

Assembled SMD Power Inductors – WPZ Series

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



FEATURES

- High saturation characteristic core for large saturation current and low loss
- Closed magnetic circuit design reduces leakage flux
- High precision DCR
- Halogen free, RoSH compliant

APPLICATIONS

- Server, desktop computer, notebook
- Graphics, memory
- Industrial equipment, telecomm base station

PRODUCT IDENTIFICATION

WPZ

①

100807

②

S

③

R12

④

K

⑤

T

⑥

□□□

⑦

①	Type
WPZ	SMD Power Inductor

③	Feature Type
S	Standard Type

②	External Dimensions(LxWxH) [mm]
040404	4.0x4.1x4.0
050506	5.0x5.2x6.6
070703	7.0x7.0x3.55
070704	6.8x7.3x4.2
080805	7.3x7.5x5.5
090608	6.4x9.6x8.0
090704	7.5x9.5x4.0
090709	7.5x9.5x9.0
100705	7.0x10.2x5.0
100710	7.0x10.0x10
100807	8.0x10.3x7.0
100808	8.1x10.1x7.5
110707	7.4x11.0x7.7
111109	11.0x11.3x9.1
120808	8.0x12.0x8.1
130803	8.5x13.5x2.9
131308	12.8x13.7x8.1
150705	7.0x15.0x5.0
151506	15x15.65x5.6
161203	15.3x11.3x3.0
181103	11.4x18x3.0
220806	8.2x22.2x6.5

④	Nominal Inductance
Example	Nominal Value
23N	23nH
R12	120nH

⑤	Inductance Tolerance
K	±10%
L	±15%
M	±20%

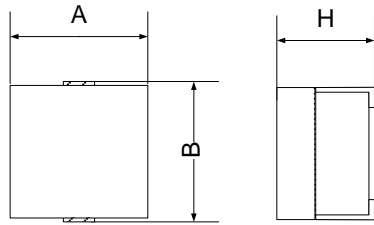
⑥	Packing
T	Tape & Reel

⑦	Design Code
□□□	Design Code
* Standard product is blank	

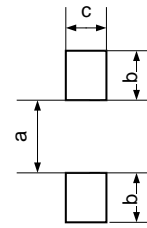
WPZ Series (2 pins)

SHAPE AND DIMENSIONS

Fig.1



Recommended Land Pattern (Typ.)



Unit: mm

Series	A Max.	B Max.	H Max.	a Typ.	b Typ.	c Typ.
WPZ040404	4.0	4.1	4.0	0.7	1.8	1.4
WPZ050506	5.0	5.2	6.6	1.2	2.1	2.4
WPZ070704	6.8	7.3	4.2	1.7	2.7	1.6
WPZ080805	7.3	7.5	5.5	2.0	2.8	3.0
WPZ090608S002	6.4	9.6	8.0	4.0	2.54	3.2
WPZ090704	7.5	9.5	4.0	5.8	1.8	4.5
WPZ090709	7.5	9.5	9.0	5.8	1.8	4.5
WPZ100705	7.0	10.2	5.0	6.4	2.0	3.0
WPZ100710S002	7.0	10.0	10	4.4	3.2	2.8
WPZ100807	8.0	10.3	7.0	4.7	3.3	2.5
WPZ100807S002	8.0	10.4	7.5	4.7	3.0	2.5
WPZ100808	8.1	10.1	7.5	4.9	3.0	2.5
WPZ110707	7.4	11.0	7.7	3.5	3.7	2.1
WPZ111109	11.0	11.3	9.1	5.5	3.0	2.5
WPZ120808	8.0	12.0	8.1	6.2	3.0	2.0
WPZ130803	8.5	13.5	2.9	11.95	0.9	8.9
WPZ131308	12.8	13.7	8.1	7.2	3.2	7.6
WPZ150705	7.0	15.0	5.0	10.0	2.5	4.5
WPZ220806	8.2	22.2	6.5	15.6	3.4	3.0

