

绕线贴片功率电感—AMWPH 系列

Wire Wound SMD Power Inductor—AMWPH Series



工作温度
Operating Temp

◆ -40°C ~+125°C (Including self-heating)

特征
Features

- ◆ 高饱和电流, 低直流电阻
- ◆ 优异的温度特性
- ◆ 高可靠性
- ◆ 满足 AEC-Q200 要求
- ◆ High saturation current, low DC resistance
- ◆ Excellent temperature stability
- ◆ High reliability,
- ◆ AEC-Q200 qualified

用途
Applications

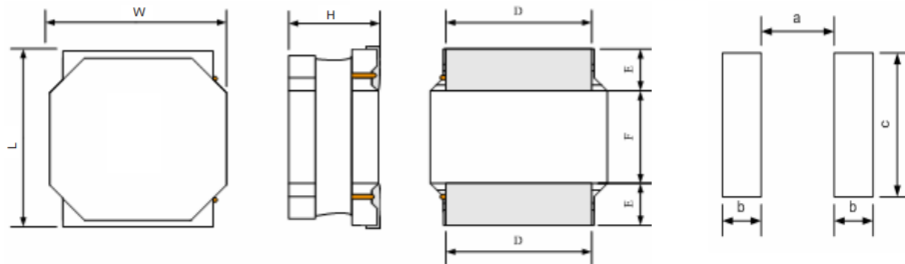
- ◆ 车载信息娱乐系统
- ◆ LED 灯
- ◆ 安全气囊
- ◆ ADAS
- ◆ Infotainment system
- ◆ LED lighting
- ◆ Airbag
- ◆ ADAS

产品型号
Product Identification

1	2	3	4	5	6
AMWPH	6045	S	2R2	M	T
1	2				
分类 Type		外形尺寸 (L×W×H) [mm] External Dimensions (L×W×H) [mm]			
AMWPH		绕线贴片功率电感 Wire Wound SMD Power Inductor			
3		4			
特性类别 Feature Type		公称电感量 Nominal Inductance			
S		例子 Example			
标准型 Standard		感值 Nominal Value			
5		6			
感量精度 Inductance Tolerance		包装 Packing			
N		T			
±30%		编带 Tape Carrier Package			
M					
±20%					

外观尺寸
Shape and Dimensions

推荐焊盘 Recommended PCB pattern



单位 Unit: mm

系列 Series	L	W	H	D(ref.)	E	a	b	c
AMWPH3015S	3.0±0.2	3.0±0.2	1.50±0.15	2.5±0.2	0.9±0.2	1.0Typ.	1.4Typ.	2.7Typ.
AMWPH4018S	4.0±0.2	4.0±0.2	1.8±0.2	3.3±0.2	1.1±0.2	1.2Typ.	1.8Typ.	3.7Typ.
AMWPH5030S	5.0±0.2	5.0±0.2	2.9±0.2	4.0±0.2	1.25±0.2	1.8Typ.	2.0Typ.	4.2Typ.
AMWPH6045S	6.0±0.3	6.0±0.3	4.4±0.2	4.9±0.3	1.55±0.3	2.5Typ.	2.2Typ.	5.7Typ.

规格特性 Specifications

AMWPH3015S Series

型号 Part Number	感值 Inductance	自谐频率 Self-Resonant Frequency	直流电阻 DC Resistance		饱和电流 Saturation Current		温升电流 Heat Rating Current	
	1MHz/1V	Min.	Max.	Typ.	Max.	Typ.	Max.	Typ.
单位 Units	uH	MHz	Ω		A		A	
符号 Symbol	L	S.R.F	DCR		Isat		Irms	
AMWPH3015S1R0NT	1.0±30%	107	0.043	0.036	2.40	2.75	2.00	2.40
AMWPH3015S1R5NT	1.5±30%	84	0.052	0.043	1.90	2.20	1.93	2.22
AMWPH3015S2R2MT	2.2±20%	64	0.068	0.057	1.50	1.70	1.68	1.92
AMWPH3015S3R3MT	3.3±20%	48	0.098	0.082	1.30	1.50	1.35	1.55
AMWPH3015S4R7MT	4.7±20%	39	0.120	0.100	1.00	1.15	1.27	1.47
AMWPH3015S6R8MT	6.8±20%	30	0.180	0.150	0.87	1.00	1.05	1.20
AMWPH3015S100MT	10±20%	25	0.288	0.240	0.70	0.80	0.82	0.95
AMWPH3015S150MT	15±20%	20	0.360	0.300	0.60	0.70	0.73	0.84
AMWPH3015S220MT	22±20%	16	0.552	0.460	0.50	0.56	0.60	0.70
AMWPH3015S330MT	33±20%	13	1.092	0.910	0.42	0.48	0.45	0.50
AMWPH3015S470MT	47±20%	11	1.248	1.040	0.30	0.35	0.42	0.48
AMWPH3015S101MT	100±20%	6.8	2.880	2.400	0.20	0.25	0.26	0.30

