

# Wire Wound Molded SMD Power Inductors-WT Series

Operating Temp. : -55°C~+155°C(Including self-heating)



## FEATURES

- Extremely low DCR and ultra low AC losses for high switching frequencies (up to 5MHz)
- Closed magnetic circuit design reduces leakage flux and Electro Magnetic Interference (EMI)
- Excellent saturation characteristics
- Ultra wide temperature range of application(-55~155°C)
- No thermal aging issues
- High reliability

## APPLICATIONS

- High-end phones, tablets, 5G modules
- Server, base station, etc.
- Various DC-DC conversion power modules

## PRODUCT IDENTIFICATION

**WT**

①



②

**0430**

③

**T**

④

**1R0**

⑤

**M**

⑥

**T**

⑦

① Type	
WT	Molded SMD Power Inductors

② Feature Type	
X	Standard Type
H	Special Type

③ External Dimensions(LxWxH) [mm]	
252012	2.5×2.0×1.2
322512	3.2×2.5×1.2
0415	4.0×4.0×1.5
0420	4.0×4.0×2.1
0430	4.0×4.0×3.1

④ Feature Type	
T	Internal Code
TA	

⑤ Nominal Inductance	
Example	Nominal Value
1R0	1.0μH
4R7	4.7μH

⑥ Inductance Tolerance	
N	±30%
M	±20%

⑦ Packing	
T	Tape & Reel

## SHAPE AND DIMENSIONS

Fig.1

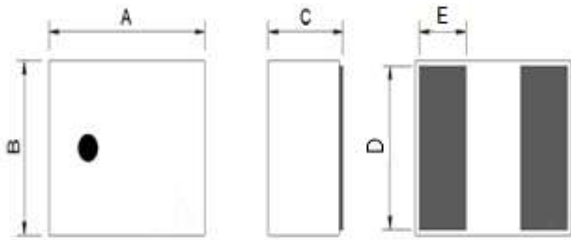


Fig.2

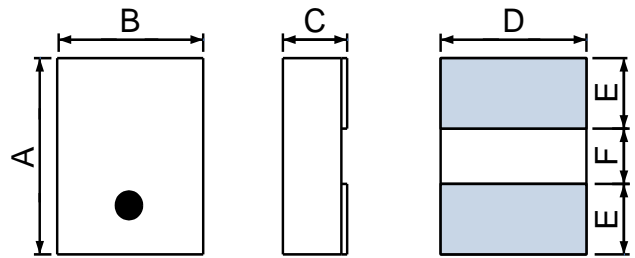
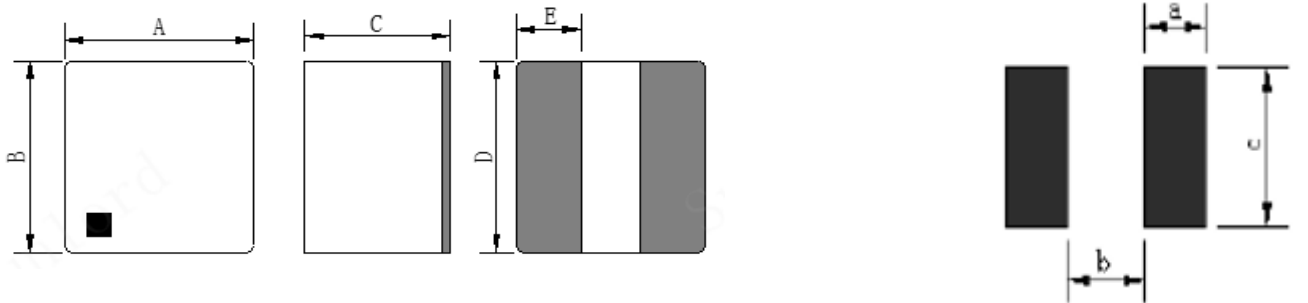


Fig.3



Recommended Land Pattern

Unit: mm

Series	Shape	A	B	C Max.	D	E	F	a	b	c
WTX(E)252012	Fig.1	2.5±0.1	2.0±0.1	1.2	1.96±0.1	0.78±0.1	/	0.9typ.	0.8typ.	2.1typ.
WTX(E)322512	Fig.2	3.2±0.2	2.5±0.2	1.2	2.5±0.2	1.15±0.2	0.9±0.2	1.2typ.	0.8typ.	2.5typ.
WTH0415	Fig.3	4.0±0.3	4.0±0.3	1.5	4.1typ.	1.3±0.3	/	1.6typ.	1.1min.	4.3max
WTX0420	Fig.3	4.0±0.3	4.0±0.3	2.1	4.1typ.	1.3±0.3	/	1.6typ.	1.1min.	4.3max
WTHE0420	Fig.3	4.0±0.3	4.0±0.3	2.0	4.1typ.	1.3±0.3	/	1.6typ.	1.1min.	4.3max
WTX0430	Fig.3	4.0±0.3	4.0±0.3	3.1	4.1typ.	1.3±0.3	/	1.6typ.	1.1min.	4.3max

