FEATURES 特征

- Metal material for large current and low DCR.
  铁合金材料，高饱和电流，低DCR
- Closed magnetic dircuit design reduces leakage flux.
  闭合磁路设计，漏磁干扰小
- Halogen free, RoHS compliant.
  无卤，符合RoHS标准
- Operating Temp：-55℃~+125℃(Including self heating)
  工作温度范围:-55℃~+125℃(包括自身温度上升)

APPLICATIONS 用途

- TV, graphics, memory.
  TV、显卡、内存
- Notebooks, tablets.
  笔记本电脑、平板电脑
- Communication equipments, industrial equipments.
  通讯设备、工业设备

PART NUMBERING 产品型号

APH	0630	T	100	M
①	②	③	④	⑤

① Series Name	
APH	Molded SMD Power Inductors

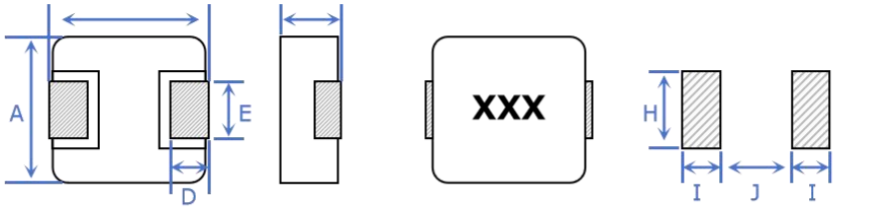
③ Feature Type	
T	Standard

④ Nominal Inductance	
Code (example)	Nominal Value［μH］
R47	0.47
1R0	1
100	10

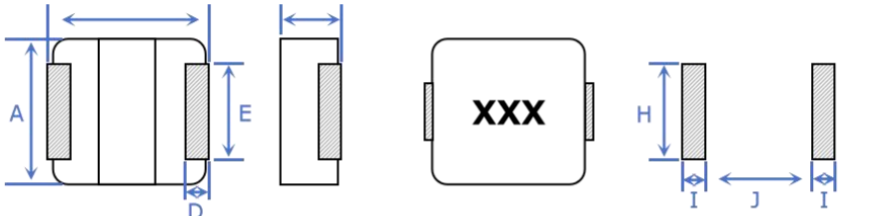
⑤ Inductance Tolerance	
K	±10%
M	±20%

② External Dimensions[LxWxT mm]	
0412	4.4x4.2x1.0
0420	4.4x4.2x1.8
0515	5.4x5.2x1.3
0518	5.4x5.2x1.6
0530	5.4x5.2x2.8
0615	7.0x6.6x1.3
0618	7.0x6.6x1.6
0620	7.0x6.6x1.8
0624	7.0x6.6x2.2
0630	7.0x6.6x2.8
0640	7.0x6.6x3.8
0650	7.0x6.6x4.8
0840	8.8x8.0x3.8
0850	8.8x8.0x4.8
1030	11.0x10.0x2.8
1040	11.0x10.0x3.8
1050	11.0x10.0x4.8
1240	13.45x12.8x3.8
1250	13.45x12.8x4.8
1260	13.45x12.8x5.8
1265	13.45x12.8x6.5
1770	17.65x17.0x6.7
2213	23.5x22.0x12.6

DIMENSIONS & RECOMMENDED LAND PATTERN 尺寸及推荐焊盘



Remark: APH0412~APH1770 Series　　Recommed Land Pattern



Remark: APH2213 Series　　Recommed Land Pattern

Unit: mm

Series	A	B	C	D	E	I	J	H
						Typ.		
APH0412	4.2±0.3	4.4±0.35	1.0±0.2	0.8±0.5	2.0±0.3	1.5	2.2	2.5
APH0420	4.2±0.3	4.4±0.35	1.8±0.2	0.8±0.5	2.0±0.3	1.5	2.2	2.5
APH0515	5.2±0.3	5.4±0.35	1.3±0.2	1.2±0.5	2.2±0.3	1.9	2.2	2.5
APH0518	5.2±0.3	5.4±0.35	1.6±0.2	1.2±0.5	2.2±0.3	1.9	2.2	2.5
APH0530	5.2±0.3	5.4±0.35	2.8±0.2	1.2±0.5	2.2±0.3	1.9	2.2	2.5
APH0615	6.6±0.3	7.0±0.35	1.3±0.2	1.6±0.5	3.0±0.3	2.35	3.7	3.5
APH0618	6.6±0.3	7.0±0.35	1.6±0.2	1.6±0.5	3.0±0.3	2.35	3.7	3.5
APH0620	6.6±0.3	7.0±0.35	1.8±0.2	1.6±0.5	3.0±0.3	2.35	3.7	3.5
APH0624	6.6±0.3	7.0±0.35	2.2±0.2	1.6±0.5	3.0±0.3	2.35	3.7	3.5
APH0630	6.6±0.3	7.0±0.35	2.8±0.2	1.6±0.5	3.0±0.3	2.35	3.7	3.5
APH0640	6.6±0.3	7.0±0.35	3.8±0.2	1.6±0.5	3.0±0.3	2.35	3.7	3.5
APH0650	6.6±0.3	7.0±0.35	4.8±0.2	1.6±0.5	3.0±0.3	2.35	3.7	3.5
APH0840	8.0±0.5	8.8±0.5	3.8±0.2	2.3±0.5	3.0±0.3	3.0	4.0	4.1
APH0850	8.0±0.5	8.8±0.5	4.8±0.2	2.3±0.5	3.0±0.3	3.0	4.0	4.1
APH1030	10.0±0.3	11.0±0.5	2.8±0.2	2.3±0.5	3.0±0.5	4.1	5.4	4.1
APH1040	10.0±0.3	11.0±0.5	3.8±0.2	2.3±0.5	3.0±0.5	4.1	5.4	4.1
APH1050	10.0±0.3	11.0±0.5	4.8±0.2	2.3±0.5	3.0±0.5	4.1	5.4	4.1
APH1240	12.8±0.5	13.45±0.5	3.8±0.2	2.5±0.7	3.8±0.5	4.1	6.5	5.5
APH1250	12.8±0.5	13.45±0.5	4.8±0.2	2.5±0.7	3.8±0.5	4.1	6.5	5.5
APH1260	12.8±0.5	13.45±0.5	5.8±0.2	2.5±0.7	3.8±0.5	4.1	6.5	5.5
APH1265	12.8±0.5	13.45±0.5	6.5 Max.	2.5±0.7	3.8±0.5	4.1	6.5	5.5
APH1770	17.0±0.5	17.65±0.5	6.7±0.3	2.5±0.7	11.9±0.5	3.5	11.2	12.8
APH2213	22.0±0.3	23.5±0.5	12.6±0.4	5.0±0.5	19.0±0.3	5.75	12.5	19.6