AMWPH4018S Series

型号 Part Number	感值 Inductance	自谐频率 Self-Resonant Frequency	直流电阻 DC Resistance		饱和电流 Saturation Current		温升电流 Heat Rating Current	
	0.1MHz/1V	Min.	Max.	Typ.	Max.	Typ.	Max.	Typ.
单位 Units	uH	MHz	Ω		A		A	
符号 Symbol	L	S.R.F	DCR		Isat		Irms	
AMWPH4018S1R0NT	1.0±30%	98	0.036	0.030	4.80	5.50	2.70	3.00
AMWPH4018S1R5NT	1.5±30%	73	0.043	0.036	4.00	4.60	2.43	2.85
AMWPH4018S2R2MT	2.2±20%	56	0.060	0.050	3.50	4.00	2.10	2.55
AMWPH4018S3R3MT	3.3±20%	41	0.066	0.055	2.30	2.90	2.00	2.50
AMWPH4018S4R7MT	4.7±20%	34	0.094	0.078	2.00	2.20	1.60	2.00
AMWPH4018S6R8MT	6.8±20%	27	0.127	0.106	1.70	1.90	1.35	1.75
AMWPH4018S8R2MT	8.2±20%	20	0.172	0.143	1.60	1.85	1.25	1.50
AMWPH4018S100MT	10±20%	17	0.187	0.156	1.30	1.50	1.10	1.48
AMWPH4018S120MT	12±20%	15	0.278	0.232	1.55	1.75	0.80	1.10
AMWPH4018S150MT	15±20%	13	0.354	0.295	1.30	1.50	0.70	1.00
AMWPH4018S220MT	22±20%	12	0.408	0.340	1.05	1.20	0.75	0.95
AMWPH4018S330MT	33±20%	9.4	0.582	0.485	0.80	1.00	0.55	0.70
AMWPH4018S390MT	39±20%	9.1	0.708	0.590	0.67	0.76	0.52	0.68
AMWPH4018S470MT	47±20%	7.9	0.774	0.645	0.57	0.70	0.50	0.65
AMWPH4018S680MT	68±20%	7.7	1.068	0.890	0.45	0.55	0.48	0.62
AMWPH4018S101MT	100±20%	6.4	1.473	1.227	0.40	0.50	0.40	0.50

AMWPH5030S Series

型号 Part Number	感值 Inductance	自谐频率 Self-Resonant Frequency	直流电阻 DC Resistance		饱和电流 Saturation Current		温升电流 Heat Rating Current	
	0.1MHz/1V	Min.	Max.	Typ.	Max.	Typ.	Max.	Typ.
单位 Units	uH	MHz	Ω		A		A	
符号 Symbol	L	S.R.F	DCR		Isat		Irms	
AMWPH5030SR33NT	0.33±30%	161	0.0096	0.0081	12.50	15.00	5.30	5.60
AMWPH5030SR47NT	0.47±30%	132	0.013	0.011	12.00	13.00	4.75	5.15
AMWPH5030S1R0NT	1.0±30%	78	0.017	0.014	8.50	9.50	4.15	4.55
AMWPH5030S1R5NT	1.5±30%	64	0.022	0.018	6.50	7.50	3.65	4.00
AMWPH5030S2R2MT	2.2±20%	52	0.038	0.032	6.50	7.10	2.95	3.20
AMWPH5030S3R3MT	3.3±20%	36	0.043	0.036	4.20	5.10	2.55	2.75
AMWPH5030S4R7MT	4.7±20%	34	0.068	0.057	3.95	4.50	2.20	2.40
AMWPH5030S8R2MT	8.2±20%	24	0.103	0.086	3.00	3.20	1.70	1.90

