600	810	450	100

● NRH3010 Shielded type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 20\%$)	Rated current ※) [mA]		Measuring frequency [kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRH3010T 1R2NN V	RoHS	1.2	$\pm 30\%$	120	0.065	1,700	1,480	100
NRH3010T 1R5NN V	RoHS	1.5	$\pm 30\%$	99	0.075	1,440	1,370	100
NRH3010T 2R2MN V	RoHS	2.2	$\pm 20\%$	86	0.083	1,300	1,300	100
NRH3010T 3R3MN V	RoHS	3.3	$\pm 20\%$	64	0.130	1,000	1,030	100
NRH3010T 4R7MN V	RoHS	4.7	$\pm 20\%$	50	0.170	850	900	100
NRH3010T 6R8MN V	RoHS	6.8	$\pm 20\%$	44	0.250	700	745	100
NRH3010T 100MN V	RoHS	10	$\pm 20\%$	34	0.350	600	620	100
NRH3010T 150MN V	RoHS	15	$\pm 20\%$	25	0.550	450	480	100
NRH3010T 220MN V	RoHS	22	$\pm 20\%$	22	0.770	380	410	100

● NRH3012 Shielded type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 20\%$)	Rated current ※) [mA]		Measuring frequency [kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRH3012T R47NN V	RoHS	0.47	$\pm 30\%$	160	0.033	2,600	1,900	100
NRH3012T 1R0NN V	RoHS	1.0	$\pm 30\%$	111	0.048	2,200	1,710	100
NRH3012T 1R5NN V	RoHS	1.5	$\pm 30\%$	95	0.055	1,700	1,600	100
NRH3012T 2R2MN V	RoHS	2.2	$\pm 20\%$	78	0.075	1,500	1,370	100
NRH3012T 3R3MN V	RoHS	3.3	$\pm 20\%$	61	0.100	1,200	1,210	100
NRH3012T 4R7MN V	RoHS	4.7	$\pm 20\%$	50	0.130	1,000	1,060	100
NRH3012T 6R8MN V	RoHS	6.8	$\pm 20\%$	43	0.190	850	890	100
NRH3012T 100MN V	RoHS	10	$\pm 20\%$	32	0.270	730	720	100
NRH3012T 150MN V	RoHS	15	$\pm 20\%$	26	0.450	530	570	100
NRH3012T 220MN V	RoHS	22	$\pm 20\%$	22	0.630	500	500	100

● NRH3012 Shielded type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 20\%$)	Rated current ※) [mA]		Measuring frequency [kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRV3012T 1R0N V	RoHS	1.0	$\pm 30\%$	110	0.065	2,500	1,600	100
NRV3012T 1R5N V	RoHS	1.5	$\pm 30\%$	92	0.075	2,100	1,400	100
NRV3012T 2R2M V	RoHS	2.2	$\pm 20\%$	70	0.120	1,800	1,100	100
NRV3012T 3R3M V	RoHS	3.3	$\pm 20\%$	55	0.150	1,600	1,000	100
NRV3012T 4R7M V	RoHS	4.7	$\pm 20\%$	48	0.190	1,250	850	100
NRV3012T 6R8M V	RoHS	6.8	$\pm 20\%$	40	0.300	950	650	100
NRV3012T 100M V	RoHS	10	$\pm 20\%$	32	0.470	800	550	100

● NRS3015 Shielded type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 20\%$)	Rated current ※) [mA]		Measuring frequency [kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRS3015T 1R0NNGHV	RoHS	1.0	$\pm 30\%$	100	0.030	2,100	2,100	100
NRS3015T 1R5NNGHV	RoHS	1.5	$\pm 30\%$	87	0.038	1,800	1,820	100
NRS3015T 2R2MNGHV	RoHS	2.2	$\pm 20\%$	64	0.058	1,480	1,500	100
NRS3015T 3R3MNGHV	RoHS	3.3	$\pm 20\%$	49	0.078	1,210	1,230	100
NRS3015T 4R7MNGHV	RoHS	4.7	$\pm 20\%$	40	0.120	1,020	1,040	100
NRS3015T 6R8MNGHV	RoHS	6.8	$\pm 20\%$	36	0.160	870	880	100
NRS3015T 100MNGHV	RoHS	10	$\pm 20\%$	28	0.220	700	710	100
NRS3015T 220MNGHV	RoHS	22	$\pm 20\%$	20	0.520	470	470	100

※) The saturation current value (Idc1) is the DC current value having inductance decrease down to 30%. (at 20°C)

※) The temperature rise current value (Idc2) is the DC current value having temperature increase up to 40°C. (at 20°C)

※) The rated current is the DC current value that satisfies both of current value saturation current value and temperature rise current value.

■ PARTS NUMBER

● NRS4010 Shielded type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 20\%$)	Rated current ※) [mA]		Measuring frequency[kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRS4010T 1R0NDGGV	RoHS	1.0	$\pm 30\%$	116	0.056	2,000	1,900	100
NRS4010T 2R2MDGGV	RoHS	2.2	$\pm 20\%$	73	0.085	1,200	1,500	100
NRS4010T 3R3MDGGV	RoHS	3.3	$\pm 20\%$	58	0.100	1,100	1,400	100
NRS4010T 4R7MDGGV	RoHS	4.7	$\pm 20\%$	47	0.140	950	1,200	100
NRS4010T 6R8MDGGV	RoHS	6.8	$\pm 20\%$	38	0.200	800	1,000	100
NRS4010T 100MDGGV	RoHS	10	$\pm 20\%$	31	0.300	620	750	100
NRS4010T 150MDGGV	RoHS	15	$\pm 20\%$	24	0.430	540	600	100
NRS4010T 220MDGGV	RoHS	22	$\pm 20\%$	19	0.570	450	500	100

● NRS4012 Shielded type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 20\%$)	Rated current ※) [mA]		Measuring frequency[kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRS4012T 1R0NDGGV	RoHS	1.0	$\pm 30\%$	100	0.042	2,800	2,200	100
NRS4012T 2R2MDGJV	RoHS	2.2	$\pm 20\%$	70	0.060	1,650	1,900	100
NRS4012T 3R3MDGJV	RoHS	3.3	$\pm 20\%$	60	0.070	1,400	1,700	100
NRS4012T 4R7MDGJV	RoHS	4.7	$\pm 20\%$	45	0.095	1,200	1,500	100
NRS4012T 6R8MDGJV	RoHS	6.8	$\pm 20\%$	35	0.125	900	1,300	100
NRS4012T 100MDGJV	RoHS	10	$\pm 20\%$	30	0.170	800	1,100	100
NRS4012T 150MDGJV	RoHS	15	$\pm 20\%$	24	0.260	650	750	100
NRS4012T 220MDGJV	RoHS	22	$\pm 20\%$	18	0.400	500	620	100

● NRS4018 Shielded type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 20\%$)	Rated current ※) [mA]		Measuring frequency[kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRS4018T 1R0NDGJV	RoHS	1.0	$\pm 30\%$	90	0.027	4,000	3,200	100
NRS4018T 2R2MDGJV	RoHS	2.2	$\pm 20\%$	60	0.042	3,000	2,200	100
NRS4018T 3R3MDGJV	RoHS	3.3	$\pm 20\%$	45	0.055	2,300	2,000	100
NRS4018T 4R7MDGJV	RoHS	4.7	$\pm 20\%$	35	0.070	2,000	1,700	100
NRS4018T 6R8MDGJV	RoHS	6.8	$\pm 20\%$	30	0.098	1,600	1,450	100
NRS4018T 100MDGJV	RoHS	10	$\pm 20\%$	25	0.150	1,300	1,200	100
NRS4018T 150MDGJV	RoHS	15	$\pm 20\%$	18	0.210	1,100	850	100
NRS4018T 220MDGJV	RoHS	22	$\pm 20\%$	15	0.290	900	720	100
NRS4018T 330MDGJV	RoHS	33	$\pm 20\%$	12	0.460	700	550	100
NRS4018T 101MDGJV	RoHS	100	$\pm 20\%$	6.5	1.45	420	280	100

● NRS5010 type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 20\%$)	Rated current ※) [mA]		Measuring frequency[kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRS5010T 1R0NMGFV	RoHS	1.0	$\pm 30\%$	95	0.070	2,350	1,750	100
NRS5010T 2R2NMGFV	RoHS	2.2	$\pm 30\%$	65	0.105	1,500	1,400	100
NRS5010T 3R3MMGFV	RoHS	3.3	$\pm 20\%$	42	0.125	1,400	1,250	100
NRS5010T 4R7MMGFV	RoHS	4.7	$\pm 20\%$	37	0.145	1,200	1,150	100
NRS5010T 6R8MMGFV	RoHS	6.8	$\pm 20\%$	33	0.185	1,000	1,000	100
NRS5010T 100MMGFV	RoHS	10	$\pm 20\%$	23	0.250	850	900	100
NRS5010T 150MMGFV	RoHS	15	$\pm 20\%$	19	0.400	680	650	100
NRS5010T 220MMGFV	RoHS	22	$\pm 20\%$	15	0.600	550	450	100

● NRS5012 type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 20\%$)	Rated current ※) [mA]		Measuring frequency[kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRS5012T 1R0NMGFV	RoHS	1.0	$\pm 30\%$	100	0.053	4,500	2,300	100
NRS5012T 1R5NMGFV	RoHS	1.5	$\pm 30\%$	86	0.070	3,800	2,200	100
NRS5012T 2R2MMGFV	RoHS	2.2	$\pm 20\%$	70	0.085	3,100	2,000	100
NRS5012T 3R3MMGFV	RoHS	3.3	$\pm 20\%$	48	0.160	2,400	1,450	100
NRS5012T 4R7MMGFV	RoHS	4.7	$\pm 20\%$	40	0.180	2,200	1,400	100
NRS5012T 6R8MMGFV	RoHS	6.8	$\pm 20\%$	36	0.260	1,700	1,100	100
NRS5012T 100MMGFV	RoHS	10	$\pm 20\%$	26	0.420	1,400	850	100
NRS5012T 150MMGFV	RoHS	15	$\pm 20\%$	22	0.670	1,200	640	100

● NRS5014 Shielded type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 20\%$)	Rated current ※) [mA]		Measuring frequency[kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRS5014T R47NMGGV	RoHS	0.47	$\pm 30\%$	185	0.025	5,800	3,300	100
NRS5014T 1R2NMGGV	RoHS	1.2	$\pm 30\%$	86	0.045	3,800	2,400	100
NRS5014T 2R2NMGGV	RoHS	2.2	$\pm 30\%$	56	0.065	2,800	2,000	100
NRS5014T 3R3NMGGV	RoHS	3.3	$\pm 30\%$	48	0.080	2,350	1,700	100
NRS5014T 4R7NMGGV	RoHS	4.7	$\pm 30\%$	41	0.100	2,050	1,400	100
NRS5014T 6R8MMGGV	RoHS	6.8	$\pm 20\%$	33	0.150	1,600	1,200	100
NRS5014T 100MMGGV	RoHS	10	$\pm 20\%$	27	0.200	1,400	1,050	100
NRS5014T 150MMGGV	RoHS	15	$\pm 20\%$	20	0.320	1,100	650	100
NRS5014T 220MMGGV	RoHS	22	$\pm 20\%$	16	0.450	900	550	100

※) The saturation current value (Idc1) is the DC current value having inductance decrease down to 30%. (at 20°C)

※) The temperature rise current value (Idc2) is the DC current value having temperature increase up to 40°C. (at 20°C)

※) The rated current is the DC current value that satisfies both of current value saturation current value and temperature rise current value.

► This catalog contains the typical specification only due to the limitation of space. When you consider the purchase of our products, please check our specification. For details of each product (characteristics graph, reliability information, precautions for use, and so on), see our Web site (<http://www.ty-top.com/>).

