

Wire Wound SMD Power Inductors – WCRH Series

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



FEATURES

- Magnetic-resin shielded construction reduces buzz noise to ultra-low levels
- Metallization on ferrite core results in excellent shock resistance and damage-free durability
- Closed magnetic circuit design reduces leakage flux and Electro Magnetic Interference (EMI)
- Takes up less PCB real estate and save more power
- 30% lower DCR than WCRH series and larger current

APPLICATIONS

- Smart phone
- Blue -ray disc recorders, set top box
- Notebooks, desktop computers, servers
- Portable gaming devices, personal navigation systems, personal multimedia devices

PRODUCT IDENTIFICATION

WCRH

①

252012

②

S

③

2R2

④

M

⑤

I

⑥

① Type	
WCRH	Wire Wound SMD Power Inductor

③ Feature type	
S	Standard Product

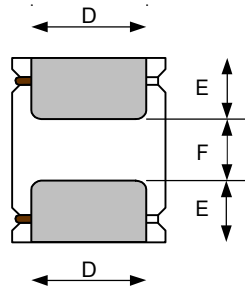
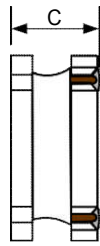
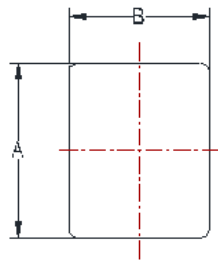
④ Nominal Inductance	
Example	Nominal Value
R47	0.47μH
2R2	2.2μH

⑤ Inductance Tolerance	
M	±20%

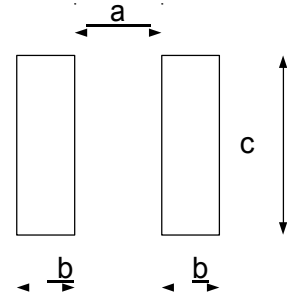
⑥ Packing	
T	Tape & Reel

② External Dimensions (L×W×H) [mm]	
201610	2.0×1.6×1.0
252010	2.5×2.0×1.0
252012	2.5×2.0×1.2

SHAPE AND DIMENSIONS



Land Pattern



Unit: mm

Series	A	B	C	D	E	F	a Typ.	b Typ.	c Typ.
WCRH201610S	2.0±0.2	1.6±0.2	1.0 Max.	1.2±0.2	0.60±0.2	0.80±0.2	0.70	0.70	1.7
WCRH252010S	2.5±0.2	2.0±0.2	1.0 Max.	1.5±0.2	0.80±0.2	0.80±0.2	0.80	0.85	2.0
WCRH252012S	2.5±0.2	2.0±0.2	1.2 Max.	1.5±0.2	0.80±0.2	0.80±0.2	0.80	0.85	2.0

WCRH201610 Series

Part Number	Inductance (μ H)	Tolerance ($\pm\%$)	DCR(m Ω)		Isat (A)		Irms(A)		Test Condition
			Max	Typ	Max	Typ	Max	Typ	
WCRH201610S-R24MT	0.24	20	40	33	3.70	4.10	2.80	3.10	1MHz /1.0V
WCRH201610S-R33MT	0.33	20	48	41	3.00	3.70	2.40	2.90	1MHz /1.0V
WCRH201610S-R47MT	0.47	20	60	50	2.30	2.85	2.30	2.60	1MHz /1.0V
WCRH201610S-R68MT	0.68	20	76	63	1.95	2.45	2.00	2.20	1MHz /1.0V
WCRH201610S-1R0MT	1.0	20	114	96	1.65	1.85	1.45	1.60	1MHz /1.0V
WCRH201610S-1R5MT	1.5	20	174	145	1.35	1.65	1.10	1.20	1MHz /1.0V
WCRH201610S-2R2MT	2.2	20	265	215	1.20	1.45	1.05	1.15	1MHz /1.0V
WCRH201610S-3R3MT	3.3	20	345	290	1.00	1.20	0.85	0.95	1MHz /1.0V
WCRH201610S-4R7MT	4.7	20	480	400	0.75	0.90	0.70	0.80	1MHz /1.0V
WCRH201610S-6R8MT	6.8	20	800	610	0.70	0.85	0.55	0.60	1MHz /1.0V
WCRH201610S-8R2MT	8.2	20	940	730	0.68	0.78	0.53	0.60	1MHz /1.0V
WCRH201610S-100MT	10	20	1000	800	0.65	0.70	0.50	0.60	1MHz /1.0V
WCRH201610S-120MT	12	20	1430	1100	0.62	0.70	0.36	0.42	1MHz /1.0V
WCRH201610S-220MT	22	20	1700	1400	0.32	0.38	0.32	0.36	1MHz /1.0V