SPECIFICATIONS

Part Number	Inductance	L Test Condition	DC Resistance	Saturation Current	Heat Rating Current
Units	nH	/	mΩ	A	A
Symbol	L		DCR	I _{sat}	I _{rms}
WPZ040404S50NKT	50±10%	@100kHz, 1V	0.30±10%	35	48
WPZ040404S65NKT	65±10%			30	
WPZ040404SR10KT	100±10%			17	
WPZ050506SR10KT	100±10%		0.47±7%	35	40
WPZ050506SR15KT	150±10%			22	
WPZ070704S72NMT	72±20%		0.32±10%	27	15
WPZ070704SR10MT	100±20%			20	
WPZ070704SR12MT	120±20%			16	
WPZ070704SR15MT	150±20%			13	
WPZ070704SR18MT	180±20%			11	
WPZ070704SR23MT	226±20%			8.5	
WPZ080805S32NKT	32±10%		0.17±10%	115	35

SPECIFICATIONS

Part Number	Inductance	L Test Condition	DC Resistance	Saturation Current	Heat Rating Current
Units	nH	/	mΩ	A	A
Symbol	L		DCR	Isat	Irms
WPZ080805S60NKT	60±10%	@100kHz,1V	0.17±10%	70	35
WPZ080805S70NKT	70±10%			60	
WPZ080805SR10KT	100±10%			38	
WPZ080805SR15KT	150±10%			25	
WPZ080805SR20KT	200±10%			18	
WPZ090608SR10KT002	100±10%	@1MHz,0.1V	0.29±5%	94	51
WPZ090608SR12KT002	120±10%			79	
WPZ090608SR15KT002	150±10%			65	
WPZ090608SR18KT002	180±10%			55	
WPZ090608SR22KT002	220±10%			44	
WPZ090608SR28KT002	280±10%			34	
WPZ090608SR30KT002	300±10%		32.5		
WPZ090704S70NLT	70±15%	@0.8MHz,1V	0.32±10%	78	39
WPZ090704SR10LT	100±15%			55	
WPZ090704SR14LT	140±15%			39	
WPZ090704SR18LT	175±15%			31	
WPZ090709SR10LT	100±15%		0.17±20%	80	50
WPZ090709SR12LT	120±15%			66	
WPZ090709SR15LT	150±15%			53	
WPZ090709SR18LT	180±15%			44	
WPZ090709SR22LT	220±15%			36	
WPZ090709SR28LT	280±15%			28	
WPZ090709SR30LT	300±15%		26		
WPZ100705SR12KT	120±10%	@100kHz,1V	0.35±10%	63	31
WPZ100705SR15KT	150±10%			52	
WPZ100705SR20KT	200±10%			37	
WPZ100705SR30KT	300±10%			21	
WPZ100710S70NKT002	70±10%		0.17±10%	>150	68
WPZ100710SR10KT002	100±10%			136	
WPZ100710SR12KT002	120±10%			110	
WPZ100710SR15KT002	150±10%			92	
WPZ100710SR18KT002	180±10%			75	
WPZ100710SR22KT002	220±10%			62	
WPZ100710SR28KT002	280±10%			48	
WPZ100710SR33KT002	330±10%			41	
WPZ100807SR12KT	120±10%	0.29±10%	80	60	
WPZ100807SR15KT	150±10%		72		
WPZ100807SR17KT	170±10%		58		
WPZ100807SR22KT	220±10%		46		
WPZ100807SR30KT	300±10%		32		
WPZ100807SR33KT	330±10%		28		
WPZ100807SR12KT002	115±10%	0.29±5%	94	61	
WPZ100807SR15KT002	150±10%		76		
WPZ100807SR17KT002	175±10%		66		
WPZ100807SR22KT002	215±10%		50		
WPZ100807SR23KT002	230±10%		48		
WPZ100807SR27KT002	270±10%		40		
WPZ100807SR30KT002	300±10%		35		
WPZ100808SR15KT	150±10%	0.29±10%	70	56	
WPZ100808SR20KT	200±10%		50		