■ PARTS NUMBER

● NRS5020 Shielded type

Parts number	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±20%)	Rated current ※) [mA]		Measuring frequency [kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRS5020T R47NMGJV	RoHS	0.47	±30%	230	0.012	6,100	5,000	100
NRS5020T 1R0NMGJV	RoHS	1.0	±30%	81	0.021	4,000	3,600	100
NRS5020T 1R5NMGJV	RoHS	1.5	±30%	68	0.026	3,350	3,200	100
NRS5020T 2R2NMGJV	RoHS	2.2	±30%	57	0.035	2,900	2,900	100
NRS5020T 3R3NMGJV	RoHS	3.3	±30%	46	0.048	2,400	2,400	100
NRS5020T 4R7MMGJV	RoHS	4.7	±20%	37	0.060	2,000	2,000	100
NRS5020T 6R8MMGJV	RoHS	6.8	±20%	30	0.090	1,600	1,650	100
NRS5020T 100MMGJV	RoHS	10	±20%	24	0.120	1,300	1,450	100
NRS5020T 150MMGJV	RoHS	15	±20%	20	0.165	1,100	1,200	100
NRS5020T 220MMGJV	RoHS	22	±20%	17	0.260	900	1,000	100

● NRS5024 Shielded type

Parts number	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±20%)	Rated current ※) [mA]		Measuring frequency [kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRS5024T 1R0NMGJV	RoHS	1.0	±30%	85	0.016	5,800	4,400	100
NRS5024T 1R5NMGJV	RoHS	1.5	±30%	67	0.022	5,200	3,600	100
NRS5024T 2R2NMGJV	RoHS	2.2	±30%	51	0.029	4,100	3,100	100
NRS5024T 3R3NMGJV	RoHS	3.3	±30%	41	0.043	3,100	2,400	100
NRS5024T 4R7MMGJV	RoHS	4.7	±20%	37	0.055	2,700	2,000	100
NRS5024T 6R8MMGJV	RoHS	6.8	±20%	28	0.080	2,200	1,600	100
NRS5024T 100MMGJV	RoHS	10	±20%	21	0.125	1,700	1,200	100
NRS5024T 150MMGJV	RoHS	15	±20%	18	0.170	1,400	1,000	100
NRS5024T 220MMGJV	RoHS	22	±20%	15	0.230	1,200	820	100
NRS5024T 330MMGJV	RoHS	33	±20%	11	0.370	1,000	630	100

● NRS5030 type

Parts number	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±30%)	Rated current ※) [mA]		Measuring frequency [kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRS5030T R47NMGJV	RoHS	0.47	±30%	185	0.010	9,000	5,000	100
NRS5030T 1R0NMGJV	RoHS	1.0	±30%	110	0.015	6,600	4,000	100
NRS5030T 2R2NMGJV	RoHS	2.2	±30%	46	0.023	4,200	3,500	100
NRS5030T 3R3MMGJV	RoHS	3.3	±20%	36	0.030	3,600	3,000	100
NRS5030T 4R7MMGJV	RoHS	4.7	±20%	31	0.035	3,100	2,600	100
NRS5030T 6R8MMGJV	RoHS	6.8	±20%	22	0.052	2,500	2,300	100
NRS5030T 100MMGJV	RoHS	10	±20%	20	0.070	2,100	1,700	100
NRS5030T 150MMGJV	RoHS	15	±20%	14	0.125	1,600	1,400	100
NRS5030T 220MMGJV	RoHS	22	±20%	13	0.180	1,400	1,050	100
NRS5030T 330MMGJV	RoHS	33	±20%	10	0.225	1,150	800	100
NRS5030T 470MMGJV	RoHS	47	±20%	9	0.325	950	700	100

● NRS5040 Shielded type

Parts number	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±30%)	Rated current ※) [mA]		Measuring frequency [kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRS5040T 1R5NMGJV	RoHS	1.5	±30%	60	0.017	6,400	4,500	100
NRS5040T 2R2NMGJV	RoHS	2.2	±30%	42	0.022	5,000	3,700	100
NRS5040T 3R3NMGJV	RoHS	3.3	±30%	32	0.027	4,000	3,300	100
NRS5040T 4R7NMGKV	RoHS	4.7	±30%	28	0.029	3,300	3,100	100
NRS5040T 6R8MMGJV	RoHS	6.8	±20%	21	0.049	2,800	2,400	100
NRS5040T 100MMGJV	RoHS	10	±20%	18	0.056	2,300	2,100	100
NRS5040T 150MMGJV	RoHS	15	±20%	13	0.080	2,000	1,800	100
NRS5040T 220MMGKV	RoHS	22	±20%	9	0.126	1,500	1,400	100
NRS5040T 330MMGJV	RoHS	33	±20%	7	0.180	1,300	1,200	100
NRS5040T 470MMGJV	RoHS	47	±20%	6	0.310	1,100	900	100

● NRS6010 type

Parts number	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±20%)	Rated current ※) [mA]		Measuring frequency [kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRS6010T 1R5MMGFV	RoHS	1.5	±20%	77	0.090	2,400	1,900	100
NRS6010T 2R2MMGFV	RoHS	2.2	±20%	56	0.110	1,900	1,700	100
NRS6010T 3R3MMGFV	RoHS	3.3	±20%	42	0.135	1,600	1,500	100
NRS6010T 4R7MMGFV	RoHS	4.7	±20%	36	0.165	1,300	1,400	100
NRS6010T 6R8MMGFV	RoHS	6.8	±20%	30	0.220	1,200	1,200	100
NRS6010T 100MMGFV	RoHS	10	±20%	25	0.270	1,000	1,100	100
NRS6010T 220MMGFV	RoHS	22	±20%	12	0.580	650	700	100

※) The saturation current value (Idc1) is the DC current value having inductance decrease down to 30%. (at 20°C)

※) The temperature rise current value (Idc2) is the DC current value having temperature increase up to 40°C. (at 20°C)

※) The rated current is the DC current value that satisfies both of current value saturation current value and temperature rise current value.

● NRS6012 Shielded type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 20\%$)	Rated current ※) [mA]		Measuring frequency [kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRS6012T 1R0NMGJV	RoHS	1.0	$\pm 30\%$	95	0.050	3,000	2,400	100
NRS6012T 1R5NMGJV	RoHS	1.5	$\pm 30\%$	69	0.067	2,600	2,100	100
NRS6012T 2R5NMGJV	RoHS	2.5	$\pm 30\%$	45	0.090	2,100	1,800	100
NRS6012T 3R3NMGJV	RoHS	3.3	$\pm 30\%$	42	0.105	1,800	1,700	100
NRS6012T 4R7MMGV	RoHS	4.7	$\pm 20\%$	36	0.125	1,600	1,550	100
NRS6012T 5R3MMGV	RoHS	5.3	$\pm 20\%$	34	0.125	1,500	1,550	100
NRS6012T 6R8MMGV	RoHS	6.8	$\pm 20\%$	30	0.165	1,300	1,350	100
NRS6012T 100MMGV	RoHS	10	$\pm 20\%$	22	0.200	1,000	1,200	100
NRS6012T 150MMGV	RoHS	15	$\pm 20\%$	18	0.295	800	800	100
NRS6012T 220MMGV	RoHS	22	$\pm 20\%$	12	0.465	760	650	100
NRS6012T 330MMGV	RoHS	33	$\pm 20\%$	8	0.580	590	550	100
NRS6012T 470MMGV	RoHS	47	$\pm 20\%$	6	0.965	520	460	100
NRS6012T 680MMGV	RoHS	68	$\pm 20\%$	3	1.16	440	410	100
NRS6012T 101MMGV	RoHS	100	$\pm 20\%$	1	1.67	350	320	100

● NRS6014 Shielded type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 20\%$)	Rated current ※) [mA]		Measuring frequency [kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRS6014T 1R2NMGJV	RoHS	1.2	$\pm 30\%$	77	0.042	4,000	2,750	100
NRS6014T 2R2NMGJV	RoHS	2.2	$\pm 30\%$	61	0.055	3,000	2,300	100
NRS6014T 3R3NMGJV	RoHS	3.3	$\pm 30\%$	41	0.075	2,500	2,000	100
NRS6014T 4R7MMGV	RoHS	4.7	$\pm 20\%$	36	0.090	2,000	1,900	100
NRS6014T 6R8MMGV	RoHS	6.8	$\pm 20\%$	30	0.115	1,700	1,650	100
NRS6014T 100MMGV	RoHS	10	$\pm 20\%$	24	0.140	1,400	1,400	100
NRS6014T 150MMGV	RoHS	15	$\pm 20\%$	20	0.210	1,150	1,200	100
NRS6014T 220MMGV	RoHS	22	$\pm 20\%$	16	0.300	950	1,000	100

● NRS6020 Shielded type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 20\%$)	Rated current ※) [mA]		Measuring frequency [kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRS6020T 0R8NMGJV	RoHS	0.8	$\pm 30\%$	110	0.020	6,400	4,100	100
NRS6020T 1R5NMGJV	RoHS	1.5	$\pm 30\%$	93	0.026	4,300	3,600	100
NRS6020T 2R2NMGJV	RoHS	2.2	$\pm 30\%$	73	0.034	3,200	2,900	100
NRS6020T 3R3NMGJV	RoHS	3.3	$\pm 30\%$	55	0.040	2,800	2,750	100
NRS6020T 4R7NMGJV	RoHS	4.7	$\pm 30\%$	43	0.058	2,400	2,150	100
NRS6020T 6R8NMGJV	RoHS	6.8	$\pm 30\%$	30	0.085	2,000	1,800	100
NRS6020T 100MMGV	RoHS	10	$\pm 20\%$	18	0.125	1,900	1,500	100
NRS6020T 220MMGV	RoHS	22	$\pm 20\%$	11	0.290	1,250	950	100

● NRS6028 Shielded type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 30\%$)	Rated current ※) [mA]		Measuring frequency [kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRS6028T 0R9NMGJV	RoHS	0.9	$\pm 30\%$	90	0.013	6,700	4,600	100
NRS6028T 1R5NMGJV	RoHS	1.5	$\pm 30\%$	78	0.016	5,100	4,200	100
NRS6028T 2R2NMGJV	RoHS	2.2	$\pm 30\%$	68	0.020	4,200	3,700	100
NRS6028T 3R0NMGJV	RoHS	3.0	$\pm 30\%$	55	0.023	3,600	3,400	100
NRS6028T 4R7MMGV	RoHS	4.7	$\pm 20\%$	39	0.031	2,700	3,000	100
NRS6028T 6R0MMGV	RoHS	6.0	$\pm 20\%$	30	0.040	2,500	2,500	100
NRS6028T 100MMGV	RoHS	10	$\pm 20\%$	20	0.065	1,900	1,900	100
NRS6028T 150MMGV	RoHS	15	$\pm 20\%$	17	0.095	1,600	1,800	100
NRS6028T 220MMGV	RoHS	22	$\pm 20\%$	12	0.135	1,300	1,400	100
NRS6028T 330MMGV	RoHS	33	$\pm 20\%$	10	0.220	1,100	1,100	100
NRS6028T 470MMGV	RoHS	47	$\pm 20\%$	8	0.300	1,000	920	100
NRS6028T 680MMGV	RoHS	68	$\pm 20\%$	5	0.420	800	770	100
NRS6028T 101MMGV	RoHS	100	$\pm 20\%$	3	0.600	650	660	100

● NRS6045 Shielded type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 30\%$)	Rated current ※) [mA]		Measuring frequency [kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRS6045T 1R0NMGKV	RoHS	1.0	$\pm 30\%$	110	0.014	9,800	4,500	100
NRS6045T 1R3NMGKV	RoHS	1.3	$\pm 30\%$	95	0.016	8,200	4,200	100
NRS6045T 1R8NMGKV	RoHS	1.8	$\pm 30\%$	80	0.019	7,200	3,900	100
NRS6045T 2R3NMGKV	RoHS	2.3	$\pm 30\%$	60	0.022	6,400	3,600	100
NRS6045T 3R0NMGKV	RoHS	3.0	$\pm 30\%$	45	0.024	5,600	3,300	100
NRS6045T 4R5MMGV	RoHS	4.5	$\pm 20\%$	25	0.030	4,400	3,100	100
NRS6045T 6R3MMGV	RoHS	6.3	$\pm 20\%$	15	0.036	3,600	3,000	100
NRS6045T 100MMGV	RoHS	10	$\pm 20\%$	12	0.046	3,100	2,400	100
NRS6045T 150MMGV	RoHS	15	$\pm 20\%$	10	0.070	2,500	1,900	100
NRS6045T 220MMGV	RoHS	22	$\pm 20\%$	7	0.107	2,000	1,600	100
NRS6045T 330MMGV	RoHS	33	$\pm 20\%$	6	0.141	1,650	1,400	100
NRS6045T 470MMGV	RoHS	47	$\pm 20\%$	5	0.211	1,400	1,150	100
NRS6045T 680MMGV	RoHS	68	$\pm 20\%$	4	0.304	1,100	950	100
NRS6045T 101MMGV	RoHS	100	$\pm 20\%$	3	0.466	900	750	100

※) The saturation current value (Idc1) is the DC current value having inductance decrease down to 30%. (at 20°C)

※) The temperature rise current value (Idc2) is the DC current value having temperature increase up to 40°C. (at 20°C)

※) The rated current is the DC current value that satisfies both of current value saturation current value and temperature rise current value.