ELECTRICAL CHARACTERISTICS 特性规格表

APH0412 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH0412TR15M	0.15	±20%	9	12.45	15	6.91	7.5
APH0412TR22M	0.22	±20%	11	9.13	11	6.58	7
APH0412TR33M	0.33	±20%	19	6.96	8.4	5.82	6.5
APH0412TR47M	0.47	±20%	21	5.61	6.8	5.32	6
APH0412TR68M	0.68	±20%	36	4.98	6	4.28	4.7
APH0412T1R0M	1	±20%	47	4.57	5.5	3.91	4.5
APH0412T1R5M	1.5	±20%	75	3.32	4	2.78	3.25
APH0412T2R2M	2.2	±20%	83.5	2.49	3	2.28	2.75
APH0412T3R3M	3.3	±20%	160	2.43	2.7	1.8	2
APH0412T4R7M	4.7	±20%	195	1.86	2.2	1.5	1.8

APH0420 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH0420TR10M	0.1	±20%	4	18.26	22	11.47	13
APH0420TR22M	0.22	±20%	6.6	10.38	12.5	8.4	9.5
APH0420TR33M	0.33	±20%	11	9.96	12	8.81	10
APH0420TR47M	0.47	±20%	14	7.89	9.5	6.78	7.5
APH0420TR56M	0.56	±20%	16	7.47	9	6.24	7
APH0420TR68M	0.68	±20%	18	6.64	8	6.28	7
APH0420T1R0M	1	±20%	27	5.81	7	5.49	6
APH0420T1R2M	1.2	±20%	27	5.4	6.5	5.49	6
APH0420T1R5M	1.5	±20%	46	4.57	5.5	4.41	5
APH0420T2R2M	2.2	±20%	58	4.15	5	3.91	4.5
APH0420T3R3M	3.3	±20%	87	2.91	3.5	2.88	3.3
APH0420T4R7M	4.7	±20%	105	2.49	3	2.29	2.8
APH0420T5R6M	5.6	±20%	180	2.24	2.8	2	2.5
APH0420T6R8M	6.8	±20%	175	2.08	2.5	1.98	2.4
APH0420T100M	10	±20%	282	1.66	2	1.35	1.6
APH0420T220M	22	±20%	363	1.16	1.4	0.95	1.2

ELECTRICAL CHARACTERISTICS 特性规格表

APH0515 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH0515TR47M	0.47	±20%	13	12	13	8.7	9.5
APH0515TR68M	0.68	±20%	15.5	9.5	11.2	8.1	9
APH0515T1R0M	1	±20%	23	8	9.5	5.8	6.5
APH0515T2R2M	2.2	±20%	52	4.8	5.8	4	5
APH0515T3R3M	3.3	±20%	72	4	4.5	3	3.3
APH0515T4R7M	4.7	±20%	106	3.7	4.2	2.6	3

APH0518 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH0518TR22M	0.22	±20%	4.8	19	21.5	16	19
APH0518TR33M	0.33	±20%	7.2	17	19	14	16
APH0518TR47M	0.47	±20%	9	9.96	12	9.65	10.5
APH0518TR56M	0.56	±20%	10	9.13	11	8.4	9.5
APH0518TR68M	0.68	±20%	13.8	9.48	10.5	7.85	8.7
APH0518T1R0M	1	±20%	17	7.47	9	7.32	8
APH0518T1R5M	1.5	±20%	26	6.64	8	6.74	7.5
APH0518T2R2M	2.2	±20%	35	4.98	6	4.32	5
APH0518T3R3M	3.3	±20%	58	3.98	4.8	3.91	4.5
APH0518T4R7M	4.7	±20%	85	3.32	4	3.08	3.5
APH0518T6R8M	6.8	±20%	120	2.82	3.4	2.46	2.8
APH0518T100M	10	±20%	155	2.08	2.5	2.25	2.5

APH0530 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH0530TR10M	0.1	±20%	3	24.9	30	23.3	25
APH0530TR20M	0.2	±20%	4.1	16.6	20	13.15	14
APH0530TR22M	0.22	±20%	4.68	16	18	12.9	14.5
APH0530TR33M	0.33	±20%	5.5	14.94	18	13.24	14
APH0530TR47M	0.47	±20%	8.5	12.45	15	10.15	11
APH0530TR68M	0.68	±20%	12	9.55	11.5	8.32	9
APH0530TR82M	0.82	±20%	10.4	9.4	10.5	9.23	10.5
APH0530T1R0M	1	±20%	14	8.3	10	7.91	8.5