TYPICAL ELECTRICAL CHARACTERISTICS

WCRH252010S Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	
		Max.	Typ.	Max.	Typ.	Max.	Typ.
Units	1MHz/1V μH	Ω	Ω	A	A	A	A
Symbol	L	DCR		Isat		Irms	
WCRH252010S-R24MT	0.24 ± 20%	0.034	0.026	3.60	4.40	2.75	3.00
WCRH252010S-R33MT	0.33 ± 20%	0.043	0.033	3.60	4.30	2.45	2.70
WCRH252010S-R47MT	0.47 ± 20%	0.044	0.033	2.80	3.20	2.40	2.60
WCRH252010S-R68MT	0.68 ± 20%	0.062	0.051	2.75	3.10	2.10	2.35
WCRH252010S-1R0MT	1.0 ± 20%	0.080	0.066	2.05	2.50	1.85	2.05
WCRH252010S-1R5MT	1.5 ± 20%	0.108	0.085	1.70	2.05	1.55	1.70
WCRH252010S-2R2MT	2.2 ± 20%	0.150	0.130	1.50	1.75	1.35	1.50
WCRH252010S-3R3MT	3.3 ± 20%	0.228	0.170	1.10	1.35	1.05	1.20
WCRH252010S-4R7MT	4.7 ± 20%	0.330	0.280	1.00	1.15	0.90	1.00
WCRH252010S-5R6MT	5.6 ± 20%	0.480	0.370	0.90	1.05	0.80	0.90
WCRH252010S-6R8MT	6.8 ± 20%	0.480	0.400	0.80	0.95	0.72	0.80
WCRH252010S-8R2MT	8.2 ± 20%	0.572	0.463	0.73	0.85	0.69	0.78
WCRH252010S-100MT	10 ± 20%	0.600	0.500	0.65	0.75	0.67	0.74
WCRH252010S-150MT	15 ± 20%	1.05	0.820	0.50	0.60	0.45	0.50

WCRH252012S Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	
		Max.	Typ.	Max.	Typ.	Max.	Typ.
Units	1MHz/1V μH	Ω	Ω	A	A	A	A
Symbol	L	DCR		Isat		Irms	
WCRH252012S-R24MT	0.24 ± 20%	0.023	0.019	4.10	4.80	4.10	4.50
WCRH252012S-R33MT	0.33 ± 20%	0.031	0.026	4.00	4.70	3.35	3.70
WCRH252012S-R47MT	0.47 ± 20%	0.036	0.031	3.80	4.50	3.00	3.30
WCRH252012S-R68MT	0.68 ± 20%	0.047	0.038	3.00	3.30	2.30	2.50
WCRH252012S-1R0MT	1.0 ± 20%	0.060	0.050	2.25	2.50	2.30	2.60
WCRH252012S-1R2MT	1.2 ± 20%	0.078	0.065	2.20	2.50	2.00	2.20
WCRH252012S-1R5MT	1.5 ± 20%	0.090	0.075	2.00	2.35	1.80	2.00
WCRH252012S-1R8MT	1.8 ± 20%	0.108	0.093	1.95	2.20	1.75	1.90
WCRH252012S-2R2MT	2.2 ± 20%	0.108	0.093	1.75	1.90	1.75	1.90
WCRH252012S-2R7MT	2.7 ± 20%	0.156	0.130	1.30	1.60	1.40	1.50
WCRH252012S-3R3MT	3.3 ± 20%	0.156	0.130	1.20	1.35	1.40	1.50
WCRH252012S-4R7MT	4.7 ± 20%	0.228	0.190	1.10	1.20	1.10	1.20
WCRH252012S-5R6MT	5.6 ± 20%	0.330	0.255	1.00	1.10	1.00	1.15
WCRH252012S-6R8MT	6.8 ± 20%	0.360	0.300	0.90	1.10	0.95	1.05
WCRH252012S-100MT	10 ± 20%	0.522	0.435	0.70	0.85	0.78	0.86
WCRH252012S-150MT	15 ± 20%	1.000	0.700	0.60	0.70	0.50	0.60
WCRH252012S-220MT	22 ± 20%	1.290	1.000	0.45	0.55	0.48	0.55

※1 : All test data is referenced to 20°C ambient;

※2 : Rated current: Isat or Irms, whichever is smaller;

※Isat: DC current at which the inductance drops approximate 30% from its value without current;

※Irms: DC current that causes the temperature rise (ΔT =40°C) from 20°C ambient.