■ PARTS NUMBER

● NRS8030 Shielded type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 30\%$)	Rated current ※) [mA]		Measuring frequency [kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRS8030T 1R0NJGJV	RoHS	1.0	$\pm 30\%$	120	0.009	7,800	6,200	100
NRS8030T 1R5NJGJV	RoHS	1.5	$\pm 30\%$	80	0.012	6,200	5,300	100
NRS8030T 2R2NJGJV	RoHS	2.2	$\pm 30\%$	60	0.015	4,900	4,800	100
NRS8030T 3R3MJGJV	RoHS	3.3	$\pm 20\%$	50	0.019	4,200	4,300	100
NRS8030T 4R7MJGJV	RoHS	4.7	$\pm 20\%$	40	0.022	3,600	4,000	100
NRS8030T 6R8MJGJV	RoHS	6.8	$\pm 20\%$	32	0.029	3,000	3,400	100
NRS8030T 100MJGJV	RoHS	10	$\pm 20\%$	27	0.033	2,400	3,000	100
NRS8030T 150MJGJV	RoHS	15	$\pm 20\%$	20	0.060	2,000	2,200	100
NRS8030T 220MJGJV	RoHS	22	$\pm 20\%$	16	0.070	1,750	1,900	100
NRS8030T 330MJGJV	RoHS	33	$\pm 20\%$	13	0.120	1,300	1,500	100
NRS8030T 470MJGJV	RoHS	47	$\pm 20\%$	11	0.170	1,100	1,300	100

● NRS8040 Shielded type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 30\%$)	Rated current ※) [mA]		Measuring frequency [kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NRS8040T 0R9NJGJV	RoHS	0.9	$\pm 30\%$	85	0.006	13,000	7,800	100
NRS8040T 1R4NJGJV	RoHS	1.4	$\pm 30\%$	63	0.007	10,000	7,000	100
NRS8040T 2R0NJGJV	RoHS	2.0	$\pm 30\%$	50	0.009	8,100	6,300	100
NRS8040T 3R6NJGJV	RoHS	3.6	$\pm 30\%$	34	0.015	6,400	4,900	100
NRS8040T 4R7NJGJV	RoHS	4.7	$\pm 30\%$	30	0.018	5,400	4,100	100
NRS8040T 6R8NJGJV	RoHS	6.8	$\pm 30\%$	24	0.025	4,400	3,700	100
NRS8040T 100MJGJV	RoHS	10	$\pm 20\%$	22	0.034	3,800	3,100	100
NRS8040T 150MJGJV	RoHS	15	$\pm 20\%$	16	0.050	2,900	2,400	100
NRS8040T 220MJGJV	RoHS	22	$\pm 20\%$	13	0.066	2,400	2,200	100

※) The saturation current value (Idc1) is the DC current value having inductance decrease down to 30%. (at 20°C)

※) The temperature rise current value (Idc2) is the DC current value having temperature increase up to 40°C. (at 20°C)

※) The rated current is the DC current value that satisfies both of current value saturation current value and temperature rise current value.



Derating of current is necessary for these products depending on ambient temperature.
Refer to our Website (<http://www.ty-top.com/>) for appropriate derating of current of individual products.

SMD POWER INDUCTORS(NS SERIES)



REFLOW

PARTS NUMBER

N	S	△	1	0	1	4	5	T	△	3	R	3	M	N	A	V	△=Blank space
①			②					③		④			⑤	⑥		⑦	

①Series name

Code	Series name
NS△	SMD inductor

②Dimensions (L×W×H)

Code	Dimensions (L×W×H) [mm]
10145	10.1×10.1×4.5
10155	10.1×10.1×5.5
10165	10.1×10.1×6.5
12555	12.5×12.5×5.5
12565	12.5×12.5×6.5
12575	12.5×12.5×7.5

③Packaging

Code	Packaging
T△	Taping

④Nominal inductance

Code (example)	Nominal inductance [μH]
R20	0.2
1R0	1.0
100	10
101	100

※R=Decimal point

⑤Inductance tolerance

Code	Inductance tolerance
M	±20%
N	±30%

⑥Internal code

Code	Internal code
N△	Standard
NA	

⑦Internal code

Code	Internal code
V	Industrial, Automotive Comfort, and Safety

OPERATING TEMP.

- -40~125°C (Including self-generated heat)

STANDARD EXTERNAL DIMENSIONS / MINIMUM QUANTITY



※ The NS 101□□ type does not have the indication of the Manufacturing date code.

Type	L	W	H	a	b	Minimum Quantity [pcs] Taping
NS 10145	10.1±0.3 (0.398±0.012)	10.1±0.3 (0.398±0.012)	4.5±0.35 (0.177±0.014)	2.8±0.1 (0.110±0.004)	2.0±0.15 (0.079±0.006)	2000
NS 10155	10.1±0.3 (0.398±0.012)	10.1±0.3 (0.398±0.012)	5.5±0.35 (0.217±0.014)	2.8±0.1 (0.110±0.004)	2.0±0.15 (0.079±0.006)	2000
NS 10165	10.1±0.3 (0.398±0.012)	10.1±0.3 (0.398±0.012)	6.5±0.35 (0.256±0.014)	2.8±0.1 (0.110±0.004)	2.0±0.15 (0.079±0.006)	2000
NS 12555	12.5±0.3 (0.492±0.012)	12.5±0.3 (0.492±0.012)	5.5±0.35 (0.217±0.014)	3.0±0.1 (0.118±0.004)	2.0±0.15 (0.079±0.006)	2000
NS 12565	12.5±0.3 (0.492±0.012)	12.5±0.3 (0.492±0.012)	6.5±0.35 (0.256±0.014)	3.0±0.1 (0.118±0.004)	2.0±0.15 (0.079±0.006)	2000
NS 12575	12.5±0.3 (0.492±0.012)	12.5±0.3 (0.492±0.012)	7.5±0.35 (0.295±0.014)	3.0±0.1 (0.118±0.004)	2.0±0.15 (0.079±0.006)	2000

Unit: mm (inch)

Recommended Land Patterns

Surface Mounting

- Mounting and soldering conditions should be checked beforehand.
- Applicable soldering process to these products is reflow soldering only.



Type	A	B	C
NS 10145	2.5	5.6	3.2
NS 10155	2.5	5.6	3.2
NS 10165	2.5	5.6	3.2
NS 12555	2.5	8.6	3.2
NS 12565	2.5	8.6	3.2
NS 12575	2.5	8.6	3.2

Unit: mm

▶ This catalog contains the typical specification only due to the limitation of space. When you consider the purchase of our products, please check our specification. For details of each product (characteristics graph, reliability information, precautions for use, and so on), see our Web site (<http://www.ty-top.com/>).

● NS 10145 type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 20\%$)	Rated current ※) [A]		Measuring frequency [kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NS 10145T 1R0NN V	RoHS	1.0	$\pm 30\%$	116	0.0049	12.54	8.90	100
NS 10145T 1R5NN V	RoHS	1.5	$\pm 30\%$	72.1	0.0060	10.34	7.99	100
NS 10145T 2R2NN V	RoHS	2.2	$\pm 30\%$	43.9	0.0085	8.91	6.64	100
NS 10145T 3R3NN V	RoHS	3.3	$\pm 30\%$	36.1	0.0100	7.33	6.10	100
NS 10145T 4R7NN V	RoHS	4.7	$\pm 30\%$	27.8	0.0144	6.69	5.03	100
NS 10145T 5R8NN V	RoHS	5.6	$\pm 30\%$	26.3	0.0181	5.85	4.45	100
NS 10145T 6R8NN V	RoHS	6.8	$\pm 30\%$	23.1	0.0200	5.05	4.22	100
NS 10145T 100MN V	RoHS	10	$\pm 20\%$	21.6	0.0270	4.22	3.10	100
NS 10145T 150MN V	RoHS	15	$\pm 20\%$	19	0.0381	3.44	3.00	100
NS 10145T 220MN V	RoHS	22	$\pm 20\%$	13.5	0.0570	2.87	2.30	100
NS 10145T 330MN V	RoHS	33	$\pm 20\%$	10.5	0.0880	2.36	1.90	100
NS 10145T 680MN V	RoHS	68	$\pm 20\%$	7.4	0.150	1.66	1.45	100
NS 10145T 151MN V	RoHS	150	$\pm 20\%$	4.7	0.350	1.11	0.86	100
NS 10145T 221MN V	RoHS	220	$\pm 20\%$	4.2	0.510	0.91	0.78	100
NS 10145T 331MN V	RoHS	330	$\pm 20\%$	3.3	0.700	0.71	0.64	100
NS 10145T 471MN V	RoHS	470	$\pm 20\%$	2.8	1.030	0.61	0.52	100
NS 10145T 681MN V	RoHS	680	$\pm 20\%$	2.3	1.57	0.50	0.42	100
NS 10145T 102MN V	RoHS	1000	$\pm 20\%$	1.7	2.58	0.41	0.32	100
NS 10145T 152MN V	RoHS	1500	$\pm 20\%$	1.5	3.70	0.36	0.27	100

● NS 10155 type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 20\%$)	Rated current ※) [A]		Measuring frequency [kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NS 10155T 1R5NN V	RoHS	1.5	$\pm 30\%$	75.5	0.0060	11.90	8.39	100
NS 10155T 2R2NN V	RoHS	2.2	$\pm 30\%$	55.6	0.0072	10.00	7.61	100
NS 10155T 3R3NN V	RoHS	3.3	$\pm 30\%$	40.6	0.0097	8.50	6.49	100
NS 10155T 4R7NN V	RoHS	4.7	$\pm 30\%$	33.4	0.0112	7.40	6.01	100
NS 10155T 6R8NN V	RoHS	6.8	$\pm 30\%$	24.2	0.0159	6.00	4.98	100
NS 10155T 100MN V	RoHS	10	$\pm 20\%$	20.2	0.0200	4.49	4.40	100
NS 10155T 150MN V	RoHS	15	$\pm 20\%$	15.5	0.0310	4.03	3.40	100
NS 10155T 220MN V	RoHS	22	$\pm 20\%$	11.3	0.0430	3.37	2.80	100

● NS 10165 type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 20\%$)	Rated current ※) [A]		Measuring frequency [kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NS 10165T 1R5NN V	RoHS	1.5	$\pm 30\%$	85.4	0.0062	13.60	8.04	100
NS 10165T 2R2NN V	RoHS	2.2	$\pm 30\%$	63	0.0074	10.80	7.32	100
NS 10165T 3R3NN V	RoHS	3.3	$\pm 30\%$	42	0.0086	9.30	6.76	100
NS 10165T 4R7NN V	RoHS	4.7	$\pm 30\%$	36.8	0.0112	7.70	5.88	100
NS 10165T 6R8NN V	RoHS	6.8	$\pm 30\%$	20.7	0.0140	6.00	5.22	100
NS 10165T 100MN V	RoHS	10	$\pm 20\%$	16.6	0.0174	5.20	4.66	100
NS 10165T 150MN V	RoHS	15	$\pm 20\%$	13.2	0.0250	3.60	3.84	100
NS 10165T 220MN V	RoHS	22	$\pm 20\%$	10.6	0.0313	3.10	3.41	100

● NS 12555 type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 20\%$)	Rated current ※) [A]		Measuring frequency [kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NS 12555T 6R0NN V	RoHS	6.0	$\pm 30\%$	26.4	0.0140	5.01	5.60	100
NS 12555T 100MN V	RoHS	10	$\pm 20\%$	21.8	0.0175	4.73	5.04	100
NS 12555T 150MN V	RoHS	15	$\pm 20\%$	16.6	0.0233	3.89	4.18	100
NS 12555T 220MN V	RoHS	22	$\pm 20\%$	13.2	0.0297	3.20	3.81	100
NS 12555T 330MN V	RoHS	33	$\pm 20\%$	10.8	0.0415	2.64	3.16	100
NS 12555T 470MN V	RoHS	47	$\pm 20\%$	9.3	0.0618	2.23	2.70	100
NS 12555T 680MN V	RoHS	68	$\pm 20\%$	7.9	0.0832	1.81	2.14	100
NS 12555T 101MN V	RoHS	100	$\pm 20\%$	6.7	0.117	1.53	1.86	100
NS 12555T 221MN V	RoHS	220	$\pm 20\%$	4.4	0.270	1.00	1.18	100
NS 12555T 331MN V	RoHS	330	$\pm 20\%$	3.4	0.410	0.82	0.96	100
NS 12555T 471MN V	RoHS	470	$\pm 20\%$	2.8	0.520	0.68	0.80	100
NS 12555T 152MN V	RoHS	1500	$\pm 20\%$	1.7	1.73	0.40	0.44	100

※) The saturation current value (Idc1) is the DC current value having inductance decrease down to 30%. (at 20°C)

※) The temperature rise current value (Idc2) is the DC current value having temperature increase up to 40°C. (at 20°C)

※) The rated current is the DC current value that satisfies both of current value saturation current value and temperature rise current value.

● NS 12565 type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 20\%$)	Rated current ※) [A]		Measuring frequency[kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NS 12565T 2R0NN V	RoHS	2.0	$\pm 30\%$	82.3	0.0080	13.91	7.60	100
NS 12565T 4R2NN V	RoHS	4.2	$\pm 30\%$	41.5	0.0126	9.40	5.91	100
NS 12565T 7R0NN V	RoHS	7.0	$\pm 30\%$	24.6	0.0162	7.80	5.21	100
NS 12565T 100MN V	RoHS	10	$\pm 20\%$	15.8	0.0199	6.00	4.75	100
NS 12565T 150MN V	RoHS	15	$\pm 20\%$	14.4	0.0237	5.60	4.33	100
NS 12565T 220MN V	RoHS	22	$\pm 20\%$	12.5	0.0310	4.20	3.91	100
NS 12565T 330MN V	RoHS	33	$\pm 20\%$	9.1	0.0390	3.80	3.22	100
NS 12565T 470MN V	RoHS	47	$\pm 20\%$	7.2	0.0575	3.34	2.78	100
NS 12565T 680MN V	RoHS	68	$\pm 20\%$	6.7	0.0775	2.70	2.30	100
NS 12565T 101MN V	RoHS	100	$\pm 20\%$	5.5	0.123	2.23	1.81	100
NS 12565T 151MN V	RoHS	150	$\pm 20\%$	4.8	0.173	1.80	1.54	100
NS 12565T 221MN V	RoHS	220	$\pm 20\%$	3.6	0.273	1.39	1.18	100

● NS 12575 type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 20\%$)	Rated current ※) [A]		Measuring frequency[kHz]
						Saturation current Idc1	Temperature rise current Idc2	
NS 12575T 1R2NN V	RoHS	1.2	$\pm 30\%$	101.7	0.0058	18.08	9.15	100
NS 12575T 2R7NN V	RoHS	2.7	$\pm 30\%$	55.9	0.0085	13.91	7.69	100
NS 12575T 3R9NN V	RoHS	3.9	$\pm 30\%$	41.7	0.0099	12.10	7.38	100
NS 12575T 5R6NN V	RoHS	5.6	$\pm 30\%$	26.2	0.0116	10.20	6.36	100
NS 12575T 6R8NN V	RoHS	6.8	$\pm 30\%$	24	0.0131	9.50	5.84	100
NS 12575T 100MN V	RoHS	10	$\pm 20\%$	21.5	0.0156	7.65	5.55	100
NS 12575T 150MN V	RoHS	15	$\pm 20\%$	14	0.0184	6.30	5.22	100
NS 12575T 220MN V	RoHS	22	$\pm 20\%$	9.7	0.0260	5.50	4.05	100
NS 12575T 330MN V	RoHS	33	$\pm 20\%$	8.2	0.0390	4.30	3.48	100
NS 12575T 470MN V	RoHS	47	$\pm 20\%$	6.5	0.0515	3.60	2.95	100
NS 12575T 101MN V	RoHS	100	$\pm 20\%$	3.9	0.110	2.50	2.01	100
NS 12575T 151MN V	RoHS	150	$\pm 20\%$	3.4	0.161	1.90	1.51	100

※) The saturation current value (Idc1) is the DC current value having inductance decrease down to 30%. (at 20°C)

※) The temperature rise current value (Idc2) is the DC current value having temperature increase up to 40°C. (at 20°C)

※) The rated current is the DC current value that satisfies both of current value saturation current value and temperature rise current value.



Derating of current is necessary for these products depending on ambient temperature.
Refer to our Website (<http://www.ty-top.com/>) for appropriate derating of current of individual products.

WIRE-WOUND CHIP POWER INDUCTORS(CB SERIES)



REFLOW

PARTS NUMBER

C	B	△	△	2	0	1	2	T	1	0	0	M	△	V
①	②	③	④	⑤	⑥	⑦	⑧							

△=Blank space

① Series name

Code	Series name
CB	Wound chip power inductor

② Characteristics

Code	Characteristics
△△	Standard
△C	High current

③ Dimensions (L × W)

Code	Type (inch)	Dimensions (L × W) [mm]
2012	2012 (0805)	2.0 × 1.25
2016	2016 (0806)	2.0 × 1.6
2518	2518 (1007)	2.5 × 1.8
3225	3225 (1210)	3.2 × 2.5

④ Packaging

Code	Packaging
T	Taping

⑤ Nominal inductance

Code (example)	Nominal inductance [μH]
1R0	1.0
100	10
101	100

※R=Decimal point

⑥ Inductance tolerance

Code	Inductance tolerance
K	±10%
M	±20%

⑦ Special code

Code	Special code
△	Standard
R	Low Rdc type

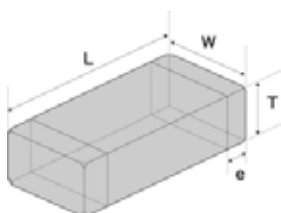
⑧ Internal code

Code	Special code
V	Industrial, Automotive Comfort, and Safety

OPERATING TEMP.

● -40~105°C (Including self-generated heat)

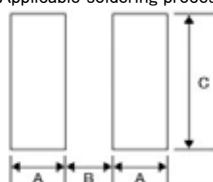
STANDARD EXTERNAL DIMENSIONS / STANDARD QUANTITY



Recommended Land Patterns

Surface Mounting

- Mounting and soldering conditions should be checked beforehand.
- Applicable soldering process to these products is reflow soldering only.



Type	A	B	C
2012	0.60	1.0	1.45
2016	0.60	1.0	1.8
2518	0.60	1.5	2.0
3225	0.85	1.7	2.7

Unit: mm

Type	L	W	T	e	Standard quantity [pcs]	
					Paper tape	Embossed tape
CB 2012	2.0±0.2	1.25±0.2	1.25±0.2	0.5±0.2	—	3000
CB C2012	(0.079±0.008)	(0.049±0.008)	(0.049±0.008)	(0.020±0.008)	—	3000
CB 2016	2.0±0.2	1.6±0.2	1.6±0.2	0.5±0.2	—	2000
CB C2016	(0.079±0.008)	(0.063±0.008)	(0.063±0.008)	(0.020±0.008)	—	2000
CB 2518	2.5±0.2	1.8±0.2	1.8±0.2	0.5±0.2	—	2000
CB C2518	(0.098±0.008)	(0.071±0.008)	(0.071±0.008)	(0.020±0.008)	—	2000
CB C3225	3.2±0.2	2.5±0.2	2.5±0.2	0.6±0.3	—	1000
	(0.126±0.008)	(0.098±0.008)	(0.098±0.008)	(0.024±0.012)	—	1000

Unit: mm (inch)

► This catalog contains the typical specification only due to the limitation of space. When you consider the purchase of our products, please check our specification. For details of each product (characteristics graph, reliability information, precautions for use, and so on), see our Web site (<http://www.ty-top.com/>).

■ PARTS NUMBER

● 2012 (0805) type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 30\%$)	Rated current ※) [mA]		Measuring frequency [MHz]
						Saturation current Idc1	Temperature rise current Idc2	
CB 2012T1R0M V	RoHS	1.0	$\pm 20\%$	100	0.15	500	700	7.96
CB 2012T2R2M V	RoHS	2.2	$\pm 20\%$	80	0.23	410	620	7.96
CB 2012T3R3M V	RoHS	3.3	$\pm 20\%$	55	0.30	330	550	7.96
CB 2012T4R7M V	RoHS	4.7	$\pm 20\%$	45	0.40	300	430	7.96
CB 2012T6R8M V	RoHS	6.8	$\pm 20\%$	38	0.47	250	350	7.96
CB 2012T100□ V	RoHS	10	$\pm 10\%$, $\pm 20\%$	32	0.70	190	300	2.52
CB 2012T100□R V	RoHS	10	$\pm 10\%$, $\pm 20\%$	32	0.50	200	300	2.52
CB 2012T150□ V	RoHS	15	$\pm 10\%$, $\pm 20\%$	28	1.3	170	240	2.52
CB 2012T220□ V	RoHS	22	$\pm 10\%$, $\pm 20\%$	16	1.7	135	220	2.52
CB 2012T470□ V	RoHS	47	$\pm 10\%$, $\pm 20\%$	11	3.7	90	140	2.52
CB 2012T680□ V	RoHS	68	$\pm 10\%$, $\pm 20\%$	10	6.0	70	100	2.52
CB 2012T101□ V	RoHS	100	$\pm 10\%$, $\pm 20\%$	8	7.0	60	100	0.796

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 30\%$)	Rated current ※) [mA]		Measuring frequency [MHz]
						Saturation current Idc1	Temperature rise current Idc2	
CB C2012T1R0M V	RoHS	1.0	$\pm 20\%$	100	0.20	700	640	7.96
CB C2012T2R2M V	RoHS	2.2	$\pm 20\%$	70	0.30	530	485	7.96
CB C2012T4R7M V	RoHS	4.7	$\pm 20\%$	45	0.50	360	395	7.96
CB C2012T100□ V	RoHS	10	$\pm 10\%$, $\pm 20\%$	40	1.2	240	255	2.52
CB C2012T220□ V	RoHS	22	$\pm 10\%$, $\pm 20\%$	16	3.7	170	145	2.52
CB C2012T470□ V	RoHS	47	$\pm 10\%$, $\pm 20\%$	11	5.8	120	115	2.52

● 2016 (0806) type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 30\%$)	Rated current ※) [mA]		Measuring frequency [MHz]
						Saturation current Idc1	Temperature rise current Idc2	
CB 2016T1R0M V	RoHS	1.0	$\pm 20\%$	100	0.09	600	720	7.96
CB 2016T1R5M V	RoHS	1.5	$\pm 20\%$	80	0.11	550	650	7.96
CB 2016T2R2M V	RoHS	2.2	$\pm 20\%$	70	0.13	510	600	7.96
CB 2016T3R3M V	RoHS	3.3	$\pm 20\%$	55	0.20	400	440	7.96
CB 2016T4R7M V	RoHS	4.7	$\pm 20\%$	45	0.25	340	410	7.96
CB 2016T6R8M V	RoHS	6.8	$\pm 20\%$	38	0.35	300	330	7.96
CB 2016T100□ V	RoHS	10	$\pm 10\%$, $\pm 20\%$	32	0.50	250	270	2.52
CB 2016T150□ V	RoHS	15	$\pm 10\%$, $\pm 20\%$	28	0.70	210	220	2.52
CB 2016T220□ V	RoHS	22	$\pm 10\%$, $\pm 20\%$	16	1.0	165	190	2.52
CB 2016T330□ V	RoHS	33	$\pm 10\%$, $\pm 20\%$	14	1.7	130	140	2.52
CB 2016T470□ V	RoHS	47	$\pm 10\%$, $\pm 20\%$	11	2.4	110	120	2.52
CB 2016T680□ V	RoHS	68	$\pm 10\%$, $\pm 20\%$	10	3.0	90	110	2.52
CB 2016T101□ V	RoHS	100	$\pm 10\%$, $\pm 20\%$	8	4.5	70	90	0.796

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 30\%$)	Rated current ※) [mA]		Measuring frequency [MHz]
						Saturation current Idc1	Temperature rise current Idc2	
CB C2016T1R0M V	RoHS	1.0	$\pm 20\%$	100	0.10	1,100	885	7.96
CB C2016T1R5M V	RoHS	1.5	$\pm 20\%$	80	0.15	1,000	775	7.96
CB C2016T2R2M V	RoHS	2.2	$\pm 20\%$	70	0.20	750	625	7.96
CB C2016T3R3M V	RoHS	3.3	$\pm 20\%$	55	0.27	600	535	7.96
CB C2016T4R7M V	RoHS	4.7	$\pm 20\%$	45	0.37	550	460	7.96
CB C2016T6R8M V	RoHS	6.8	$\pm 20\%$	38	0.59	450	360	7.96
CB C2016T100□ V	RoHS	10	$\pm 10\%$, $\pm 20\%$	32	0.82	380	305	2.52
CB C2016T150□ V	RoHS	15	$\pm 10\%$, $\pm 20\%$	28	1.2	300	255	2.52
CB C2016T220□ V	RoHS	22	$\pm 10\%$, $\pm 20\%$	16	1.8	250	205	2.52
CB C2016T330□ V	RoHS	33	$\pm 10\%$, $\pm 20\%$	14	2.8	220	165	2.52
CB C2016T470□ V	RoHS	47	$\pm 10\%$, $\pm 20\%$	11	4.3	150	130	2.52
CB C2016T680□ V	RoHS	68	$\pm 10\%$, $\pm 20\%$	10	7.0	130	105	2.52
CB C2016T101□ V	RoHS	100	$\pm 10\%$, $\pm 20\%$	8	8.0	110	95	0.796

□ Please specify the Inductance tolerance code (Kor M)

※) The saturation current value (Idc1) is the DC current value having inductance decrease down to 30% (at 20°C)

※) The temperature rise current value (Idc2) is the DC current value having temperature increase up to 20°C. (at 20°C)

■ PARTS NUMBER

● 2518 (1007) type

Parts number	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±30%)	Rated current ※) [mA]		Measuring frequency [MHz]
						Saturation current Idc1	Temperature rise current Idc2	
CB 2518T1R0M V	RoHS	1.0	±20%	100	0.06	1,200	1,250	7.96
CB 2518T1R5M V	RoHS	1.5	±20%	80	0.07	650	1,100	7.96
CB 2518T2R2M V	RoHS	2.2	±20%	68	0.09	510	1,000	7.96
CB 2518T3R3M V	RoHS	3.3	±20%	54	0.11	440	900	7.96
CB 2518T4R7MR V	RoHS	4.7	±20%	46	0.10	310	820	7.96
CB 2518T4R7M V	RoHS	4.7	±20%	46	0.13	340	820	7.96
CB 2518T6R8M V	RoHS	6.8	±20%	38	0.15	270	750	7.96
CB 2518T100□ V	RoHS	10	±10%, ±20%	30	0.25	250	600	2.52
CB 2518T150□ V	RoHS	15	±10%, ±20%	23	0.32	180	500	2.52
CB 2518T220□ V	RoHS	22	±10%, ±20%	19	0.50	165	390	2.52
CB 2518T330□ V	RoHS	33	±10%, ±20%	15	0.70	130	320	2.52
CB 2518T470□ V	RoHS	47	±10%, ±20%	12	0.95	110	270	2.52
CB 2518T680□ V	RoHS	68	±10%, ±20%	9.5	1.5	70	210	2.52
CB 2518T101□ V	RoHS	100	±10%, ±20%	9.0	2.1	60	190	0.796
CB 2518T151□ V	RoHS	150	±10%, ±20%	7.0	3.2	55	140	0.796
CB 2518T221□ V	RoHS	220	±10%, ±20%	5.5	4.5	50	110	0.796
CB 2518T331□ V	RoHS	330	±10%, ±20%	4.5	7.0	40	90	0.796
CB 2518T471□ V	RoHS	470	±10%, ±20%	3.5	10	35	70	0.796
CB 2518T681□ V	RoHS	680	±10%, ±20%	3.0	17	30	50	0.796
CB 2518T102□ V	RoHS	1000	±10%, ±20%	2.4	24	25	45	0.252


Parts number	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±30%)	Rated current ※) [mA]		Measuring frequency [MHz]
						Saturation current Idc1	Temperature rise current Idc2	
CB C2518T1R0M V	RoHS	1.0	±20%	100	0.08	1,000	775	7.96
CB C2518T1R5M V	RoHS	1.5	±20%	80	0.11	950	730	7.96
CB C2518T2R2M V	RoHS	2.2	±20%	68	0.13	890	630	7.96
CB C2518T3R3M V	RoHS	3.3	±20%	54	0.16	730	560	7.96
CB C2518T4R7M V	RoHS	4.7	±20%	41	0.20	680	510	7.96
CB C2518T6R8M V	RoHS	6.8	±20%	38	0.30	550	420	7.96
CB C2518T100□ V	RoHS	10	±10%, ±20%	30	0.36	480	375	2.52
CB C2518T150□ V	RoHS	15	±10%, ±20%	23	0.65	350	285	2.52
CB C2518T220□ V	RoHS	22	±10%, ±20%	19	0.77	320	250	2.52
CB C2518T330□ V	RoHS	33	±10%, ±20%	15	1.5	270	185	2.52
CB C2518T470□ V	RoHS	47	±10%, ±20%	12	1.9	240	165	2.52
CB C2518T680□ V	RoHS	68	±10%, ±20%	9.5	2.8	200	140	2.52
CB C2518T101□ V	RoHS	100	±10%, ±20%	9.0	3.7	160	125	0.796
CB C2518T151□ V	RoHS	150	±10%, ±20%	7.0	6.1	140	95	0.796
CB C2518T221□ V	RoHS	220	±10%, ±20%	5.5	8.4	115	80	0.796
CB C2518T331□ V	RoHS	330	±10%, ±20%	4.5	12.3	100	65	0.796
CB C2518T471□ V	RoHS	470	±10%, ±20%	3.5	22	80	50	0.796
CB C2518T681□ V	RoHS	680	±10%, ±20%	3.0	28	65	45	0.796

● 3225 (1210) type

Parts number	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±30%)	Rated current ※) [mA]		Measuring frequency [MHz]
						Saturation current Idc1	Temperature rise current Idc2	
CB C3225T1R0MR V	RoHS	1.0	±20%	250	0.055	2,000	1,100	0.1
CB C3225T1R5MR V	RoHS	1.5	±20%	220	0.060	2,000	1,000	0.1
CB C3225T2R2MR V	RoHS	2.2	±20%	190	0.080	2,000	930	0.1
CB C3225T3R3MR V	RoHS	3.3	±20%	160	0.095	2,000	850	0.1
CB C3225T4R7MR V	RoHS	4.7	±20%	70	0.100	1,250	830	0.1
CB C3225T6R8MR V	RoHS	6.8	±20%	50	0.120	950	760	0.1
CB C3225T100□R V	RoHS	10	±10%, ±20%	23	0.133	900	720	0.1
CB C3225T150□R V	RoHS	15	±10%, ±20%	20	0.195	730	590	0.1
CB C3225T220□R V	RoHS	22	±10%, ±20%	17	0.27	620	500	0.1
CB C3225T330□R V	RoHS	33	±10%, ±20%	13	0.41	500	400	0.1
CB C3225T470□R V	RoHS	47	±10%, ±20%	10	0.67	390	320	0.1
CB C3225T680□R V	RoHS	68	±10%, ±20%	8.0	1.0	320	260	0.1
CB C3225T101□R V	RoHS	100	±10%, ±20%	6.0	1.4	270	220	0.1
CB C3225T221□R V	RoHS	220	±10%, ±20%	3.0	2.5	190	170	0.1
CB C3225T821□R V	RoHS	820	±10%, ±20%	1.8	12	110	80	0.1
CB C3225T102□R V	RoHS	1000	±10%, ±20%	1.6	13	100	75	0.1

□ Please specify the Inductance tolerance code (Kor M)

※) The saturation current value (Idc1) is the DC current value having inductance decrease down to 30%. (at 20°C)
 ※) The temperature rise current value (Idc2) is the DC current value having temperature increase up to 20°C. (at 20°C)

 Derating of current is necessary for these products depending on ambient temperature. Refer to our Website (<http://www.ty-top.com/>) for appropriate derating of current of individual products.

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WIRE-WOUND CHIP INDUCTORS (LB SERIES)



REFLOW

PARTS NUMBER

L	B	△	△	2	0	1	2	T	1	0	0	M	△	V	△ = Blank space
①	②	③	④	⑤	⑥	⑦	⑧								

① Series name

Code	Series name
LB	Wound chip inductor

② Characteristics

Code	Characteristic
△△	Standard
△C	High current
△R	Low Rdc

③ Dimensions (L × W)

Code	Type (inch)	Dimensions (L × W) [mm]
2012	2012(0805)	2.0 × 1.25
2016	2016(0806)	2.0 × 1.6
2518	2518(1007)	2.5 × 1.8
3218	3218(1207)	3.2 × 1.8
3225	3225(1210)	3.2 × 2.5

④ Packaging

Code	Packaging
T	Taping

⑤ Nominal inductance

Code (example)	Nominal inductance [μH]
1R0	1.0
100	10
101	100

※R=Decimal point

⑥ Inductance tolerance

Code	Inductance tolerance
K	±10%
M	±20%

⑦ Special code

Code	Special code
△	Standard
R	Low Rdc type

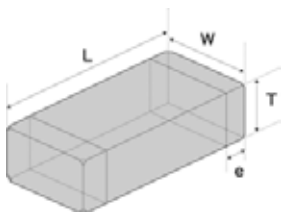
⑧ Internal code

Code	Special code
V	Industrial, Automotive Comfort, and Safety

OPERATING TEMP.

● -40~105°C (Including self-generated heat)

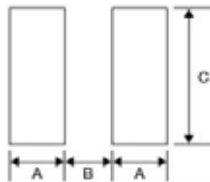
STANDARD EXTERNAL DIMENSIONS / STANDARD QUANTITY



Recommended Land Patterns

Surface Mounting

- Mounting and soldering conditions should be checked beforehand.
- Applicable soldering process to these products is reflow soldering only.



Type	A	B	C
2012	0.60	1.0	1.45
2016	0.60	1.0	1.8
2518	0.60	1.5	2.0
3218	0.85	1.7	2.0
3225	0.85	1.7	2.7

Unit: mm

Type	L	W	T	e	Standard quantity [pcs]	
					Paper tape	Embossed tape
LB 2012 LB C2012 LB R2012	2.0±0.2 (0.079±0.008)	1.25±0.2 (0.049±0.008)	1.25±0.2 (0.049±0.008)	0.5±0.2 (0.020±0.008)	—	3000
LB 2016 LB C2016	2.0±0.2 (0.079±0.008)	1.6±0.2 (0.063±0.008)	1.6±0.2 (0.063±0.008)	0.5±0.2 (0.020±0.008)	—	2000
LB 2518 LB C2518 LB R2518	2.5±0.2 (0.098±0.008)	1.8±0.2 (0.071±0.008)	1.8±0.2 (0.071±0.008)	0.5±0.2 (0.020±0.008)	—	2000
LB 3218	3.2±0.2 (0.128±0.008)	1.8±0.2 (0.071±0.008)	1.8±0.2 (0.071±0.008)	0.6±0.2 (0.024±0.008)	—	2000
LB C3225	3.2±0.2 (0.128±0.008)	2.5±0.2 (0.098±0.008)	2.5±0.2 (0.098±0.008)	0.6±0.3 (0.024±0.012)	—	1000

Unit: mm (inch)

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■ PARTS NUMBER

● 2012 (0805) type

Parts number	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±30%)	Rated current [mA] (max.)	Measuring frequency [MHz]
LB 2012T1R0M V	RoHS	1.0	±20%	100	0.15	405	7.96
LB 2012T2R2M V	RoHS	2.2	±20%	80	0.23	260	7.96
LB 2012T3R3M V	RoHS	3.3	±20%	55	0.30	235	7.96
LB 2012T4R7M V	RoHS	4.7	±20%	45	0.40	190	7.96
LB 2012T6R8M V	RoHS	6.8	±20%	38	0.47	135	7.96
LB 2012T100□ V	RoHS	10	±10%, ±20%	32	0.70	120	2.52
LB 2012T100□R V	RoHS	10	±10%, ±20%	32	0.50	120	2.52
LB 2012T150□ V	RoHS	15	±10%, ±20%	28	1.3	100	2.52
LB 2012T220□ V	RoHS	22	±10%, ±20%	16	1.7	80	2.52
LB 2012T470□ V	RoHS	47	±10%, ±20%	11	3.7	60	2.52
LB 2012T680□ V	RoHS	68	±10%, ±20%	10	6.0	50	2.52
LB 2012T101□ V	RoHS	100	±10%, ±20%	8	7.0	45	0.796

Parts number	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±30%)	Rated current [mA] (max.)	Measuring frequency [MHz]
LB C2012T1R0M V	RoHS	1.0	±20%	100	0.19	620	7.96
LB C2012T2R2M V	RoHS	2.2	±20%	70	0.33	430	7.96
LB C2012T4R7M V	RoHS	4.7	±20%	45	0.50	295	7.96
LB C2012T100□ V	RoHS	10	±10%, ±20%	40	1.2	200	2.52
LB C2012T220□ V	RoHS	22	±10%, ±20%	16	3.7	130	2.52
LB C2012T470□ V	RoHS	47	±10%, ±20%	11	5.8	90	2.52

Parts number	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±30%)	Rated current [mA] (max.)	Measuring frequency [MHz]
LB R2012T1R0M V	RoHS	1.0	±20%	100	0.07	400	7.96
LB R2012T2R2M V	RoHS	2.2	±20%	80	0.13	260	7.96
LB R2012T4R7M V	RoHS	4.7	±20%	45	0.24	200	7.96
LB R2012T100□ V	RoHS	10	±10%, ±20%	32	0.36	150	2.52
LB R2012T220□ V	RoHS	22	±10%, ±20%	16	1.0	100	2.52
LB R2012T470□ V	RoHS	47	±10%, ±20%	11	1.7	75	2.52
LB R2012T101□ V	RoHS	100	±10%, ±20%	8	4.0	50	0.796

● 2016 (0806) type

Parts number	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±30%)	Rated current [mA] (max.)	Measuring frequency [MHz]
LB 2016T1R0M V	RoHS	1.0	±20%	100	0.09	490	7.96
LB 2016T1R5M V	RoHS	1.5	±20%	80	0.11	380	7.96
LB 2016T2R2M V	RoHS	2.2	±20%	70	0.13	375	7.96
LB 2016T3R3M V	RoHS	3.3	±20%	55	0.20	285	7.96
LB 2016T4R7M V	RoHS	4.7	±20%	45	0.25	225	7.96
LB 2016T6R8M V	RoHS	6.8	±20%	38	0.35	200	7.96
LB 2016T100□ V	RoHS	10	±10%, ±20%	32	0.50	155	2.52
LB 2016T150□ V	RoHS	15	±10%, ±20%	28	0.70	130	2.52
LB 2016T220□ V	RoHS	22	±10%, ±20%	16	1.0	105	2.52
LB 2016T330□ V	RoHS	33	±10%, ±20%	14	1.7	85	2.52
LB 2016T470□ V	RoHS	47	±10%, ±20%	11	2.4	70	2.52
LB 2016T680□ V	RoHS	68	±10%, ±20%	10	3.0	55	2.52
LB 2016T101□ V	RoHS	100	±10%, ±20%	8	4.5	40	0.796

Parts number	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±30%)	Rated current [mA] (max.)	Measuring frequency [MHz]
LB C2016T1R0M V	RoHS	1.0	±20%	100	0.10	690	7.96
LB C2016T1R5M V	RoHS	1.5	±20%	80	0.15	600	7.96
LB C2016T2R2M V	RoHS	2.2	±20%	70	0.20	520	7.96
LB C2016T3R3M V	RoHS	3.3	±20%	55	0.27	410	7.96
LB C2016T4R7M V	RoHS	4.7	±20%	45	0.37	355	7.96
LB C2016T6R8M V	RoHS	6.8	±20%	38	0.59	290	7.96
LB C2016T100□ V	RoHS	10	±10%, ±20%	32	0.82	245	2.52
LB C2016T150□ V	RoHS	15	±10%, ±20%	28	1.2	200	2.52
LB C2016T220□ V	RoHS	22	±10%, ±20%	16	1.8	165	2.52
LB C2016T330□ V	RoHS	33	±10%, ±20%	14	2.8	135	2.52
LB C2016T470□ V	RoHS	47	±10%, ±20%	11	4.3	110	2.52
LB C2016T680□ V	RoHS	68	±10%, ±20%	10	7.0	95	2.52
LB C2016T101□ V	RoHS	100	±10%, ±20%	8	8.0	75	0.796

□ Please specify the Inductance tolerance code(K or M)

•LB、LBCseries

※) Rated current is determined by the applied current at which the inductance drops 10 % from its initial value or the surface temperature rises to 20 degree C, whichever comes first.(at 20°C)

•LBRseries

※) Rated current is determined by the applied current at which the inductance drops 20 % from its initial value or the surface temperature rises to 20 degree C, whichever comes first.(at 20°C)

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■ PARTS NUMBER

● 2518(1007) type

Parts number	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±30%)	Rated current [mA] (max.)	Measuring frequency [MHz]
LB 2518T1R0M V	RoHS	1.0	±20%	100	0.06	665	7.96
LB 2518T1R5M V	RoHS	1.5	±20%	80	0.07	405	7.96
LB 2518T2R2M V	RoHS	2.2	±20%	68	0.09	340	7.96
LB 2518T3R3M V	RoHS	3.3	±20%	54	0.11	280	7.96
LB 2518T4R7M V	RoHS	4.7	±20%	46	0.13	240	7.96
LB 2518T4R7MR V	RoHS	4.7	±20%	46	0.10	235	7.96
LB 2518T6R8M V	RoHS	6.8	±20%	38	0.15	195	7.96
LB 2518T100□ V	RoHS	10	±10%, ±20%	30	0.25	165	2.52
LB 2518T150□ V	RoHS	15	±10%, ±20%	23	0.32	145	2.52
LB 2518T220□ V	RoHS	22	±10%, ±20%	19	0.50	115	2.52
LB 2518T330□ V	RoHS	33	±10%, ±20%	15	0.70	95	2.52
LB 2518T470□ V	RoHS	47	±10%, ±20%	12	0.95	85	2.52
LB 2518T680□ V	RoHS	68	±10%, ±20%	9.5	1.5	70	2.52
LB 2518T101□ V	RoHS	100	±10%, ±20%	9.0	2.1	60	0.796
LB 2518T151□ V	RoHS	150	±10%, ±20%	7.0	3.2	45	0.796
LB 2518T221□ V	RoHS	220	±10%, ±20%	5.5	4.5	40	0.796
LB 2518T331□ V	RoHS	330	±10%, ±20%	4.5	7.0	30	0.796
LB 2518T471□ V	RoHS	470	±10%, ±20%	3.5	10	25	0.796
LB 2518T681□ V	RoHS	680	±10%, ±20%	3.0	17	20	0.796
LB 2518T102□ V	RoHS	1000	±10%, ±20%	2.4	24	15	0.252

Parts number	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±30%)	Rated current [mA] (max.)	Measuring frequency [MHz]
LB C2518T1R0M V	RoHS	1.0	±20%	100	0.080	775	7.96
LB C2518T1R0MR V	RoHS	1.0	±20%	100	0.065	890	7.96
LB C2518T1R5M V	RoHS	1.5	±20%	80	0.110	730	7.96
LB C2518T2R2M V	RoHS	2.2	±20%	68	0.130	630	7.96
LB C2518T3R3M V	RoHS	3.3	±20%	54	0.160	560	7.96
LB C2518T4R7M V	RoHS	4.7	±20%	41	0.200	510	7.96
LB C2518T6R8M V	RoHS	6.8	±20%	38	0.300	420	7.96
LB C2518T100□ V	RoHS	10	±10%, ±20%	30	0.360	375	2.52
LB C2518T150□ V	RoHS	15	±10%, ±20%	23	0.650	285	2.52
LB C2518T220□ V	RoHS	22	±10%, ±20%	19	0.770	250	2.52
LB C2518T330□ V	RoHS	33	±10%, ±20%	15	1.50	185	2.52
LB C2518T470□ V	RoHS	47	±10%, ±20%	12	1.90	165	2.52
LB C2518T680□ V	RoHS	68	±10%, ±20%	9.5	2.80	140	2.52
LB C2518T101□ V	RoHS	100	±10%, ±20%	9.0	3.70	125	0.796
LB C2518T151□ V	RoHS	150	±10%, ±20%	7.0	6.10	95	0.796
LB C2518T221□ V	RoHS	220	±10%, ±20%	5.5	8.40	80	0.796
LB C2518T331□ V	RoHS	330	±10%, ±20%	4.5	12.3	65	0.796
LB C2518T471□ V	RoHS	470	±10%, ±20%	3.5	22.0	50	0.796
LB C2518T681□ V	RoHS	680	±10%, ±20%	3.0	28.0	45	0.796

Parts number	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±30%)	Rated current [mA] (max.)	Measuring frequency [MHz]
LB R2518T1R0M V	RoHS	1.0	±20%	100	0.045	960	7.96
LB R2518T2R2M V	RoHS	2.2	±20%	68	0.07	480	7.96
LB R2518T4R7M V	RoHS	4.7	±20%	45	0.10	345	7.96
LB R2518T100□ V	RoHS	10	±10%, ±20%	30	0.19	235	2.52
LB R2518T220□ V	RoHS	22	±10%, ±20%	19	0.44	175	2.52
LB R2518T470□ V	RoHS	47	±10%, ±20%	11	0.84	120	2.52
LB R2518T101□ V	RoHS	100	±10%, ±20%	9	1.89	80	0.796

● 3218(1297) type

Parts number	EHS	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (±30%)	Rated current [mA] (max.)	Measuring frequency [MHz]
LB 3218T1R0M V	RoHS	1.0	±20%	100	0.06	1,075	7.96
LB 3218T1R5M V	RoHS	1.5	±20%	80	0.07	860	7.96
LB 3218T2R2M V	RoHS	2.2	±20%	68	0.09	775	7.96
LB 3218T3R3M V	RoHS	3.3	±20%	54	0.11	560	7.96
LB 3218T4R7M V	RoHS	4.7	±20%	41	0.13	550	7.96
LB 3218T6R8M V	RoHS	6.8	±20%	40	0.17	380	7.96
LB 3218T100□ V	RoHS	10	±10%, ±20%	30	0.25	340	2.52
LB 3218T150□ V	RoHS	15	±10%, ±20%	25	0.32	300	2.52
LB 3218T220□ V	RoHS	22	±10%, ±20%	19	0.49	255	2.52
LB 3218T330□ V	RoHS	33	±10%, ±20%	15	0.75	215	2.52
LB 3218T470□ V	RoHS	47	±10%, ±20%	12	0.92	205	2.52
LB 3218T680□ V	RoHS	68	±10%, ±20%	11	1.49	145	2.52
LB 3218T101□ V	RoHS	100	±10%, ±20%	8.0	2.4	140	0.796
LB 3218T151□ V	RoHS	150	±10%, ±20%	7.0	3.2	105	0.796
LB 3218T221□ V	RoHS	220	±10%, ±20%	5.0	5.4	80	0.796
LB 3218T331□ V	RoHS	330	±10%, ±20%	4.0	7.0	65	0.796
LB 3218T471□ V	RoHS	470	±10%, ±20%	3.5	14	54	0.796
LB 3218T681□ V	RoHS	680	±10%, ±20%	3.0	17	45	0.796
LB 3218T102□ V	RoHS	1000	±10%, ±20%	2.4	27	39	0.252

□ Please specify the Inductance tolerance code(K or M)

•LB、LBCseries

※) Rated current is determined by the applied current at which the inductance drops 10 % from its initial value or the surface temperature rises to 20 degree C, whichever comes first.(at 20°C)

•LBRseries

※) Rated current is determined by the applied current at which the inductance drops 20 % from its initial value or the surface temperature rises to 20 degree C, whichever comes first.(at 20°C)

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■ PARTS NUMBER

● 3225 (1210) type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 30\%$)	Rated current [mA] (max.)	Measuring frequency [MHz]
LB C3225T1R0MR V	RoHS	1.0	$\pm 20\%$	250	0.055	1,100	0.1
LB C3225T1R5MR V	RoHS	1.5	$\pm 20\%$	220	0.060	1,000	0.1
LB C3225T2R2MR V	RoHS	2.2	$\pm 20\%$	190	0.080	930	0.1
LB C3225T3R3MR V	RoHS	3.3	$\pm 20\%$	160	0.095	850	0.1
LB C3225T4R7MR V	RoHS	4.7	$\pm 20\%$	70	0.100	830	0.1
LB C3225T6R8MR V	RoHS	6.8	$\pm 20\%$	50	0.120	760	0.1
LB C3225T100□R V	RoHS	10	$\pm 10\%$, $\pm 20\%$	23	0.133	720	0.1
LB C3225T150□R V	RoHS	15	$\pm 10\%$, $\pm 20\%$	20	0.195	590	0.1
LB C3225T220□R V	RoHS	22	$\pm 10\%$, $\pm 20\%$	17	0.27	500	0.1
LB C3225T330□R V	RoHS	33	$\pm 10\%$, $\pm 20\%$	13	0.41	400	0.1
LB C3225T470□R V	RoHS	47	$\pm 10\%$, $\pm 20\%$	10	0.67	320	0.1
LB C3225T680□R V	RoHS	68	$\pm 10\%$, $\pm 20\%$	8	1.0	260	0.1
LB C3225T101□R V	RoHS	100	$\pm 10\%$, $\pm 20\%$	6	1.4	220	0.1

* □ Please specify the Inductance tolerance code (K or M)

• LB, LBCseries

※) Rated current is determined by the applied current at which the inductance drops 10 % from its initial value or the surface temperature rises to 20 degree C, whichever comes first.(at 20°C)

• LBRseries

※) Rated current is determined by the applied current at which the inductance drops 20 % from its initial value or the surface temperature rises to 20 degree C, whichever comes first.(at 20°C)



Derating of current is necessary for these products depending on ambient temperature.
Refer to our Website (<http://www.ty-top.com/>) for appropriate derating of current of individual products.

WIRE-WOUND CHIP INDUCTORS FOR SIGNAL LINES (LB SERIES M TYPE)



REFLOW

PARTS NUMBER

L	B	M	2	0	1	6	T	1	0	0	J	△	V
①			②				③	④			⑤	⑥	⑦

△=Blank space

① Series name

Code	Series name
LBM	Wound chip inductor for signal line

② Dimensions (L × W)

Code	Dimensions (L × W) [mm]
2016	2.0 × 1.6

③ Packaging

Code	Packaging
T	Taping

④ Nominal inductance

Code (example)	Nominal inductance [μH]
R12	0.12
1R0	1.00
100	10
101	100

※R=Decimal point

⑤ Inductance tolerance

Code	Inductance tolerance
J	±5%

⑥ Special code

Code	Special code
△	Standard

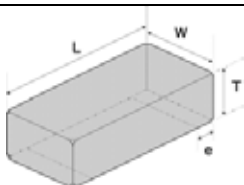
⑦ Internal code

Code	Special code
V	Industrial, Automotive Comfort, and Safety

OPERATING TEMP.

- -40~105°C (Including self-generated heat)

STANDARD EXTERNAL DIMENSIONS / STANDARD QUANTITY



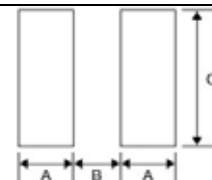
Recommended Land Patterns

Surface Mounting

- Mounting and soldering conditions should be checked beforehand.
- Applicable soldering process to these products is reflow soldering only.