SPECIFICATIONS

Part Number	Inductance	L Test Condition	DC Resistance	Saturation Current	Heat Rating Current
Units	nH	/	mΩ	A	A
Symbol	L		DCR	Isat	Irms
WPZ110707S70NKT	70±10%	@100kHz,1V	0.29±10%	>150	56
WPZ110707SR12KT	120±10%			95	
WPZ110707SR15KT	150±10%			80	
WPZ110707SR17KT	170±10%			70	
WPZ110707SR23KT	230±10%			50	
WPZ110707SR30KT	300±10%			37	
WPZ110707SR40KT	400±10%			25	
WPZ110707SR50KT	500±10%			18	
WPZ110707SR51KT	510±10%			18	
WPZ111109SR20KT	200±10%		90	35	
WPZ111109SR25KT	250±10%		70		
WPZ111109SR27KT	270±10%		60		
WPZ111109SR30KT	300±10%		55		
WPZ111109SR47KT	470±10%		30		
WPZ111109SR56KT	560±10%		25		
WPZ111109S1R0KT	1000±10%		12		
WPZ120808SR15KT	150±10%		0.29±5%	85	50
WPZ120808SR18KT	180±10%			72	
WPZ120808SR21KT	210±10%	65			
WPZ120808SR23KT	230±10%	60			
WPZ120808SR25KT	250±10%	52			
WPZ130803SR11KT	110±10%	@100kHz,0.1V	0.45±10%	65	30
WPZ130803SR15KT	145±10%			50	
WPZ130803SR21KT	210±10%			34	
WPZ130803SR26KT	260±10%			27	
WPZ130803SR32KT	320±10%			22	
WPZ130803SR44KT	440±10%			16	
WPZ131308SR11KT	110±10%	@100kHz,1V	0.19±10%	140	68
WPZ131308SR21KT	210±10%			80	
WPZ131308SR26KT	260±10%			60	
WPZ131308SR32KT	320±10%			45	
WPZ131308SR44KT	440±10%			35	
WPZ150705SR10KT	100±10%	@100kHz,1V	0.47±10%	105	53
WPZ150705SR12KT	120±10%			87	
WPZ150705SR15KT	150±10%			72	
WPZ150705SR25KT	250±10%			42	
WPZ150705SR30KT	300±10%			35	
WPZ150705SR40KT	400±10%			24	
WPZ220806SR23KT	230±10%	@1MHz,0.1V	0.16 Max.	75	60

Note:

※1: Isat: DC current at which the inductance drops approximate 20% from its value without current;

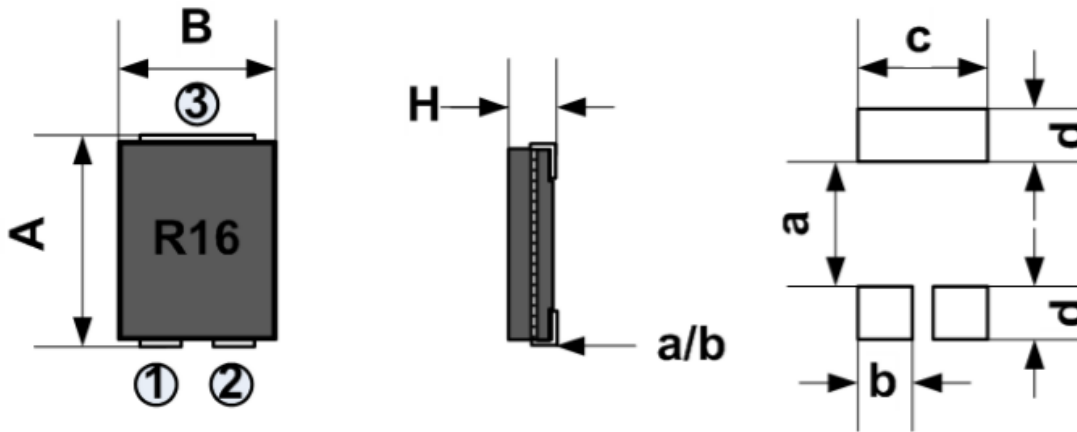
※2: Irms: DC current that causes the temperature rise (ΔT) from 25°C ambient when two coils connected in series, ΔT is approximate 40°C.