## SPECIFICATIONS

### WTX(E)252012 Series

Part Number	Inductance	DC Resistance		Self-resonant Frequency	Saturation Current		Heat Rating Current	
	@1MHz	Max.	Typ.	Min.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
WTXE252012TR22MT	0.22±20%	10	8	/	10	11.5	9	10
WTX252012TA1R0MT	1.0±20%	29	26	/	3.7	4.0	3	3.5
WTXE252012TA1R5MT	1.5±20%	44	40	/	3.5	4.0	4.5	5.0
WTX252012TA4R7MT	4.7±20%	150	125	/	2.0	2.4	1.5	2.0

### WTX(E)322512 Series

Part Number	Inductance	DC Resistance		Self-resonant Frequency	Saturation Current		Heat Rating Current	
	@1MHz	Max.	Typ.	Min.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
WTX322512TR10MT	0.1±20%	4.2	3.3	/	13.0	15.5	7.6	8.6

## SPECIFICATIONS

### WTX(E)322512 Series

Part Number	Inductance	DC Resistance		Self-resonant Frequency	Saturation Current		Heat Rating Current	
	@1MHz	Max.	Typ.	Min.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
WTXE322512TR30MT	0.3±20%	9.0	7.2	/	6.5	7.4	5.5	6.5
WTX322512TAR47MT	0.47±20%	24	20	80	9.0	9.9	6.1	6.8
WTXE322512TR47MT	0.47±20%	13.0	11.8	/	6.5	7.2	7.5	8.3
WTXE322512TR68MT	0.68±20%	16.5	15.0	/	5.5	6.5	6.6	7.3
WTX322512TA1R0MT	1.0±20%	36	30	45	6.4	7.1	4.0	4.4

### WTH0415T Series

Part Number	Inductance	DC Resistance		Self-resonant Frequency	Saturation Current		Heat Rating Current	
	@1MHz	Max.	Typ.	Min.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
WTH0415TR33MT	0.33±20%	4.8	4.4	83	13.0	14.5	13.9	16.0
WTH0415TR47MT	0.47±20%	6.1	5.5	64	9.5	11.5	11.3	13.0
WTH0415TR68MT	0.68±20%	9.2	8.3	52	8.0	9.6	9.6	11.0
WTH0415T1R0MT	1.0±20%	12.5	11.3	40	6.0	7.4	8.3	9.5

### WTX0420T Series

Part Number	Inductance	DC Resistance		Self-resonant Frequency	Saturation Current		Heat Rating Current	
	@1MHz	Max.	Typ.	Min.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
WTX0420TR33MT	0.33±20%	3.6	3.0	79	15.7	18.1	19.9	23.0
WTX0420TR47MT	0.47±20%	4.5	4.1	61	11.2	13.4	17.0	19.7
WTX0420TR68MT	0.68±20%	6.4	5.8	50	9.8	12.0	12.8	14.8
WTX0420TR82MT	0.82±20%	6.4	5.8	40	8.2	10.4	12.8	14.8
WTX0420T1R0MT	1.0±20%	8.4	7.6	39	7.6	9.0	11.7	13.5
WTX0420T1R5MT	1.5±20%	13.6	12.4	32	6.3	7.5	9.5	11
WTX0420T2R2MT	2.2±20%	22.7	20.6	26	5.6	6.4	7.8	9
WTX0420T3R3MT	3.3±20%	28.6	26.0	18	4.7	5.4	6.6	7.3

### WTHE0420T Series

Part Number	Inductance	DC Resistance		Self-resonant Frequency	Saturation Current		Heat Rating Current	
	@1MHz	Max.	Typ.	Min.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		Irms	
WTHE0420TR47MT	0.47±20%	4.8	4.2	58	8.5	10.0	16.0	18.0
WTHE0420TR68MT	0.68±20%	6.4	5.8	48	7.8	9.0	14.0	16.0
WTHE0420T1R0MT	1.0±20%	8.4	7.4	38	6.5	8.0	12.0	14.0
WTHE0420T1R2MT	1.2±20%	9.9	9.0	35	5.4	6.2	10.5	12.5