Type	A	B	C
LBM2016	0.6	1.0	1.8

Unit: mm



Type	L	W	T	e	Standard quantity [pcs]	
					Paper tape	Embossed tape
LBM2016	2.0 ± 0.2 (0.08 ± 0.008)	1.6 ± 0.2 (0.063 ± 0.008)	1.6 ± 0.2 (0.063 ± 0.008)	0.5 ± 0.2 (0.02 ± 0.008)	—	2000

Unit: mm (inch)

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LBM2016 type

Parts number	EHS	Nominal inductance [μ H]	Inductance tolerance	Q (min.)	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] ($\pm 30\%$)	Rated current [mA] (max.)	Measuring frequency [MHz]
LBM 2016TR12J V	RoHS	0.12	$\pm 5\%$	30	600	0.13	610	25.2
LBM 2016TR15J V	RoHS	0.15	$\pm 5\%$	30	550	0.15	570	25.2
LBM 2016TR18J V	RoHS	0.18	$\pm 5\%$	30	500	0.15	560	25.2
LBM 2016TR22J V	RoHS	0.22	$\pm 5\%$	30	450	0.20	520	25.2
LBM 2016TR27J V	RoHS	0.27	$\pm 5\%$	30	425	0.21	510	25.2
LBM 2016TR33J V	RoHS	0.33	$\pm 5\%$	30	400	0.21	490	25.2
LBM 2016TR39J V	RoHS	0.39	$\pm 5\%$	30	375	0.26	440	25.2
LBM 2016TR47J V	RoHS	0.47	$\pm 5\%$	30	350	0.26	430	25.2
LBM 2016TR56J V	RoHS	0.56	$\pm 5\%$	30	300	0.29	410	25.2
LBM 2016TR68J V	RoHS	0.68	$\pm 5\%$	30	270	0.32	400	25.2
LBM 2016TR82J V	RoHS	0.82	$\pm 5\%$	30	250	0.34	390	25.2
LBM 2016T1R0J V	RoHS	1.0	$\pm 5\%$	30	220	0.38	385	7.96
LBM 2016T1R2J V	RoHS	1.2	$\pm 5\%$	30	180	0.41	370	7.96
LBM 2016T1R5J V	RoHS	1.5	$\pm 5\%$	30	135	0.47	350	7.96
LBM 2016T1R8J V	RoHS	1.8	$\pm 5\%$	30	100	0.48	345	7.96
LBM 2016T2R2J V	RoHS	2.2	$\pm 5\%$	30	75	0.54	340	7.96
LBM 2016T2R7J V	RoHS	2.7	$\pm 5\%$	30	55	0.59	310	7.96
LBM 2016T3R3J V	RoHS	3.3	$\pm 5\%$	30	48	0.68	290	7.96
LBM 2016T3R9J V	RoHS	3.9	$\pm 5\%$	30	43	0.74	275	7.96
LBM 2016T4R7J V	RoHS	4.7	$\pm 5\%$	30	40	0.78	270	7.96
LBM 2016T5R6J V	RoHS	5.6	$\pm 5\%$	25	36	0.88	255	7.96
LBM 2016T6R8J V	RoHS	6.8	$\pm 5\%$	25	33	0.97	240	7.96
LBM 2016T8R2J V	RoHS	8.2	$\pm 5\%$	25	30	1.1	225	7.96
LBM 2016T100J V	RoHS	10	$\pm 5\%$	25	27	1.2	215	2.52
LBM 2016T120J V	RoHS	12	$\pm 5\%$	25	23	1.4	200	2.52
LBM 2016T150J V	RoHS	15	$\pm 5\%$	25	20	1.5	190	2.52
LBM 2016T180J V	RoHS	18	$\pm 5\%$	25	18	2.5	150	2.52
LBM 2016T220J V	RoHS	22	$\pm 5\%$	25	17	2.8	140	2.52
LBM 2016T270J V	RoHS	27	$\pm 5\%$	25	16	3.2	130	2.52
LBM 2016T330J V	RoHS	33	$\pm 5\%$	25	15	3.6	125	2.52
LBM 2016T390J V	RoHS	39	$\pm 5\%$	20	14	3.9	120	2.52
LBM 2016T470J V	RoHS	47	$\pm 5\%$	20	13	4.1	115	2.52
LBM 2016T560J V	RoHS	56	$\pm 5\%$	20	12	5.9	95	2.52
LBM 2016T680J V	RoHS	68	$\pm 5\%$	20	11	7.0	90	2.52
LBM 2016T820J V	RoHS	82	$\pm 5\%$	20	10	7.7	85	2.52
LBM 2016T101J V	RoHS	100	$\pm 5\%$	15	9.0	8.0	80	0.80

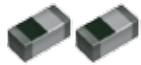
*LBMseries

⊗) Rated current is determined by the applied current at which the inductance drops 10 % from its initial value or the surface temperature rises to 20 degree C, whichever comes first.(at 20°C)



Derating of current is necessary for these products depending on ambient temperature.
Refer to our Website (<http://www.ty-top.com/>) for appropriate derating of current of individual products.

MULTILAYER CHIP INDUCTORS FOR HIGH FREQUENCY APPLICATIONS(HK SERIES)



REFLOW

PARTS NUMBER

H	K	△	0	6	0	3	△	1	0	N	J	-	T	V
①			②					③			④		⑤	⑥

△=Blank space

①Series name

Code	Series name
HK△	Multilayer chip inductor for high frequency

②Dimensions (L × W)

Code	Type (inch)	Dimensions (L × W) [mm]
1005	1005(0402)	1.0 × 0.5
1608	1608(0603)	1.6 × 0.8
2125	2125(0805)	2.0 × 1.2

③Nominal inductance

Code (example)	Nominal inductance [nH]
3N9	3.9
10N	10.0
R10	100
R12	120

※R=Decimal point

※N=0.0 (nH type)

④Inductance tolerance

Code	Inductance tolerance
J	±5%
C	±0.2nH
S	±0.3nH

⑤Packaging

Code	Packaging
-T	Taping

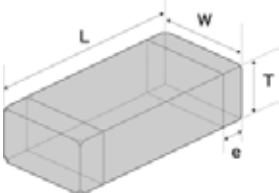
⑥Internal code

Code	Internal code
V	Industrial, Automotive Comfort, and Safety

OPERATING TEMP.

- Type (inch) : 1005 (0402) : -55~125°C (Including self-generated heat)
- Type (inch) : 1608 (0603) : -40~125°C (Including self-generated heat)
- Type (inch) : 2125 (0805) : -40~125°C (Including self-generated heat)

STANDARD EXTERNAL DIMENSIONS / STANDARD QUANTITY



Type	L	W	T	e	Standard quantity [pcs]	
					Paper tape	Embossed tape
HK 1005 (0402)	1.0±0.05 (0.039±0.002)	0.5±0.05 (0.020±0.002)	0.5±0.05 (0.020±0.002)	0.25±0.10 (0.010±0.004)	10000	—
HK 1608 (0603)	1.6±0.15 (0.063±0.006)	0.8±0.15 (0.031±0.006)	0.8±0.15 (0.031±0.006)	0.3±0.2 (0.012±0.008)	4000	—
HK 2125 (0805)	2.0+0.3/-0.1 (0.079+0.012/-0.004)	1.25±0.2 (0.049±0.008)	0.85±0.2 (0.033±0.008)	0.5±0.3 (0.020±0.012)	—	4000
	2.0+0.3/-0.1 (0.079+0.012/-0.004)	1.25±0.2 (0.049±0.008)	1.0+0.2/-0.3 (0.039+0.008/-0.012)	0.5±0.3 (0.020±0.012)	—	3000

Unit: mm (inch)

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PARTS NUMBER

HK 1005

Parts number	EHS	Nominal inductance [nH]	Inductance tolerance ※)	Q (min.)	LQ Measuring frequency [MHz]	Q (Typical) frequency [MHz]					Self-resonant frequency [MHz]		DC Resistance [Ω]		Rated current [mA] (max.)		Thickness [mm]
						100	300	500	800	1000	(min.)	(typ.)	(max.)	(typ.)	-55~+125°C	-55~+85°C	
HK 1005 1N0□-TV	RoHS	1.0	±0.3nH	8	100	11	25	34	43	52	10000	> 13000	0.08	0.04	300	900	0.50 ±0.05
HK 1005 1N2□-TV	RoHS	1.2	±0.3nH	8	100	11	25	35	44	52	10000	> 13000	0.09	0.04	300	900	0.50 ±0.05
HK 1005 1N5□-TV	RoHS	1.5	±0.3nH	8	100	11	24	33	44	48	6000	> 13000	0.10	0.05	300	850	0.50 ±0.05
HK 1005 1N8□-TV	RoHS	1.8	±0.3nH	8	100	11	23	30	36	42	6000	11000	0.12	0.06	300	700	0.50 ±0.05
HK 1005 2N0□-TV	RoHS	2.0	±0.3nH	8	100	11	21	27	34	39	6000	10500	0.12	0.06	300	700	0.50 ±0.05
HK 1005 2N2□-TV	RoHS	2.2	±0.3nH	8	100	10	18	25	31	36	6000	10000	0.13	0.07	300	700	0.50 ±0.05
HK 1005 2N4□-TV	RoHS	2.4	±0.3nH	8	100	10	18	24	31	35	6000	9500	0.13	0.07	300	650	0.50 ±0.05
HK 1005 2N7□-TV	RoHS	2.7	±0.3nH	8	100	10	18	24	31	34	6000	9000	0.13	0.08	300	650	0.50 ±0.05
HK 1005 3N0□-TV	RoHS	3.0	±0.3nH	8	100	10	18	24	31	35	6000	8500	0.16	0.09	300	600	0.50 ±0.05
HK 1005 3N3□-TV	RoHS	3.3	±0.3nH	8	100	10	18	24	31	35	6000	8000	0.16	0.10	300	550	0.50 ±0.05
HK 1005 3N6□-TV	RoHS	3.6	±0.3nH	8	100	10	18	24	31	35	5000	7500	0.20	0.11	300	500	0.50 ±0.05
HK 1005 3N9□-TV	RoHS	3.9	±0.3nH	8	100	10	18	24	31	35	4000	7000	0.21	0.12	300	500	0.50 ±0.05
HK 1005 4N3□-TV	RoHS	4.3	±0.3nH	8	100	10	18	24	31	35	4000	6500	0.20	0.12	300	500	0.50 ±0.05
HK 1005 4N7□-TV	RoHS	4.7	±0.3nH	8	100	10	18	24	31	34	4000	6000	0.21	0.12	300	500	0.50 ±0.05
HK 1005 5N1□-TV	RoHS	5.1	±0.3nH	8	100	10	18	24	31	34	4000	5800	0.21	0.13	300	450	0.50 ±0.05
HK 1005 5N6□-TV	RoHS	5.6	±0.3nH	8	100	10	18	24	30	35	4000	5700	0.23	0.15	300	430	0.50 ±0.05
HK 1005 6N2□-TV	RoHS	6.2	±0.3nH	8	100	10	18	24	30	34	3900	5600	0.25	0.16	300	430	0.50 ±0.05
HK 1005 6N8□-TV	RoHS	6.8	±5%	8	100	10	18	23	29	32	3900	5500	0.25	0.17	300	430	0.50 ±0.05
HK 1005 7N5□-TV	RoHS	7.5	±5%	8	100	10	18	23	29	32	3700	5200	0.25	0.18	300	400	0.50 ±0.05
HK 1005 8N2□-TV	RoHS	8.2	±5%	8	100	10	18	23	29	31	3600	4900	0.28	0.21	300	380	0.50 ±0.05
HK 1005 9N1□-TV	RoHS	9.1	±5%	8	100	10	18	23	29	31	3400	4500	0.30	0.22	300	360	0.50 ±0.05
HK 1005 10N□-TV	RoHS	10	±5%	8	100	10	18	23	29	31	3200	4300	0.31	0.23	300	340	0.50 ±0.05
HK 1005 12N□-TV	RoHS	12	±5%	8	100	11	18	23	29	31	2700	3900	0.40	0.28	300	330	0.50 ±0.05
HK 1005 15N□-TV	RoHS	15	±5%	8	100	11	18	23	28	30	2300	3500	0.46	0.31	300	320	0.50 ±0.05
HK 1005 18N□-TV	RoHS	18	±5%	8	100	11	18	23	28	30	2100	3100	0.55	0.35	300	310	0.50 ±0.05
HK 1005 22N□-TV	RoHS	22	±5%	8	100	11	17	22	26	27	1900	2800	0.60	0.42	300	300	0.50 ±0.05
HK 1005 27N□-TV	RoHS	27	±5%	8	100	11	17	21	25	26	1600	2300	0.70	0.47	300	300	0.50 ±0.05
HK 1005 33N□-TV	RoHS	33	±5%	8	100	11	16	20	23	22	1300	1900	0.80	0.50	200	250	0.50 ±0.05
HK 1005 39N□-TV	RoHS	39	±5%	8	100	11	16	20	23	21	1200	1700	0.90	0.52	200	250	0.50 ±0.05
HK 1005 47N□-TV	RoHS	47	±5%	8	100	11	16	19	21	18	1000	1500	1.00	0.58	200	230	0.50 ±0.05
HK 1005 56N□-TV	RoHS	56	±5%	8	100	11	16	18	18	16	750	1300	1.00	0.61	200	220	0.50 ±0.05
HK 1005 68N□-TV	RoHS	68	±5%	8	100	11	15	17	18	11	750	1200	1.20	0.70	180	200	0.50 ±0.05
HK 1005 82N□-TV	RoHS	82	±5%	8	100	10	14	16	15	6	600	1100	1.30	0.81	150	200	0.50 ±0.05
HK 1005 R10□-TV	RoHS	100	±5%	8	100	10	14	14	12	—	600	1000	1.50	0.94	150	200	0.50 ±0.05
HK 1005 R12□-TV	RoHS	120	±5%	8	100	10	12	10	—	—	600	800	1.60	1.10	150	200	0.50 ±0.05
HK 1005 R15□-TV	RoHS	150	±5%	8	100	12	17	17	—	—	550	920	3.20	2.57	140	200	0.50 ±0.05
HK 1005 R18□-TV	RoHS	180	±5%	8	100	12	16	—	—	—	500	810	3.70	2.97	130	200	0.50 ±0.05
HK 1005 R22□-TV	RoHS	220	±5%	8	100	12	16	—	—	—	450	700	4.20	3.29	120	200	0.50 ±0.05
HK 1005 R27□-TV	RoHS	270	±5%	8	100	12	14	—	—	—	400	600	4.80	3.92	110	200	0.50 ±0.05

※ □ mark indicates the Inductance tolerance code. Please refer for the inductance tolerance except the above.