ELECTRICAL CHARACTERISTICS 特性规格表

APH0530 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH0530T1R2M	1.2	±20%	16	7.89	9.5	7.95	8.5
APH0530T1R5M	1.5	±20%	25	7.47	9	7.69	8.2
APH0530T2R2M	2.2	±20%	29	5.81	7	6.49	7
APH0530T3R3M	3.3	±20%	38	4.98	6	5.08	5.5
APH0530T4R7M	4.7	±20%	60	3.82	4.6	4.08	4.5
APH0530T6R8M	6.8	±20%	90	2.99	3.6	2.99	3.5
APH0530T100M	10	±20%	125	2.91	3.5	2.86	3.2
APH0530T150M	15	±20%	170	2.03	2.2	1.63	1.8
APH0530T220M	22	±20%	250	2.1	2.3	1.3	1.5

APH0615 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH0615TR47M	0.47	±20%	8.5	14.44	16	9.02	10
APH0615TR56M	0.56	±20%	11	12.62	14	8.12	9
APH0615TR68M	0.68	±20%	12	10.83	12	7.67	8.5
APH0615TR82M	0.82	±20%	17	9.02	10	7.22	8
APH0615T1R0M	1	±20%	21	8.12	9	5.41	6
APH0615T1R5M	1.5	±20%	40	7	8	4.4	5
APH0615T2R2M	2.2	±20%	54	6.31	7	3.43	3.8
APH0615T3R3M	3.3	±20%	63	4.96	5.5	3.16	3.5
APH0615T4R7M	4.7	±20%	85	4.51	5	2.89	3.2
APH0615T6R8M	6.8	±20%	135	3.61	4	2.25	2.5
APH0615T100M	10	±20%	175	2.7	3	1.8	2
APH0615T220M	22	±20%	510	2.25	2.5	1.33	1.4

APH0618 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH0618TR10M	0.1	±20%	2.3	31.54	38	23.3	25
APH0618TR22M	0.22	±20%	3.5	19.92	24	20.3	22
APH0618TR47M	0.47	±20%	8.4	14.94	18	10.23	11.5
APH0618TR68M	0.68	±20%	12	13.7	16.5	8.57	9.5
APH0618T1R0M	1	±20%	16	9.96	12	7.74	8.5

ELECTRICAL CHARACTERISTICS 特性规格表

● APH0618 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH0618T1R5M	1.5	±20%	26	7.64	9.2	7.24	8
APH0618T2R2M	2.2	±20%	35	6.64	8	6.32	7
APH0618T3R3M	3.3	±20%	50	4.98	6	3.91	4.5
APH0618T4R7M	4.7	±20%	62	4.15	5	3.58	4
APH0618T6R8M	6.8	±20%	110	3.74	4.5	2.49	3
APH0618T8R2M	8.2	±20%	135	3.01	3.6	2.15	2.4
APH0618T100M	10	±20%	155	3.32	4	2	2.3
APH0618T220M	22	±20%	350	1.91	2.3	1.46	1.8

● APH0620 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH0620T1R5M	1.5	±20%	26	10.3	12	7.15	8
APH0620T2R2M	2.2	±20%	35	6	7.5	5.2	6.5
APH0620T4R7M	4.7	±20%	60	4.57	5.5	3.52	4.3
APH0620T6R8M	6.8	±20%	73	5	5.5	3.5	4
APH0620T100M	10	±20%	145	3.34	4	2.31	2.8

● APH0624 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH0624TR22M	0.22	±20%	3	24.9	30	19.3	21
APH0624TR33M	0.33	±20%	4.1	20.34	24.5	16.3	18
APH0624TR47M	0.47	±20%	5.1	16.6	20	13.73	15
APH0624TR56M	0.56	±20%	6.5	14.11	17	11.73	13
APH0624TR68M	0.68	±20%	7	13.28	16	10.73	12
APH0624T1R0M	1	±20%	13.5	12.45	15	8.15	9
APH0624T1R5M	1.5	±20%	20	11.21	13.5	7.18	8.2
APH0624T2R2M	2.2	±20%	28	8.3	10	6.32	7
APH0624T3R3M	3.3	±20%	39	6.64	8	4.91	5.5
APH0624T4R7M	4.7	±20%	50	5.4	6.5	4.41	5
APH0624T6R8M	6.8	±20%	70	4.98	6	3.32	4
APH0624T100M	10	±20%	101	3.32	4	2.51	3.1
APH0624T150M	15	±20%	160	2.74	3.3	2.08	2.5

ELECTRICAL CHARACTERISTICS 特性规格表

● APH0624 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH0624T220M	22	±20%	230	2.08	2.5	1.66	2

● APH0630 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH0630TR10M	0.1	±20%	1.7	54.05	60	29.1	32.5
APH0630TR12M	0.12	±20%	0.75	31.5	40	32.9	38
APH0630TR22M	0.22	±20%	3	28.22	34	21.45	24
APH0630TR24M	0.24	±20%	3.1	23.24	28	19.09	23
APH0630TR33M	0.33	±20%	4.2	20.75	25	19.3	21
APH0630TR47M	0.47	±20%	4.1	16.6	20	16.73	18
APH0630TR56M	0.56	±20%	4.5	14.94	18	15.23	16.5
APH0630TR68M	0.68	±20%	5.3	14.11	17	14.73	16
APH0630TR82M	0.82	±20%	6	13.28	16	12.73	14
APH0630T1R0M	1	±20%	7.4	12.45	15	10.73	12
APH0630T1R2M	1.2	±20%	10.5	11.2	14	9.5	10
APH0630T1R5M	1.5	±20%	12.1	9.96	12	10.73	12
APH0630T1R8M	1.8	±20%	12.6	9.76	11.8	8.37	9.3
APH0630T2R2M	2.2	±20%	15	8.3	10	8.65	9.5
APH0630T3R3M	3.3	±20%	27	7.89	9.5	7.65	8.5
APH0630T4R7M	4.7	±20%	33	7.47	9	5.15	6
APH0630T5R6M	5.6	±20%	42	5.4	6.5	4.91	5.5
APH0630T6R8M	6.8	±20%	48	4.98	6	4.32	5
APH0630T8R2M	8.2	±20%	72	4.57	5.5	4.32	5
APH0630T100M	10	±20%	68	4.57	5.5	3.91	4.5
APH0630T150M	15	±20%	113	3.32	4	2.41	3
APH0630T220M	22	±20%	170	2.49	3	2.08	2.5
APH0630T330M	33	±20%	270	2.08	2.5	1.66	2
APH0630T470M	47	±20%	385	1.66	2	1.25	1.5

ELECTRICAL CHARACTERISTICS 特性规格表

● APH0640 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH0640TR15M	0.15	±20%	0.66	45	50	36	40
APH0640TR22M	0.22	±20%	0.98	28	35	32	35
APH0640TR68M	0.68	±20%	4.8	15.83	19	13.93	17
APH0640T1R0M	1	±20%	6.6	13.33	16	11.07	13.5
APH0640T1R5M	1.5	±20%	10	10.42	12.5	10.16	12.4
APH0640T2R2M	2.2	±20%	14	9.13	11	8.13	10
APH0640T3R3M	3.3	±20%	20	7.92	9.5	6.97	8.5
APH0640T4R7M	4.7	±20%	30	7.47	9	6.08	6.5
APH0640T6R8M	6.8	±20%	45	5.42	6.5	4.51	5.5
APH0640T100M	10	±20%	65	5	6	3.93	4.8
APH0640T150M	15	±20%	95	3.74	4.5	2.94	3.7
APH0640T220M	22	±20%	125	3.33	4	2.7	3.3
APH0640T330M	33	±20%	240	2.5	3	1.8	2.2
APH0640T470M	47	±20%	320	2.08	2.5	1.48	1.8

● APH0650 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH0650TR47M	0.47	±20%	3.9	17.43	21	17.45	20
APH0650TR68M	0.68	±20%	4.5	14.94	18	14.8	16.5
APH0650T1R0M	1	±20%	6.6	13.28	16	10.3	12
APH0650T1R5M	1.5	±20%	10	10.79	13	8.4	9.5
APH0650T2R2M	2.2	±20%	12.5	9.13	11	8.15	9
APH0650T3R3M	3.3	±20%	22	8.3	10	7.74	8.5
APH0650T4R7M	4.7	±20%	29	6.64	8	5.15	6
APH0650T6R8M	6.8	±20%	41	5.23	6.3	4.27	5.8
APH0650T8R2M	8.2	±20%	48	4.57	5.5	4.91	5.5
APH0650T100M	10	±20%	60	4.4	5.3	3.91	4.5
APH0650T150M	15	±20%	90	3.32	4	2.68	3.1
APH0650T220M	22	±20%	140	2.91	3.5	2.09	2.6
APH0650T330M	33	±20%	190	2.49	3	1.88	2.3
APH0650T470M	47	±20%	230	2.16	2.6	1.58	2
APH0650T680M	68	±20%	423	2.05	2.5	1.48	1.8
APH0650T101M	100	±20%	515	1.8	2.2	1.31	1.6

ELECTRICAL CHARACTERISTICS 特性规格表

● APH0840 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH0840TR22M	0.22	±20%	1.8	55.75	60	30.9	36
APH0840TR33M	0.33	±20%	2.4	40.75	45	25.75	30
APH0840TR47M	0.47	±20%	2.8	36.9	42	25.45	28
APH0840TR56M	0.56	±20%	3.2	23.45	26	22.3	24
APH0840TR68M	0.68	±20%	3.8	22.3	24	21.3	23
APH0840TR82M	0.82	±20%	4.4	19.3	21	19.3	21
APH0840T1R0M	1	±20%	4.62	17.3	19	17.3	19
APH0840T1R5M	1.5	±20%	7.6	15.3	17	15.3	17
APH0840T1R8M	1.8	±20%	11	13.73	15	12.88	15
APH0840T2R2M	2.2	±20%	11.4	12.3	14	12.3	14
APH0840T3R3M	3.3	±20%	15	11.23	12.5	10.3	12
APH0840T4R7M	4.7	±20%	26.5	10.65	11.5	8.65	9.5
APH0840T5R6M	5.6	±20%	30	10.15	11	8.15	9
APH0840T6R8M	6.8	±20%	36.8	8.15	9	7.15	8
APH0840T8R2M	8.2	±20%	46	7.85	8.7	6.15	7
APH0840T100M	10	±20%	59	7.15	8	5.65	6.5
APH0840T150M	15	±20%	71	4.99	5.5	4.89	5.4
APH0840T220M	22	±20%	113	4.58	5	4.29	4.8
APH0840T330M	33	±20%	156	3.33	3.5	3.08	3.5
APH0840T470M	47	±20%	225	2.93	3.1	2.56	2.9