WPZ Series (3 pins)

SHAPE AND DIMENSIONS

Fig.2

Recommended Land Pattern (Typ.)



Unit: mm

Series	A Max.	B Max.	H Max.	a Typ.	b Typ.	c Typ.	d Typ.
WPZ161203	15.3	11.3	3.0	8.6	3.9	9.5	3.9
WPZ181103	11.4	18	3.0	11.6	3.7	9.0	3.2

SPECIFICATIONS

Part Number	Inductance (pin1-3 or pin2-3)	DC Resistance (pin1-3 or pin2-3)	Saturation Current (pin1-3 or pin2-3)	Heat Rating Current (pin1-3 or pin2-3)
	Units	nH	mΩ	A
	Symbol	L	DCR	Isat
WPZ161203SR16KT	160 ± 10% @ 1MHz, 1V	0.66max	55	28.5
WPZ181103SR25KT	250 ± 10% @ 300kHz, 1V	0.66max	30	25

Note:

※1: Isat: DC current at which the inductance drops approximate 20% from its value without current;

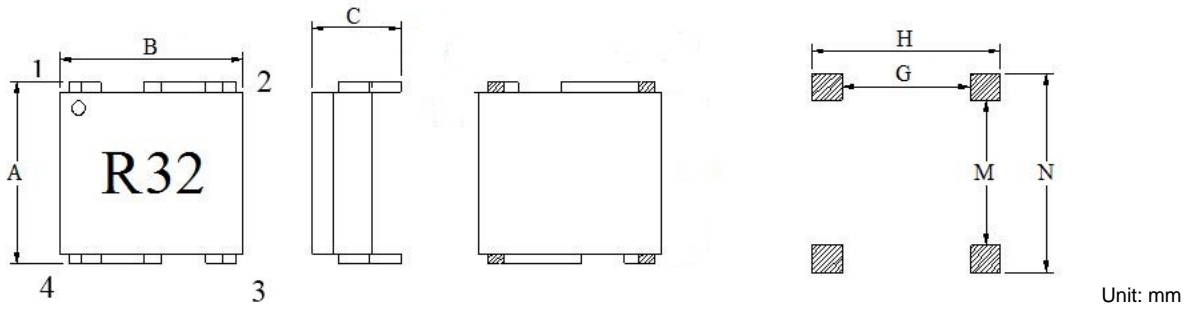
※2: Irms: DC current that causes the temperature rise (ΔT) from 25°C ambient when two coils connected in series, ΔT is approximate 40°C.

WPZ Series (4 pins)

SHAPE AND DIMENSIONS

Fig.3

Recommended Land Pattern (Typ.)

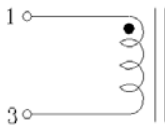


Unit: mm

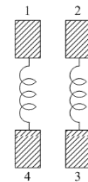
Series	A Max.	B Max.	C Max.	G Typ.	H Typ.	M Typ.	N Typ.
WPZ070703	7.0	7.0	3.55	4.7	6.9	5.5	7.5
WPZ151506	15	15.65	5.6	7.3	11.9	14.9	15.4

EQUIVALENT CIRCUIT

WPZ070703



WPZ151506



SPECIFICATIONS

Part Number	Inductance (Pin1-3)	DC Resistance (Pin1-3)	Saturation Current	Heat Rating Current
	@1MHz,0.1V	/	/	/
Units	nH	mΩ	A	A
Symbol	L	DCR	Isat	Irms
WPZ070703S72NMT	72 ± 20%	2.2 ± 15%	62	15
WPZ070703SR11MT	105 ± 20%		42	
WPZ070703SR12MT	120 ± 20%		37	
WPZ070703SR15MT	150 ± 20%		29	
WPZ070703SR18MT	180 ± 20%		24	
WPZ070703SR22MT	220 ± 20%		20	
WPZ070703SR32MT	320 ± 20%		14	

Part Number	Inductance (Pin1-4 or Pin2-3)	DC Resistance (Pin1-4 or Pin2-3)	Saturation Current	Heat Rating Current
	@100kHz,1V	/	/	/
Units	nH	mΩ	A	A
Symbol	L	DCR	Isat	Irms
WPZ151506SR18KT	180 ± 10%	0.18Max	49.0	/

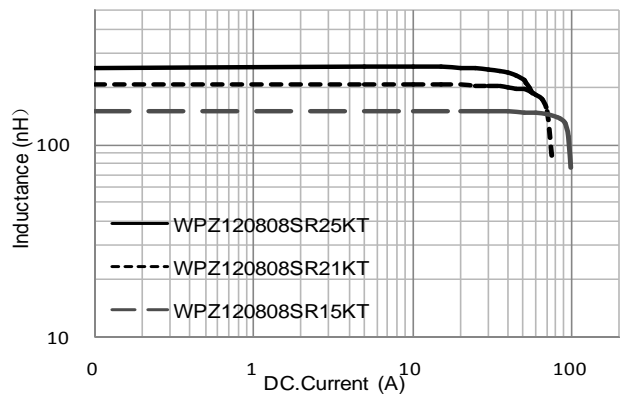
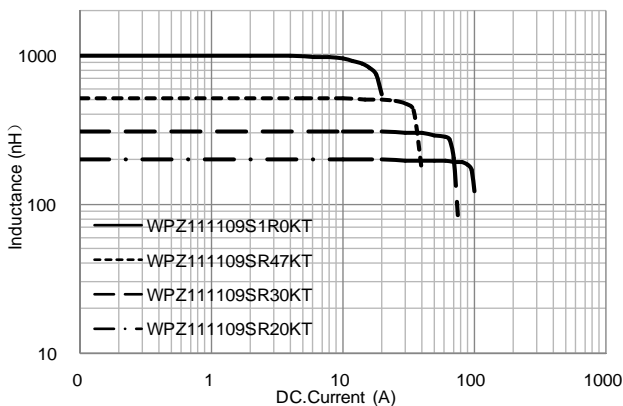
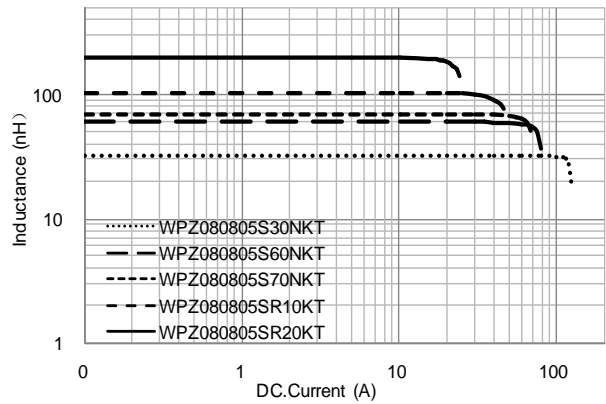
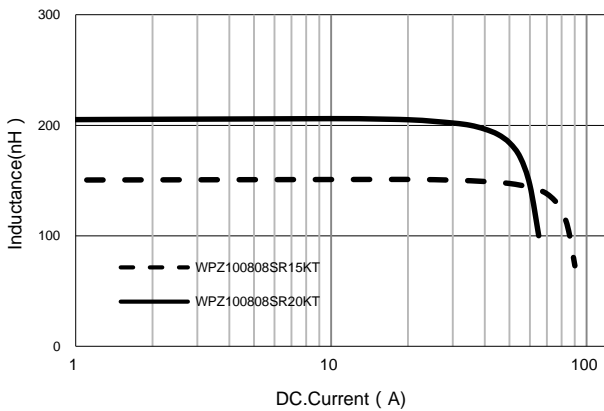