HK 1608

Parts number	EHS	Nominal inductance [nH]	Inductance tolerance ※)	Q (min.)	LQ Measuring frequency [MHz]	Q (Typical) frequency [MHz]					Self-resonant frequency [MHz]		DC Resistance [Ω]		Rated current [mA] (max.)		Thickness [mm]
						100	300	500	800	1000	(min.)	(typ.)	(max.)	(typ.)	-40~+125°C	-40~+85°C	
HK 1608 1N0□-TV	RoHS	1.0	±0.3nH	8	100	14	30	40	70	90	10000	> 13000	0.05	0.015	300	300	0.80 ±0.15
HK 1608 1N2□-TV	RoHS	1.2	±0.3nH	8	100	14	30	40	70	90	10000	> 13000	0.05	0.015	300	300	0.80 ±0.15
HK 1608 1N5□-TV	RoHS	1.5	±0.3nH	8	100	14	26	34	47	50	6000	> 13000	0.10	0.03	300	300	0.80 ±0.15
HK 1608 1N8□-TV	RoHS	1.8	±0.3nH	8	100	10	18	24	30	34	6000	> 13000	0.10	0.06	300	300	0.80 ±0.15
HK 1608 2N2□-TV	RoHS	2.2	±0.3nH	8	100	12	22	29	37	40	6000	12000	0.10	0.06	300	300	0.80 ±0.15
HK 1608 2N7□-TV	RoHS	2.7	±0.3nH	10	100	13	24	32	41	45	6000	11000	0.10	0.06	300	300	0.80 ±0.15
HK 1608 3N3□-TV	RoHS	3.3	±0.3nH	10	100	14	25	33	42	47	6000	9000	0.12	0.06	300	300	0.80 ±0.15
HK 1608 3N9□-TV	RoHS	3.9	±0.3nH	10	100	13	25	33	42	46	6000	8000	0.14	0.07	300	300	0.80 ±0.15
HK 1608 4N7□-TV	RoHS	4.7	±0.3nH	10	100	13	25	33	42	47	4000	6500	0.16	0.08	300	300	0.80 ±0.15
HK 1608 5N6□-TV	RoHS	5.6	±0.3nH	10	100	14	25	33	42	46	4000	5800	0.18	0.09	300	300	0.80 ±0.15
HK 1608 6N8□-TV	RoHS	6.8	±5%	10	100	14	25	33	43	47	4000	5600	0.22	0.11	300	300	0.80 ±0.15
HK 1608 8N2□-TV	RoHS	8.2	±5%	10	100	14	26	34	44	48	3500	5200	0.24	0.13	300	300	0.80 ±0.15
HK 1608 10N□-TV	RoHS	10	±5%	12	100	14	26	34	43	47	3400	4600	0.26	0.16	300	300	0.80 ±0.15
HK 1608 12N□-TV	RoHS	12	±5%	12	100	14	27	35	45	49	2600	4000	0.28	0.17	300	300	0.80 ±0.15
HK 1608 15N□-TV	RoHS	15	±5%	12	100	15	28	37	46	51	2300	3400	0.32	0.20	300	300	0.80 ±0.15
HK 1608 18N□-TV	RoHS	18	±5%	12	100	15	27	36	44	48	2000	3000	0.35	0.21	300	300	0.80 ±0.15
HK 1608 22N□-TV	RoHS	22	±5%	12	100	16	28	36	44	47	1600	2900	0.40	0.25	280	300	0.80 ±0.15
HK 1608 27N□-TV	RoHS	27	±5%	12	100	16	29	37	45	46	1400	2200	0.45	0.28	260	300	0.80 ±0.15
HK 1608 33N□-TV	RoHS	33	±5%	12	100	17	31	40	46	47	1200	1800	0.55	0.35	240	300	0.80 ±0.15
HK 1608 39N□-TV	RoHS	39	±5%	12	100	18	31	39	44	44	1100	1600	0.60	0.38	230	300	0.80 ±0.15
HK 1608 47N□-TV	RoHS	47	±5%	12	100	17	28	34	35	34	900	1600	0.70	0.45	210	300	0.80 ±0.15
HK 1608 56N□-TV	RoHS	56	±5%	12	100	17	28	34	34	31	900	1400	0.75	0.50	210	300	0.80 ±0.15
HK 1608 68N□-TV	RoHS	68	±5%	12	100	18	29	34	30	22	700	1200	0.85	0.55	190	300	0.80 ±0.15
HK 1608 82N□-TV	RoHS	82	±5%	12	100	18	28	33	27	—	600	1100	0.95	0.60	180	300	0.80 ±0.15
HK 1608 R10□-TV	RoHS	100	±5%	12	100	18	27	28	16	—	600	1000	1.00	0.65	180	300	0.80 ±0.15
HK 1608 R12□-TV	RoHS	120	±5%	8	50	16	24	23	—	—	500	800	1.20	0.68	160	300	0.80 ±0.15
HK 1608 R15□-TV	RoHS	150	±5%	8	50	13	19	16	—	—	500	800	1.20	0.73	160	300	0.80 ±0.15
HK 1608 R18□-TV	RoHS	180	±5%	8	50	13	18	12	—	—	400	700	1.30	0.85	150	300	0.80 ±0.15
HK 1608 R22□-TV	RoHS	220	±5%	8	50	12	16	—	—	—	400	600	1.50	0.95	140	300	0.80 ±0.15
HK 1608 R27□-TV	RoHS	270	±5%	8	50	14	15	—	—	—	400	550	1.90	1.34	130	150	0.80 ±0.15
HK 1608 R33□-TV	RoHS	330	±5%	8	50	14	—	—	—	—	350	480	2.10	1.53	120	150	0.80 ±0.15
HK 1608 R39□-TV	RoHS	390	±5%	8	50	13	—	—	—	—	350	410	2.30	1.72	110	150	0.80 ±0.15
HK 1608 R47□-TV	RoHS	470	±5%	8	50	13	—	—	—	—	300	360	2.60	2.04	110		

● HK 2125

Parts number	EHS	Nominal inductance [nH]	Inductance tolerance	Q (min.)	LQ Measuring frequency [MHz]	Q (Typical) frequency [MHz]					Self-resonant frequency [MHz]		DC Resistance [Ω]		Rated current [mA] (max.)		Thickness [mm]
						100	300	500	800	1000	(min.)	(typ.)	(max.)	(typ.)	-40~+125°C	-40~+85°C	
HK 2125 1N5S-TV	RoHS	1.5	$\pm 0.3nH$	10	100	21	39	57	61	68	4000	> 6000	0.10	0.02	300	300	0.85 ± 0.2
HK 2125 1N8S-TV	RoHS	1.8	$\pm 0.3nH$	10	100	18	35	49	55	59	4000	> 6000	0.10	0.02	300	300	0.85 ± 0.2
HK 2125 2N2S-TV	RoHS	2.2	$\pm 0.3nH$	10	100	18	33	46	53	58	4000	> 6000	0.10	0.03	300	300	0.85 ± 0.2
HK 2125 2N7S-TV	RoHS	2.7	$\pm 0.3nH$	12	100	19	36	50	56	60	4000	> 6000	0.10	0.03	300	300	0.85 ± 0.2
HK 2125 3N3S-TV	RoHS	3.3	$\pm 0.3nH$	12	100	16	29	40	47	51	4000	> 6000	0.13	0.04	280	300	0.85 ± 0.2
HK 2125 3N9S-TV	RoHS	3.9	$\pm 0.3nH$	12	100	18	33	46	54	60	4000	> 6000	0.15	0.05	260	300	0.85 ± 0.2
HK 2125 4N7S-TV	RoHS	4.7	$\pm 0.3nH$	12	100	18	34	46	55	60	3500	> 6000	0.20	0.05	220	300	0.85 ± 0.2
HK 2125 5N6S-TV	RoHS	5.6	$\pm 0.3nH$	15	100	20	38	51	60	66	3200	5400	0.23	0.05	210	300	0.85 ± 0.2
HK 2125 6N8J-TV	RoHS	6.8	$\pm 5\%$	15	100	20	39	52	63	69	2800	4200	0.25	0.06	200	300	0.85 ± 0.2
HK 2125 8N2J-TV	RoHS	8.2	$\pm 5\%$	15	100	21	40	54	63	70	2400	3700	0.28	0.07	190	300	0.85 ± 0.2
HK 2125 10NJ-TV	RoHS	10	$\pm 5\%$	15	100	20	38	51	60	67	2100	3100	0.30	0.09	180	300	0.85 ± 0.2
HK 2125 12NJ-TV	RoHS	12	$\pm 5\%$	15	100	21	39	52	60	67	1900	3000	0.35	0.10	170	300	0.85 ± 0.2
HK 2125 15NJ-TV	RoHS	15	$\pm 5\%$	15	100	22	42	55	63	72	1600	2600	0.40	0.11	160	300	0.85 ± 0.2
HK 2125 18NJ-TV	RoHS	18	$\pm 5\%$	15	100	24	44	57	63	72	1500	2300	0.45	0.13	150	300	0.85 ± 0.2
HK 2125 22NJ-TV	RoHS	22	$\pm 5\%$	18	100	23	43	55	60	69	1400	2100	0.50	0.16	140	300	0.85 ± 0.2
HK 2125 27NJ-TV	RoHS	27	$\pm 5\%$	18	100	23	42	53	58	68	1300	1800	0.55	0.17	135	300	0.85 ± 0.2
HK 2125 33NJ-TV	RoHS	33	$\pm 5\%$	18	100	24	43	54	55	60	1200	1700	0.60	0.19	130	300	0.85 ± 0.2
HK 2125 39NJ-TV	RoHS	39	$\pm 5\%$	18	100	23	41	50	47	47	1000	1400	0.65	0.25	125	300	0.85 ± 0.2
HK 2125 47NJ-TV	RoHS	47	$\pm 5\%$	18	100	23	41	49	43	41	900	1200	0.70	0.26	120	300	1.00 +0.2/-0.3
HK 2125 56NJ-TV	RoHS	56	$\pm 5\%$	18	100	23	42	48	39	38	800	1100	0.75	0.28	115	300	1.00 +0.2/-0.3
HK 2125 68NJ-TV	RoHS	68	$\pm 5\%$	18	100	25	42	45	30	—	700	900	0.80	0.33	110	300	1.00 +0.2/-0.3
HK 2125 82NJ-TV	RoHS	82	$\pm 5\%$	18	100	24	41	41	—	—	600	800	0.90	0.37	105	300	1.00 +0.2/-0.3
HK 2125 R10J-TV	RoHS	100	$\pm 5\%$	18	100	23	37	37	—	—	600	800	0.90	0.40	105	300	1.00 +0.2/-0.3
HK 2125 R12J-TV	RoHS	120	$\pm 5\%$	13	50	22	33	29	—	—	500	700	0.95	0.43	105	300	1.00 +0.2/-0.3
HK 2125 R15J-TV	RoHS	150	$\pm 5\%$	13	50	22	34	26	—	—	500	700	1.00	0.46	100	300	1.00 +0.2/-0.3
HK 2125 R18J-TV	RoHS	180	$\pm 5\%$	13	50	23	34	20	—	—	400	600	1.10	0.50	95	300	1.00 +0.2/-0.3
HK 2125 R22J-TV	RoHS	220	$\pm 5\%$	12	50	20	23	—	—	—	350	550	1.20	0.75	90	300	1.00 +0.2/-0.3
HK 2125 R27J-TV	RoHS	270	$\pm 5\%$	12	50	20	29	—	—	—	300	480	1.30	0.85	85	300	1.00 +0.2/-0.3
HK 2125 R33J-TV	RoHS	330	$\pm 5\%$	12	50	22	15	—	—	—	250	400	1.40	0.90	80	300	1.00 +0.2/-0.3
HK 2125 R39J-TV	RoHS	390	$\pm 5\%$	10	50	17	12	—	—	—	250	400	1.30	0.85	80	300	1.00 +0.2/-0.3
HK 2125 R47J-TV	RoHS	470	$\pm 5\%$	10	50	17	—	—	—	—	200	350	1.50	0.95	80	300	1.00 +0.2/-0.3

※ □ mark indicates the Inductance tolerance code. Please refer for the inductance tolerance except the above.



Derating of current is necessary for these products depending on ambient temperature. Refer to our Website (<http://www.ty-top.com/>) for appropriate derating of current of individual products.