● APH0850 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH0850T2R2M	2.2	±20%	10	12.75	15	11.05	13
APH0850T3R3M	3.3	±20%	15	11.9	14	9.35	11
APH0850T4R7M	4.7	±20%	22	11.05	13	6.8	8
APH0850T6R8M	6.8	±20%	28	8.925	10.5	6.375	7.5
APH0850T100M	10	±20%	38	7.65	9	5.1	6
APH0850T150M	15	±20%	52	5.95	7	4.675	5.5
APH0850T220M	22	±20%	82	5.1	6	3.57	4.2
APH0850T330M	33	±20%	140	4.675	5.5	2.975	3.5
APH0850T470M	47	±20%	190	3.23	3.8	1.87	2.2
APH0850T560M	56	±20%	185	2.975	3.5	2.125	2.5
APH0850T680M	68	±20%	300	2.975	3.5	1.7	2
APH0850T101M	100	±20%	400	2.125	2.5	1.275	1.5

ELECTRICAL CHARACTERISTICS 特性规格表

● APH1030 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH1030TR22M	0.22	±20%	1.2	45.1	50	29.77	33
APH1030TR33M	0.33	±20%	1.6	28.86	32	20.75	23
APH1030TR36M	0.36	±20%	1.6	25.28	28	20.75	23
APH1030TR47M	0.47	±20%	2.5	23.45	26	19.85	22
APH1030TR82M	0.82	±20%	3.7	20.75	23	16.24	18
APH1030T1R0M	1	±20%	6	18.94	21	13.53	15
APH1030T1R5M	1.5	±20%	7.5	18.04	20	11.73	13
APH1030T2R2M	2.2	±20%	9	12.62	14	9.92	11
APH1030T3R3M	3.3	±20%	16	10.82	12	8.12	9
APH1030T4R7M	4.7	±20%	22.5	9.01	10	6.31	7
APH1030T6R8M	6.8	±20%	48	7	8	4.8	5.5
APH1030T8R2M	8.2	±20%	45	6.32	7	4.51	5
APH1030T100M	10	±20%	55	5.86	6.5	4.06	4.5
APH1030T150M	15	±20%	78	5.3	6	3.5	4
APH1030T220M	22	±20%	118.8	4.4	5	2.65	3
APH1030T330M	33	±20%	160	3.6	4	2.35	2.6

● APH1040 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH1040TR13M	0.13	±20%	0.52	67.35	92	64.35	72
APH1040TR15M	0.15	±20%	0.65	62.25	75	40.75	45
APH1040TR22M	0.22	±20%	1	49.8	60	30.75	35
APH1040TR30M	0.3	±20%	1.1	37.35	45	30.75	35
APH1040TR33M	0.33	±20%	1.38	36	45	28	32
APH1040TR36M	0.36	±20%	1.2	37.35	45	25.75	30
APH1040TR45M	0.45	±20%	1.5	35.35	43	25.75	30
APH1040TR47M	0.47	±20%	1.7	33.2	40	25.75	30
APH1040TR56M	0.56	±20%	1.8	27.39	33	20.75	25
APH1040TR68M	0.68	±20%	2.4	24.9	30	19.6	23
APH1040TR80M	0.8	±20%	2.7	24.07	29	19.6	23
APH1040T1R0M	1	±20%	4.3	23.24	28	16.45	19
APH1040T1R5M	1.5	±20%	5.5	19.92	24	14.3	16
APH1040T1R8M	1.8	±20%	5.4	16	20	14	16
APH1040T2R2M	2.2	±20%	8	13.7	16.5	10.3	12
APH1040T2R7M	2.7	±20%	14.4	14.4	18	10	12
APH1040T3R3M	3.3	±20%	11.8	13.28	16	9.73	11

ELECTRICAL CHARACTERISTICS 特性规格表

● APH1040 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH1040T4R7M	4.7	±20%	20	10.79	13	7.73	9
APH1040T6R8M	6.8	±20%	25	9.96	12	7.23	8.5
APH1040T8R2M	8.2	±20%	27	7.47	9	6.98	8
APH1040T100M	10	±20%	30	7.06	8.5	7.04	7.8
APH1040T150M	15	±20%	45	5.81	7	5.74	6.5
APH1040T220M	22	±20%	79.2	4.57	5.5	4.32	5
APH1040T330M	33	±20%	92	3.98	4.8	3.89	4.4
APH1040T470M	47	±20%	174	3.16	3.5	2.88	3.3
APH1040T680M	68	±20%	195	2.49	3	2.08	2.5
APH1040T820M	82	±20%	285	2.38	2.8	2.13	2.3
APH1040T101M	100	±20%	340	2.13	2.3	1.83	2

● APH1050 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH1050TR22M	0.22	±20%	0.8	58.63	65	33.18	37
APH1050TR47M	0.47	±20%	1.32	44.2	50	31.8	36
APH1050TR68M	0.68	±20%	1.95	34.45	37	21.3	23
APH1050T1R0M	1	±20%	3	28.3	30	20.71	23
APH1050T1R5M	1.5	±20%	3.8	22.45	25	18.88	21
APH1050T2R2M	2.2	±20%	6	17.13	19	13.47	15
APH1050T3R3M	3.3	±20%	10	14.3	16	11.73	13
APH1050T4R7M	4.7	±20%	14	13.47	15	9.9	11
APH1050T5R6M	5.6	±20%	17	12.56	14	8.65	9.5
APH1050T6R8M	6.8	±20%	18.5	12.56	14	8.15	9
APH1050T100M	10	±20%	28	8.98	10	7.15	8
APH1050T150M	15	±20%	42	6.65	7.5	5.82	6.5
APH1050T220M	22	±20%	50	5.41	6	5.08	5.5
APH1050T330M	33	±20%	86	4.69	5.2	4.29	4.8
APH1050T470M	47	±20%	127	4.08	4.5	3.28	3.7
APH1050T680M	68	±20%	185	2.86	3.2	2.45	2.7
APH1050T820M	82	±20%	280	3.08	3.5	1.75	2
APH1050T101M	100	±20%	290	2.55	2.8	1.85	2.1

