Wire Wound SMD Power Inductors – AMWPH Series

Operating Temp. : -40℃~+125℃ (Including self-heating)



FEATURES

- High saturation current, low DC resistance
- Excellent temperature stability
- High reliability,
- AEC-Q200 verified

APPLICATIONS

- Infotainment system
- LED lighting
- Airbag
- Power supply system except for power engineer chassis and safety system

PRODUCT IDENTIFICATION

AMWPH ① **6045** ② **S** ③ **2R2** ④ **M** ⑤ **T** ⑥

①	Type
AMWPH	Wire Wound SMD Power Inductor

③	Feature Type
S	S Type

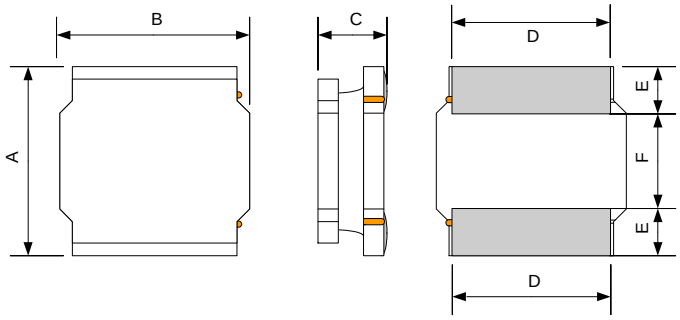
②	External Dimensions (L×W×H) [mm]
3015	3.0×3.0×1.5
4018	4.0×4.0×1.8
5030	5.0×5.0×2.9
6045	6.0×6.0×4.4

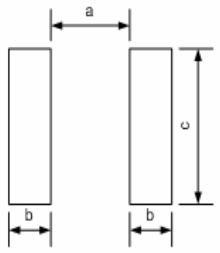
④	Nominal Inductance
Example	Nominal Value
2R2	2.2μH
100	10μH

⑥	Packing
T	Tape & Reel

⑤	Inductance Tolerance
N	±30%
M	±20%

SHAPE AND DIMENSIONS





Recommended PCB pattern

Unit: mm

Series	A	B	C	D	E	F	a	b	c
AMWPH3015S	3.0±0.2	3.0±0.2	1.5±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	2.3 Typ.	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	2.8 Typ.	2.5 Typ.	2.2Typ.	5.7Typ.

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SPECIFICATIONS

AMWPH3015S Series

Parameters	Inductance	DC Resistance		Saturation Current	Heat Rating Current
	0.1MHz,1V	Max.	Typ.	Typ.	Typ.
Unit	uH	Ω		A	A
Symbol	L	DCR		Isat	Irms
AMWPH3015S1R0NT	1.0±30%	0.043	0.036	2.75	2.40
AMWPH3015S1R5NT	1.5±30%	0.052	0.043	2.20	2.22
AMWPH3015S2R2MT	2.2±20%	0.068	0.057	1.70	1.92
AMWPH3015S3R3MT	3.3±20%	0.098	0.082	1.50	1.55
AMWPH3015S4R7MT	4.7±20%	0.120	0.100	1.15	1.47
AMWPH3015S6R8MT	6.8±20%	0.180	0.150	1.00	1.20
AMWPH3015S100MT	10±20%	0.288	0.240	0.80	0.95
AMWPH3015S150MT	15±20%	0.360	0.300	0.70	0.84
AMWPH3015S220MT	22±20%	0.552	0.460	0.56	0.70
AMWPH3015S330MT	33±20%	1.092	0.910	0.48	0.50
AMWPH3015S470MT	47±20%	1.248	1.040	0.35	0.48
AMWPH3015S101MT	100±20%	2.880	2.400	0.25	0.30