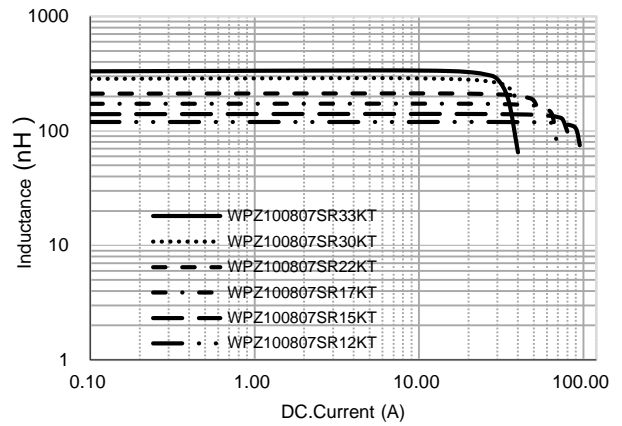
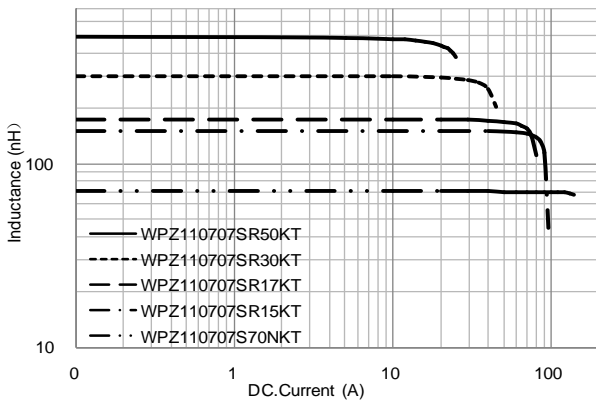
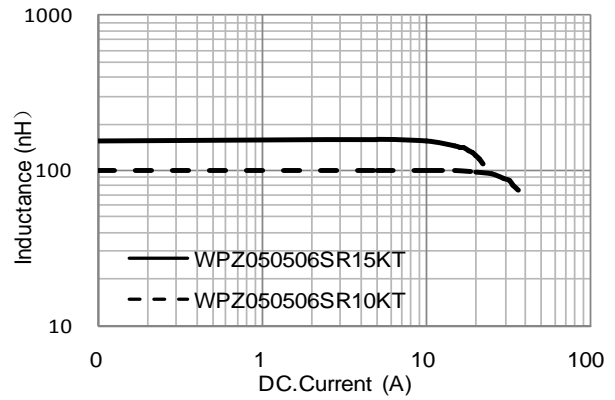
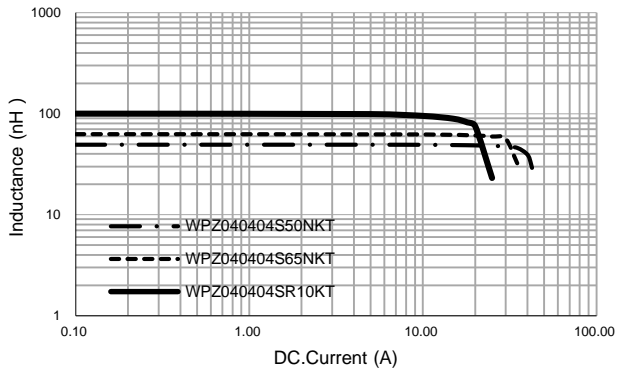
Note:

※1: Isat: DC current at which the inductance drops approximate 20% from its value without current;

※2: Iirms: DC current that causes the temperature rise (ΔT) from 25°C ambient when two coils connected in series, ΔT is approximate 40°C.