ELECTRICAL CHARACTERISTICS 特性规格表

● APH1240 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH1240TR22M	0.22	±20%	0.9	41.5	50	38.6	42
APH1240TR47M	0.47	±20%	2	39.84	48	29.6	33
APH1240TR68M	0.68	±20%	3.5	39.01	47	24.6	28
APH1240TR82M	0.82	±20%	4.5	33.2	40	24.6	28
APH1240T1R0M	1	±20%	7.5	29.05	35	20.6	24
APH1240T1R5M	1.5	±20%	9.5	25.32	30.5	17.45	20
APH1240T2R2M	2.2	±20%	11.5	21.58	26	15.45	18
APH1240T3R3M	3.3	±20%	13	17.43	21	13.3	15
APH1240T4R7M	4.7	±20%	14.5	14.94	18	11.3	13
APH1240T6R8M	6.8	±20%	20	11.62	14	8.15	9
APH1240T100M	10	±20%	25	8.3	10	7.15	8
APH1240T150M	15	±20%	39	6.23	7.5	5.91	6.5
APH1240T220M	22	±20%	51	4.98	6	3.91	4.5

● APH1250 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH1250TR22M	0.22	±20%	0.7	62.25	75	45.75	50
APH1250TR36M	0.36	±20%	0.85	41.5	50	37.75	42
APH1250TR50M	0.5	±20%	1.15	39.84	48	33.75	38
APH1250TR68M	0.68	±20%	1.55	38.18	46	29.6	33
APH1250TR82M	0.82	±20%	1.67	32.37	39	26.6	30
APH1250T1R0M	1	±20%	2.2	29.05	35	22.6	26
APH1250T1R5M	1.5	±20%	3.2	27.39	33	19.6	23
APH1250T2R2M	2.2	±20%	5	19.92	24	13.3	15
APH1250T3R3M	3.3	±20%	7	18.26	22	12.3	14
APH1250T4R7M	4.7	±20%	11	16.6	20	11.3	13
APH1250T6R8M	6.8	±20%	18	13.28	16	10.3	12
APH1250T100M	10	±20%	22	9.96	12	8.15	9
APH1250T150M	15	±20%	30	8.3	10	7.15	8
APH1250T220M	22	±20%	58	5.4	6.5	3.91	4.5
APH1250T330M	33	±20%	84	4.98	6	2.91	3.5
APH1250T470M	47	±20%	130	4.15	5	2.66	3
APH1250T680M	68	±20%	183	3.5	4.1	2.05	2.4

ELECTRICAL CHARACTERISTICS 特性规格表

APH1260 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH1260T1R5M	1.5	±20%	2.9	27.45	30	23.6	27
APH1260T2R2M	2.2	±20%	4.2	24.6	28	18.6	22
APH1260T3R3M	3.3	±20%	6.8	21.6	25	14.45	17
APH1260T4R7M	4.7	±20%	9	19.92	24	12.45	15
APH1260T5R6M	5.6	±20%	11	18.68	22.5	11.3	13
APH1260T6R8M	6.8	±20%	13.5	15.77	19	10.3	12
APH1260T8R2M	8.2	±20%	16	11.21	13.5	9.3	11
APH1260T100M	10	±20%	20.7	11.31	12.5	8.73	10
APH1260T120M	12	±20%	23	8.3	10	7.98	9
APH1260T150M	15	±20%	29	7.47	9	7.65	8.5
APH1260T180M	18	±20%	35	6.64	8	6.65	7.5
APH1260T220M	22	±20%	39.5	6.23	7.5	6.15	7
APH1260T270M	27	±20%	56	5.4	6.5	5.15	6
APH1260T330M	33	±20%	75	4.98	6	4.91	5.5
APH1260T470M	47	±20%	90	4.57	5.5	4.32	5
APH1260T680M	68	±20%	140	3.74	4.5	3.32	4
APH1260T101M	100	±20%	200	2.91	3.5	2.58	3
APH1260T121M	120	±20%	235	2.66	3.2	1.75	2
APH1260T151M	150	±20%	350	2.24	2.7	1.25	1.5

APH1265 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH1265TR33M	0.33	±20%	0.84	47.5	57	38.5	43
APH1265TR47M	0.47	±20%	1.1	43.3	52	34.8	39
APH1265TR68M	0.68	±20%	1.5	39.2	47	30.1	34
APH1265TR82M	0.82	±20%	1.65	35	42	27.5	31
APH1265T1R0M	1	±20%	2.1	32.1	38.5	24.8	29
APH1265T1R5M	1.5	±20%	2.9	28.3	34	23.5	27.5
APH1265T2R2M	2.2	±20%	4.2	25.8	31	19.2	22.5
APH1265T3R3M	3.3	±20%	7.68	24.2	29	16.7	19.5
APH1265T4R7M	4.7	±20%	8.5	20	24	13.7	16
APH1265T5R6M	5.6	±20%	10.5	18.8	22.5	12	14
APH1265T6R8M	6.8	±20%	13	15.8	19	11.1	13
APH1265T8R2M	8.2	±20%	14	13.3	16	10.3	12
APH1265T100M	10	±20%	19.8	12.5	15	9.4	11
APH1265T150M	15	±20%	37	9.2	11	8.1	9.5