AMWPH4018S Series

Parameters	Inductance	DC Resistance		Saturation Current	Heat Rating Current
	0.1MHz,1V	Max.	Typ.	Typ.	Typ.
Unit	uH	Ω		A	A
Symbol	L	DCR		Isat	Irms
AMWPH4018S1R0NT	*1.0±30%*	*0.036*	*0.030*	*5.50*	*3.00*
AMWPH4018S1R5NT	*1.5±30%*	*0.043*	*0.036*	*4.60*	*2.85*
AMWPH4018S2R2MT	*2.2±20%*	*0.060*	*0.050*	*4.00*	*2.55*
AMWPH4018S3R3MT	3.3±20%	0.066	0.055	2.90	2.50
AMWPH4018S4R7MT	4.7±20%	0.094	0.078	2.20	2.00
AMWPH4018S6R8MT	*6.8±20%*	*0.127*	*0.106*	*1.90*	*1.75*
AMWPH4018S8R2MT	*8.2±20%*	*0.172*	*0.143*	*1.85*	*1.50*
AMWPH4018S100MT	*10±20%*	*0.187*	*0.156*	*1.50*	*1.48*
AMWPH4018S120MT	*12±20%*	*0.278*	*0.232*	*1.75*	*1.10*
AMWPH4018S150MT	*15±20%*	*0.354*	*0.295*	*1.50*	*1.00*
AMWPH4018S220MT	*22±20%*	*0.408*	*0.340*	*1.20*	*0.95*
AMWPH4018S330MT	*33±20%*	*0.582*	*0.485*	*1.00*	*0.70*
AMWPH4018S470MT	*47±20%*	*0.774*	*0.645*	*0.70*	*0.65*

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SPECIFICATIONS

AMWPH5030S Series

Parameters	Inductance	DC Resistance		Saturation Current	Heat Rating Current
	0.1MHz,1V	Max.	Typ.	Typ.	Typ.
Unit	uH	Ω		A	A
Symbol	L	DCR		Isat	Irms
AMWPH5030SR47NT	*0.47±30%*	*0.013*	*0.011*	*13.00*	*5.15*
AMWPH5030S1R0NT	1.0±30%	0.017	0.014	9.50	4.55
AMWPH5030S1R5NT	*1.5±30%*	*0.022*	*0.018*	*7.50*	*4.00*
AMWPH5030S2R2MT	2.2±20%	0.038	0.032	7.10	3.20
AMWPH5030S3R3MT	3.3±20%	0.043	0.036	5.10	2.75
AMWPH5030S4R7MT	4.7±20%	0.068	0.057	4.50	2.40
AMWPH5030S100MT	10±20%	0.115	0.096	3.15	1.60
AMWPH5030S220MT	22±20%	0.254	0.212	*1.95*	0.88
AMWPH5030S330MT	33±20%	0.367	0.306	1.55	0.75

AMWPH6045S Series

Parameters	Inductance	DC Resistance		Saturation Current	Heat Rating Current
	0.1MHz,1V	Max.	Typ.	Typ.	Typ.
Unit	uH	Ω		A	A
Symbol	L	DCR		Isat	Irms
AMWPH6045SR55MT	0.55±20%	0.009	0.007	15.50	6.50
AMWPH6045S1R0MT	1.0±20%	0.013	0.010	10.50	5.90
AMWPH6045S1R5MT	1.5±20%	0.016	0.012	8.70	5.40
AMWPH6045S2R2MT	2.2±20%	0.020	0.016	6.90	4.70
AMWPH6045S4R7MT	4.7±20%	0.040	0.030	5.15	3.40
AMWPH6045S100MT	10±20%	0.060	0.049	3.45	2.70
AMWPH6045S150MT	15±20%	0.085	0.071	2.70	2.05
AMWPH6045S220MT	22±20%	0.140	0.116	2.25	1.75
AMWPH6045S470MT	47±20%	0.300	0.225	1.50	1.20
AMWPH6045S680MT	68±20%	0.395	0.328	1.30	1.00
AMWPH6045S101MT	100±20%	0.560	0.460	1.05	0.85

Note:

※1 : Rated current: Isat or Irms, whichever is smaller.
※2 : Saturation Current : DC current at which the inductance drops approximate 30% from its value without current.
※3 : Heat Rating Current: DC current that causes the temperature rise (ΔT=40℃) from 20℃ ambient;
The part temperature (ambient + temp. rise) should not exceed 125 °C 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

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