

Wire Wound SMD Power Inductors – WPG Series



Operating Temp ◆ $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$ (Including self-heating)

Features

- ◆ Fe base metal material core provides large saturation current
- ◆ 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)
- ◆ Low DCR decreases power loss, small and slim take up less PCB real estate

Applications

- ◆ Smart phone, TV, VR, AR
- ◆ Notebooks, smart watch, servers
- ◆ Industrial instrument, security equipment

Product Identification

1

WPG

2

201210

3

UF

4

1R0

5

M

6

T

7

□□□

1

Type

WPG

Wire Wound SMD Power Inductor

2

External Dimensions (L×W×H) [mm]

201210

2.0×1.25×1.0

201610

2.0×1.6×1.0

252010

2.5×2.0×1.0

3

Feature Type

UF

Internal Code

6

Packing

T

Tape & Reel

4

Nominal Inductance

Example

Nominal Value

R47

0.47μH

1R0

1.0μH

5

Inductance Tolerance

N

±30%

M

±20%

7

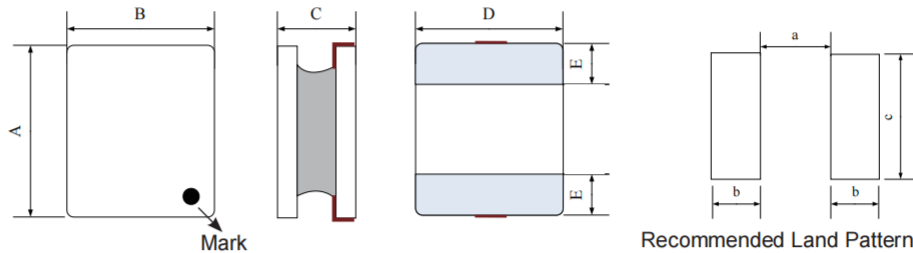
Design Code

□□□

Design Code

* Standard product is blank

Shape and Dimensions



Unit: mm

Series	A	B	C	D	E	a Typ.	b Typ.	c Typ.
WPG201210UF	2.0±0.2	1.25±0.2	1.0 Max.	1.25±0.2	0.60±0.2	0.70	0.70	1.40
WPG201610UF	2.0±0.2	1.6±0.2	1.0 Max.	1.6±0.2	0.60±0.2	0.70	0.70	1.70
WPG252010UF	2.5±0.2	2.0±0.2	1.0 Max.	2.0±0.2	0.60±0.2	1.20	0.80	2.00

Specifications

WPG201210UF Series

Part Number	Inductance	Max. DC Resistance		Self-resonant Frequency	Saturation Current		Heat Rating Current	
	@1MHz,1V	Max.	Typ.	Min.	Max.	Typ.	Max.	Typ.
Units	μH	Ω		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
WPG201210UFR11MT	0.11 ± 20%	0.013	0.011	209	9.60	10.5	5.50	6.35
WPG201210UFR24MT	0.24 ± 20%	0.024	0.020	133	7.10	7.80	4.80	5.50
WPG201210UFR33MT	0.33 ± 20%	0.034	0.028	118	6.00	6.60	3.40	3.80
WPG201210UFR47MT	0.47 ± 20%	0.039	0.033	87	4.70	5.15	3.10	3.50
WPG201210UF1R0MT	1.0 ± 20%	0.080	0.067	61	3.10	3.40	2.80	3.20

WPG201610UF Series

Part Number	Inductance	Max. DC Resistance		Self-resonant Frequency	Saturation Current		Heat Rating Current	
	@1MHz,1V	Max.	Typ.	Min.	Max.	Typ.	Max.	Typ.
Units	μH	Ω		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
WPG201610UFR24MT	0.24 ± 20%	0.018	0.015	122	6.50	7.20	4.90	5.60
WPG201610UFR33MT	0.33 ± 20%	0.022	0.018	98	6.00	6.60	4.75	5.15
WPG201610UFR47MT	0.47 ± 20%	0.030	0.025	81	5.00	5.50	4.10	4.50
WPG201610UF1R0MT	1.0 ± 20%	0.055	0.047	50	3.60	4.00	3.00	3.30
WPG201610UF2R2MT	2.2 ± 20%	0.140	0.120	31	2.70	3.00	2.15	2.35