ELECTRICAL CHARACTERISTICS 特性规格表

● APH1265 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH1265T220M	22	±20%	44	7.5	9	6.8	8
APH1265T330M	33	±20%	65	6.7	8	5.6	6.5
APH1265T470M	47	±20%	90	5.7	6.8	4.7	5.5
APH1265T680M	68	±20%	120	4.3	5.2	4.1	4.8
APH1265T820M	82	±20%	135	3.8	4.5	3.4	4
APH1265T101M	100	±20%	170	3.3	4	3	3.5
APH1265T151M	150	±20%	257	2.3	2.8	1.5	1.7

● APH1770 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH1770T1R0M	1	±20%	2	34.8	40	26.5	31
APH1770T1R5M	1.5	±20%	2.1	35	40	29	33
APH1770T2R2M	2.2	±20%	2.5	28.3	34	24.8	29
APH1770T3R3M	3.3	±20%	3.95	25	30	20.5	24
APH1770T4R7M	4.7	±20%	4.75	20	24	17.9	21
APH1770T6R8M	6.8	±20%	7.5	18.3	22	14.5	17
APH1770T8R2M	8.2	±20%	8.7	16.7	20	11.1	13
APH1770T100M	10	±20%	9.9	15.8	19	10.3	12
APH1770T150M	15	±20%	17	12.1	14.5	9.4	11
APH1770T220M	22	±20%	23	9.6	11.5	7.3	8.5
APH1770T330M	33	±20%	37	8.3	10	6.8	8
APH1770T470M	47	±20%	47	6.3	7.5	5.1	6
APH1770T560M	56	±20%	66	6.3	7.2	5.1	5.8
APH1770T680M	68	±20%	85	5.4	6.5	4.4	5.2
APH1770T820M	82	±20%	110	5.3	6	4	4.5
APH1770T101M	100	±20%	130	4.2	5	3.2	3.7

ELECTRICAL CHARACTERISTICS 特性规格表

- APH2213 Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
APH2213T1R0M	1	±20%	0.95	54	60	65	70
APH2213T1R5M	1.5	±20%	1.15	48	52	57	62
APH2213T2R2M	2.2	±20%	1.25	43	48	52	58
APH2213T3R3M	3.3	±20%	1.75	37	41	47	49
APH2213T4R7M	4.7	±20%	2.2	34	38	44	47
APH2213T6R8M	6.8	±20%	3.1	32	36	36	40
APH2213T7R3K	7.3	±20%	3.9	28	33	32	36
APH2213T100M	10	±20%	4.15	20	28	30	33
APH2213T150M	15	±20%	6.12	18	23	23	26
APH2213T220M	22	±20%	11	14	15	18	22
APH2213T330M	33	±20%	15.4	10.5	12	16	19
APH2213T470M	47	±20%	20.8	10	12	14	17
APH2213T680M	68	±20%	29.5	9	12	12	14
APH2213T820M	82	±20%	34.2	7.7	9	10	12
APH2213T101M	100	±20%	40	7.5	9	9.5	11

- All test data is referenced to 20℃ ambient.
- Rated current: Isat or Irms, whichever is smaller.
- Isat(Typ.) : DC current at which the inductance drops approximate 30% from its value without current.
- Isat(Max.) : DC current at which the inductance drops approximate 30% from its value without current.
- Irms(Typ.): DC current that causes the temperature rise (△T =40℃) from 20℃ ambient.
- The part temperature (ambient + temp rise) should not exceed 125'Cunder worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions, all affect the part temperature. Part temperature should be verified in the end application.
- Absolute maximum voltage:

Series	Absolute maximum voltage
APH0412	DC 50V
APH0420/0515/0518/0530/0615/0618/0620	DC 60V
APH0624	DC 80V
APH0630/0640/0650/0840/0850/1030/1040/ 1050/1240/1250/1260/1265/1770/2213	DC 100V

RELIABILITY TEST 可靠性测试

TEST ITEM	SPECIFICATION	TEST CONDITION
Withstanding voltage test	After test, inductors shall have no evidence of electrical and mechanical damage.	AC voltage of 100v and AC current of 1mA applied between inductor's terminal and core for 3 secs.
Resistance to soldering heat	1. Inductor shall have no evidence of electrical and mechanical damage. 2. Inductance shall not change more than ±5%. 3. Q shall not change more than ±20%.	a. Temp: 260±5℃ b. Time: 10±1.0 secs
Solderability test	The terminal shall be at least 95% covered with solder.	After fluxing, the terminal shall be dipped in a melted solder bath at 245±5℃ for 4±1.0 secs.
high humidity test	The anti-erosion quality of the surface and the specimen's inductance shall not change from the initial value within ± 10%	a. Test condition 1 Temp.:60±2℃, R.H.:90%-95% 2 Time:500±2hours b. Measurement methods: The experimental component should be put at normal condition for 2 hours then to measure again after test
Salt spray test		a. Test condition 1 Temp.:35±2℃ 2 Time:48±2hours 3 Salt solution PH:6.5~7.2 b. Measurement methods: The experimental component should be put at normal condition for 2 hours then to measure again after test
thrust test	The product cannot be separated from PCB board	Push from the side of the product Thrust size：5N keep time：1min
Tensile test		Pull from the top of the product Pull size:5N keep time：1min
Vibration test	1. Inductance shall be within ± 10% of the initial value. 2. Appearance:no damage	a. Frequency: 10 to 55HZ b. Amplitude: 1.5mm c. Direction and time:X, Y and Z directions for 2 hours each.