# SPECIFICATIONS

## WTX0430T Series

Part Number	Inductance	DC Resistance		Self-resonant Frequency	Saturation Current		Heat Rating Current	
	@1MHz	Max.	Typ.	Min.	Max.	Typ.	Max.	Typ.
Units	$\mu\text{H}$	$\text{m}\Omega$		MHz	A		A	
Symbol	L	DCR		S.R.F	Isat		I <sub>rms</sub>	
WTX0430TR33MT	0.33±20%	2.2	2.0	76.4	18.8	21.4	19.4	22.4
WTX0430TR47MT	0.47±20%	3.1	2.6	62.4	15.6	17.7	17.0	19.6
WTX0430TR68MT	0.68±20%	3.9	3.5	50.0	14.3	16.3	14.1	16.2
WTX0430T1R0MT	1.0±20%	5.7	5.2	42.7	11.9	13.5	12.6	14.5
WTX0430T1R5MT	1.5±20%	8.6	7.8	33.7	9.6	11.0	9.8	11.3
WTX0430T2R2MT	2.2±20%	11.8	10.7	24.5	7.1	8.1	9.0	10.3
WTX0430T3R3MT	3.3±20%	17.7	16.1	21.6	5.3	5.8	8.0	8.3
WTX0430T4R7MT	4.7±20%	23.4	21.3	18.6	4.8	5.5	6.1	7.0
WTX0430T6R8MT	6.8±20%	37.4	34.0	14.3	4.1	4.8	4.6	5.3

※1: Rated current: Isat or I<sub>rms</sub>, whichever is smaller;

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

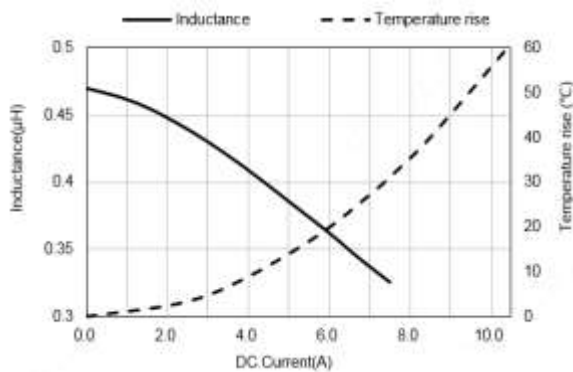
※3: I<sub>rms</sub>: DC current that causes the temperature rise ( $\Delta T = 40^\circ\text{C}$ ) from  $20^\circ\text{C}$  ambient.

# TYPICAL ELECTRICAL CHARACTERISTICS

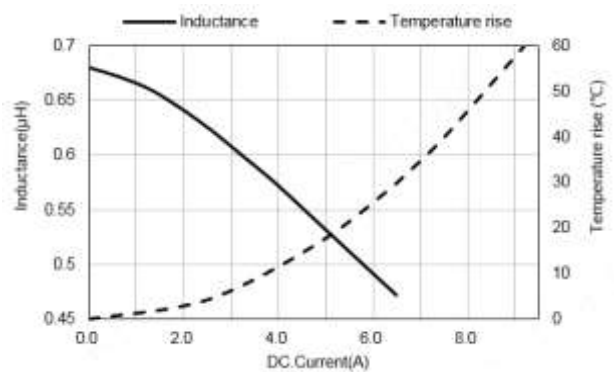
## WTXE322512T Series

### Inductance & Temperature vs. DC Current Characteristics

WTXE322512TR47MT



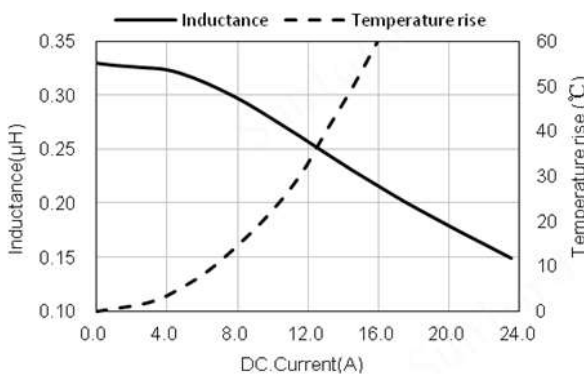
WTXE322512TR68MT



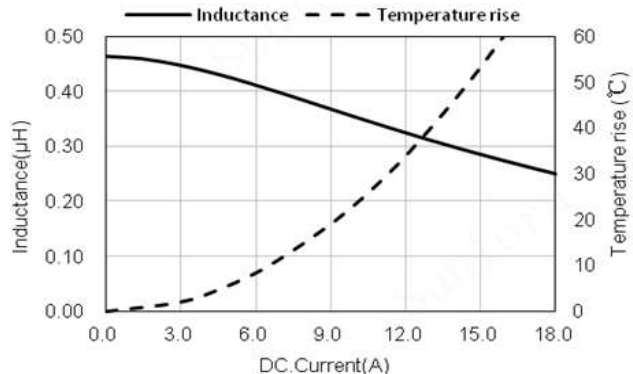
## WTH0415T Series

### Inductance & Temperature vs. DC Current Characteristics

WTH0415TR33MT



WTH0415TR47MT

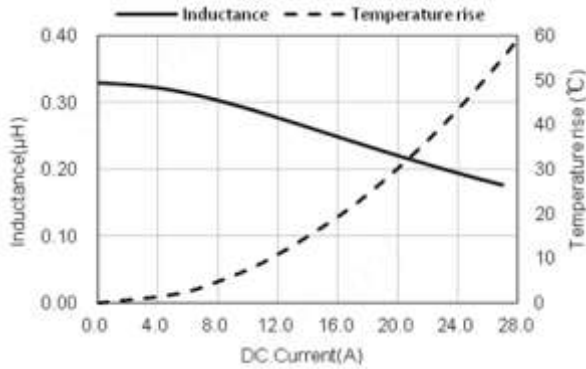


# TYPICAL ELECTRICAL CHARACTERISTICS

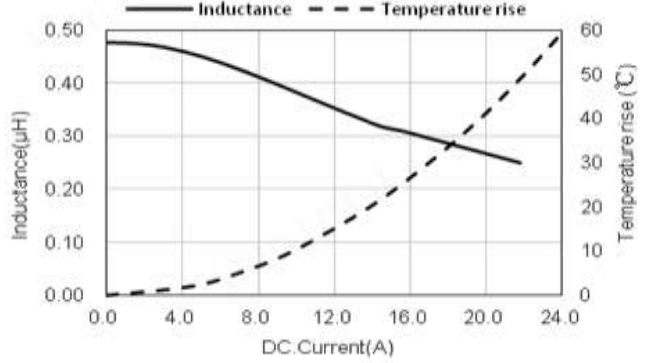
## WTX0420T Series

### Inductance & Temperature vs. DC Current Characteristics

WTX0420TR33MT



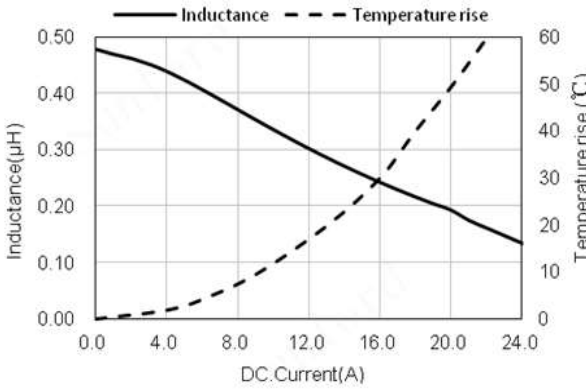
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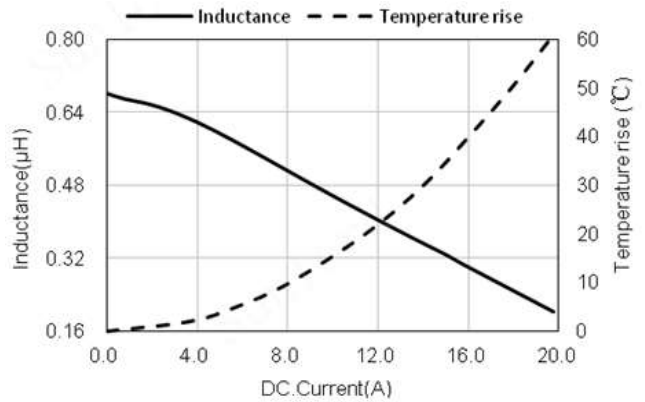
## WTHE0420T Series

### Inductance & Temperature vs. DC Current Characteristics

WTHE0420TR47MT



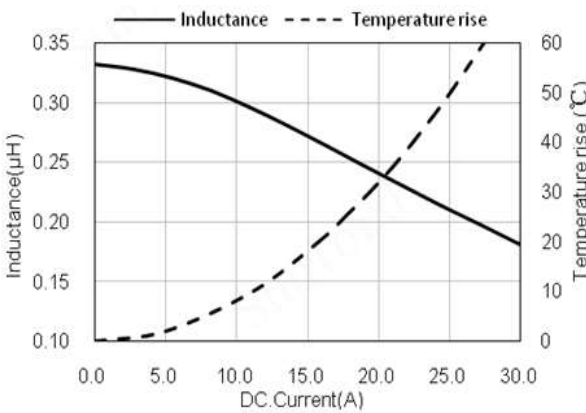
WTHE0420TR68MT



## WTX0430T Series

### Inductance & Temperature vs. DC Current Characteristics

WTX0430TR33MT



WTX0430TR47MT