规格特性

Specifications

AMWPH5030S Series

型号 Part Number	感值 Inductance	自谐频率 Self-Resonant Frequency	直流电阻 DC Resistance		饱和电流 Saturation Current		温升电流 Heat Rating Current	
	0.1MHz/1V	Min.	Max.	Typ.	Max.	Typ.	Max.	Typ.
单位 Units	uH	MHz	Ω		A		A	
符号 Symbol	L	S.R.F	DCR		Isat		Irms	
AMWPH5030S100MT	10±20%	21	0.115	0.096	2.70	3.15	1.45	1.60
AMWPH5030S220MT	22±20%	14	0.254	0.212	1.80	1.95	0.80	0.88
AMWPH5030S330MT	33±20%	10	0.367	0.306	1.35	1.55	0.70	0.75

AMWPH6045S Series

型号 Part Number	感值 Inductance	自谐频率 Self-Resonant Frequency	直流电阻 DC Resistance		饱和电流 Saturation Current		温升电流 Heat Rating Current	
	0.1MHz/1V	Min.	Max.	Typ.	Max.	Typ.	Max.	Typ.
单位 Units	uH	MHz	Ω		A		A	
符号 Symbol	L	S.R.F	DCR		Isat		Irms	
AMWPH6045SR55MT	0.55±20%	137	0.009	0.007	13.50	15.50	5.90	6.50
AMWPH6045S1R0MT	1.0±20%	90	0.013	0.010	9.30	10.50	5.40	5.90
AMWPH6045S1R5MT	1.5±20%	63	0.016	0.012	7.80	8.70	4.95	5.40
AMWPH6045S2R2MT	2.2±20%	47	0.020	0.016	6.30	6.90	4.30	4.70
AMWPH6045S4R7MT	4.7±20%	27	0.040	0.030	4.60	5.15	3.10	3.40
AMWPH6045S6R3MT	6.3±20%	20	0.045	0.036	3.40	3.80	2.60	3.05
AMWPH6045S100MT	10±20%	16	0.060	0.049	3.00	3.45	2.45	2.70
AMWPH6045S150MT	15±20%	12	0.085	0.071	2.40	2.70	1.90	2.05
AMWPH6045S220MT	22±20%	11	0.140	0.116	2.00	2.25	1.55	1.75
AMWPH6045S330MT	33±20%	10	0.174	0.145	1.50	1.70	1.45	1.55
AMWPH6045S470MT	47±20%	7.5	0.300	0.225	1.35	1.50	1.10	1.20
AMWPH6045S680MT	68±20%	6.0	0.395	0.328	1.15	1.30	0.90	1.00
AMWPH6045S101MT	100±20%	5.0	0.560	0.460	0.90	1.05	0.75	0.85
AMWPH6045S121MT	120±20%	4.6	0.593	0.494	0.85	0.95	0.70	0.85

注：※1：额定电流：Isat(Max.) 或 Irms(Typ.)，以较小数据为准。

※2：饱和电流：Max. 值：电感比初始电感量下降小于 30% 时，所对应的直流电流的大小；

Typ. 值：电感比初始电感量下降大约 30% 时，所对应的直流电流的大小。

※3：温升电流：温度从 20℃ 环境温度上升 (ΔT) 时，所对应的直流电流的大小。

对于 Max. 值，ΔT < 40℃；

对于 Typ. 值，ΔT 约是 40℃。

在最坏的操作条件下，零件温度（环境温度 + 温升）不应超过 125℃。电路设计、元件放置、PCB 走线尺寸和厚度、气流和其他冷却规定都会影响零件温度。应在应用中验证零件温度。

※：如需在上述应用领域以外使用产品，请务必与我司产品工程师进行确认。

Note:※1:Rated current: Isat (Max.) or Irms (Typ.), whichever is smaller;

※2:Saturation Current:

Max.Value, DC current at which the inductance drops less than 30% from its value without current;

Typ.Value, DC current at which the inductance drops approximate 30% from its value without current;

※3:Irms:DC current that causes the temperature rise (ΔT) from 20℃ ambient.

For Max. Value, ΔT < 40℃;

For Typ. Value, ΔT is approximate 40℃.

The part temperature (ambient + temp. rise) should not exceed 125℃ under worst case operating conditions. Circuit design, component placement, PCB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

※:If you use the product in other than the above application fields, please confirm with our product engineer.