RELIABILITY TEST 可靠性测试

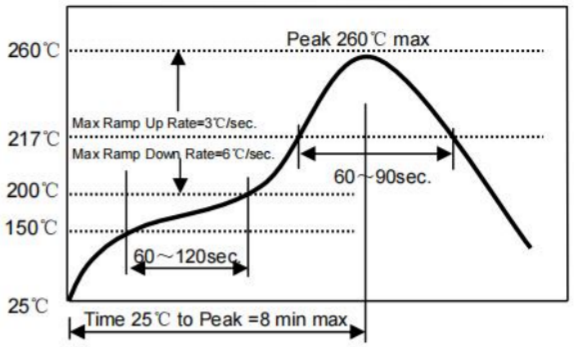
TEST ITEM	SPECIFICATION	TEST CONDITION
Free fall test	No mechanical damage shall be noticed.	Drop 5 times on a concrete floor from lm the height.
Temperature Cycling test	1. Inductance shall be within ±10% of the initial value 2. Appearance:No damage	a. Test condition 1 Temp.:-55℃,time:30±3min 2 Temp.:+125℃,time: 30±3min 3 Cycles times:10 cycles b. Measurement methods: The experimental component should be put at normal condition for 2 hours then to measure again after test
High Temperature resistance test		a. Test condition 1 Applied rated current 2 Temp.:125℃±2℃ 3 Test time:500+24/-0H b. Measurement methods: The experimental component should be put at normal condition for 24 hours then to measure again after test.
Low temperature resistance test		a. Test condition 1 Temp.:-55℃±2℃ 2 Test time:500+24/-0H b. Measurement methods: The experimental component should be put at normal condition for 24 hours then to measure again after test.
Salt spray test		

RECOMMENDED SOLDERING TECHNOLOGIES 焊接工艺建议

Reflowing Profile

- Preheat condition: 150~200℃/60~120sec.
- Allowed time above 217℃: 60~90sec.
- Max temp: 260℃
- Max time at max temp: 10sec.
- Solder paste: Sn/3.0Ag/0.5Cu
- Allowed Reflow time: 2x max

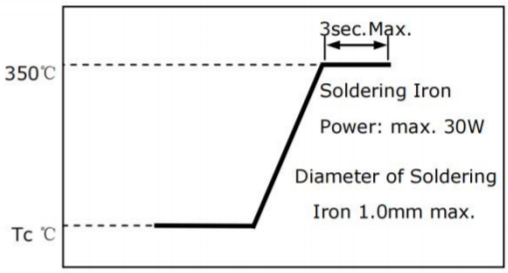
Note: The reflow profile in the above table is only for qualification and is not meant to specify board assembly profiles. Actual board assembly profiles must be based on the customer's specific board design, solder paste and process, and should not exceed the parameters as the Reflow profile shows.



Iron Soldering Profile

- Iron soldering power: Max.30W
- Pre-heating: 150 ℃ / 60sec.
- Soldering Tip temperature: 350℃Max.
- Soldering time: 3sec Max.
- Solder paste: Sn/3.0Ag/0.5Cu
- Max.1 times for iron soldering

Note: Take care not to apply the tip of the soldering iron to the terminal electrodes.



SAFETY REMINDERS 注意事项

SAFETY REMINDERS

- The storage period is within 12 months. Be sure to follow the storage conditions (temperature: 15 to 35℃, humidity: 75% RH or less).If the storage period elapses, the soldering of the terminal electrodes may deteriorate.
- Do not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).
- Soldering corrections after mounting should be within the range of the conditions determined in the specifications. If overheated, a short circuit, performance deterioration, or lifespan shortening may occur.
- When embedding a printed circuit board where a chip is mounted to a set, be sure that residual stress is not given to the chip due to the overall distortion of the printed circuit board and partial distortion such as at screw tightening portions.
- Self heating (temperature increase) occurs when the power is turned ON, so the tolerance should be sufficient for the set thermal design.
- This product is not designed for production processes involving ultrasonic welding, as high-frequency vibration may cause application issues such as product detachment and breakage.
- Carefully layout the coil for the circuit board design of the non-magnetic shield type. A malfunction may occur due to magnetic interference.
- Use a wrist band to discharge static electricity in your body through the grounding wire.
- Do not expose the products to magnets or magnetic fields.
- Do not use for a purpose outside of the contents regulated in the delivery specifications.
- The products listed on this catalog are intended for use in general electronic equipment, under a normal operation and use condition.
- Do not clean or soak the product with organic solvents, as this will cause the magnetic core to loosen and degrade the structural strength of the product.

The Company shall not guarantee the suitability, performance, or quality for the following applications that require a high level of safety and reliability, or where equipment failure, malfunction, or abnormal operation may cause damage to human life, physical well-being, or property, and may have significant social impacts (hereinafter referred to as "specific applications").If you intend to use this product in the application scenarios listed below, or if you have special requirements exceeding the scope or conditions specified in each product catalog, please contact us.

(1) Aerospace/aviation equipment
(2) Transportation equipment (cars, electric trains, ships, etc.)
(3) Medical equipment
(4) Power-generation control equipment
(5) Atomic energy-related equipment
(6) Seabed equipment
(7) Transportation control equipment
(8) Public information-processing equipment
(9) Military equipment
(10) Electric heating apparatus, burning equipment
(11) Disaster prevention/crime prevention equipment
(12) Safety equipment
(13) Other applications that are not considered general-purpose applications

When designing your equipment even for general-purpose applications, you are kindly requested to take into consideration securing protection circuit/device or providing backup circuits in your equipment.