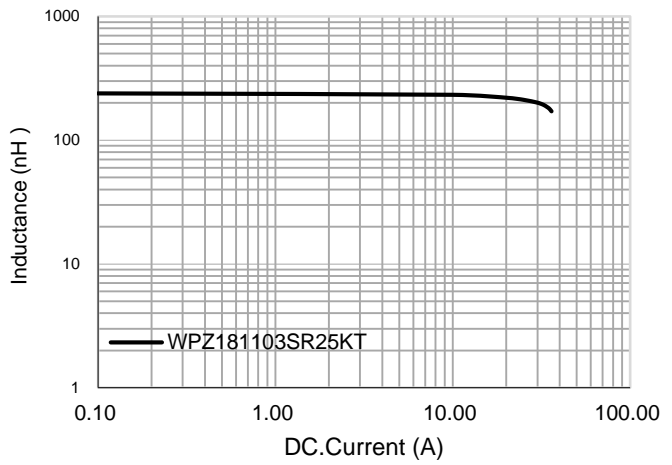
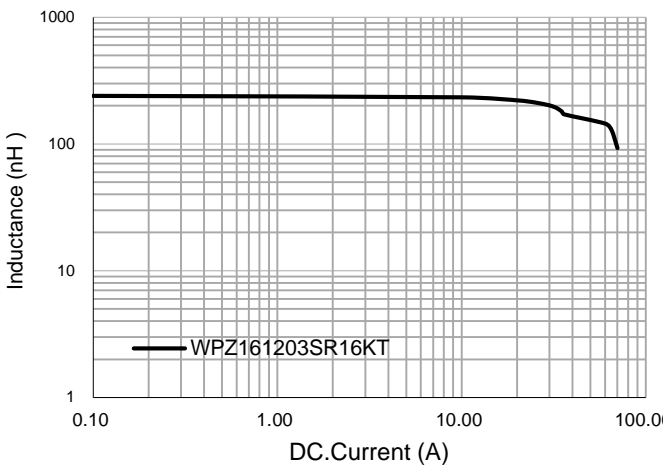
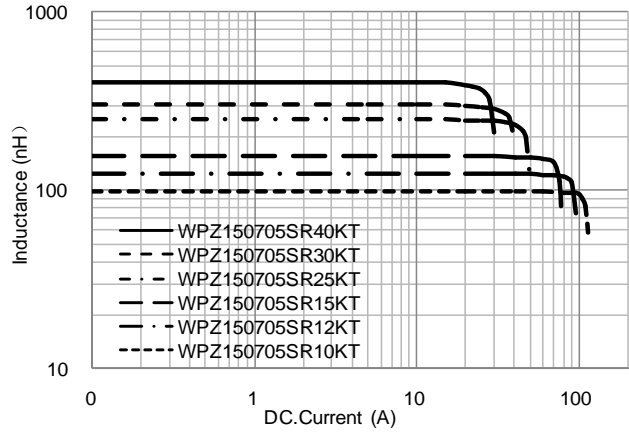
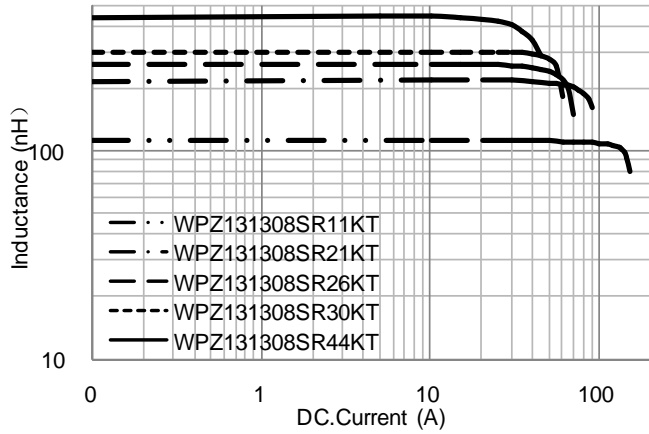
TYPICAL ELECTRICAL CHARACTERISTICS

Inductance vs. DC Current Characteristics



TYPICAL ELECTRICAL CHARACTERISTICS

Inductance vs. DC Current Characteristics



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