WPG252010UF Series

Part Number	Inductance	Max. DC Resistance		Self-resonant Frequency	Saturation Current		Heat Rating Current	
	@1MHz,1V	Max.	Typ.	Min.	Max.	Typ.	Max.	Typ.
Units	μH	Ω		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
WPG252010UFR24MT	0.24 ± 20%	0.018	0.015	148	9.00	9.90	5.15	5.65
WPG252010UFR33MT	0.33 ± 20%	0.022	0.018	115	8.20	9.00	4.70	5.15
WPG252010UFR47MT	0.47 ± 20%	0.030	0.025	100	6.55	7.20	4.00	4.40
WPG252010UF1R0MT	1.0 ± 20%	0.050	0.042	54	4.40	4.80	3.40	3.70
WPG252010UF1R5MT	1.5 ± 20%	0.068	0.060	39	3.60	3.95	2.60	2.90
WPG252010UF2R2MT	2.2 ± 20%	0.093	0.083	32	2.70	2.95	2.25	2.45
WPG252010UF3R3MT	3.3 ± 20%	0.130	0.110	27	2.00	2.20	1.90	2.10
WPG252010UF4R7MT	4.7 ± 20%	0.180	0.160	23	1.65	1.80	1.60	1.75

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

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

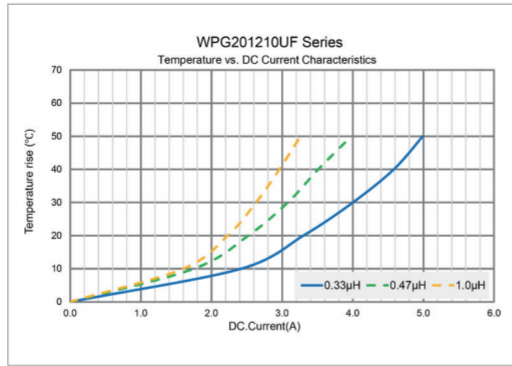
※3: Isat: DC current at which the inductance drops approximate 30% from its value without current;

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

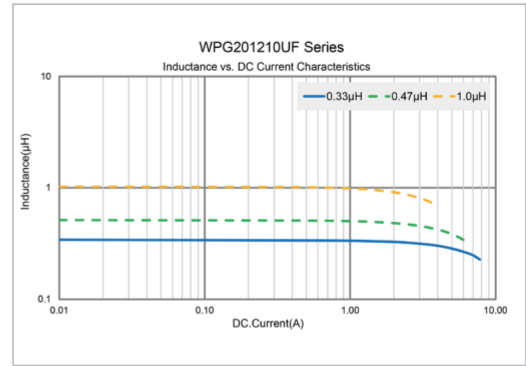
Typical Electrical Characteristics

WPG201210UF Series

Temperature vs. DC Current Characteristics

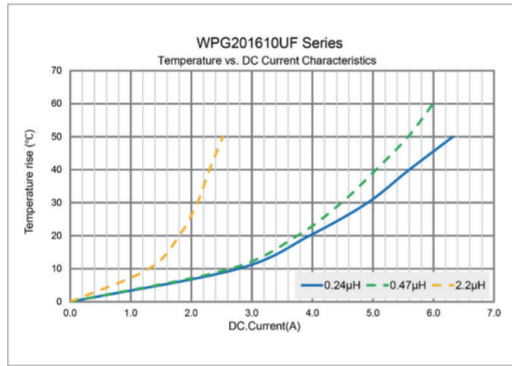


Inductance vs. DC Current Characteristics

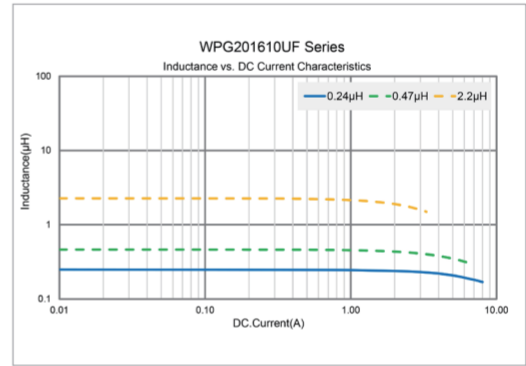


WPG201610UF Series

Temperature vs. DC Current Characteristics

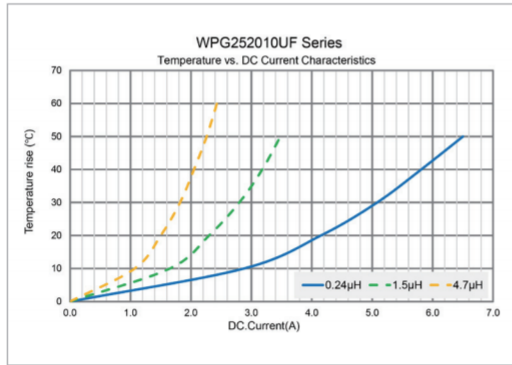


Inductance vs. DC Current Characteristics



WPG252010UF Series

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics

