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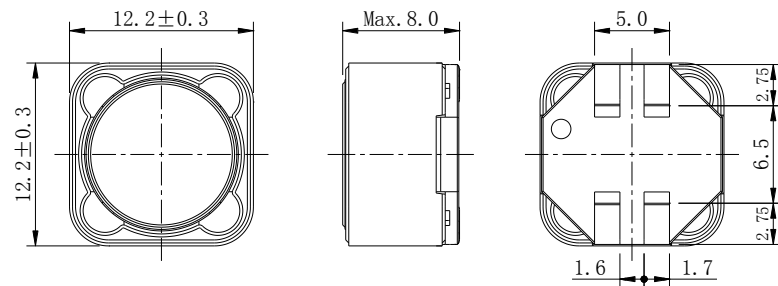
# SMD Power Inductor CDRCH12D78B



## Description

- Ferrite drum core construction.
- Magnetically shielded.
- L × W × H: 12.5 × 12.5 × 8.0 mm Max.
- Product weight: 4.1g(Ref.)
- Moisture Sensitivity Level: 1
- RoHS compliance.

## Dimension - [mm]



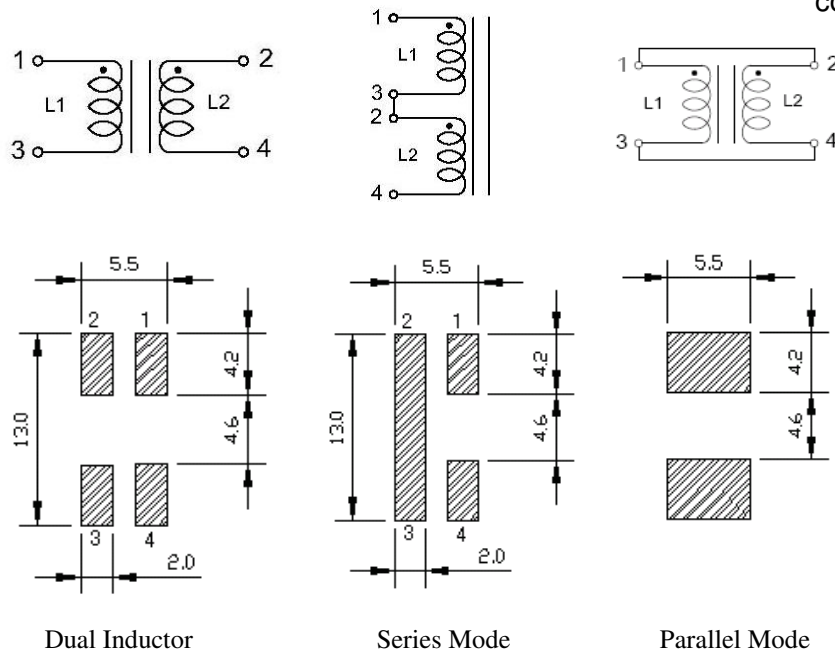
## Environmental Data

- Operating temperature range: -40°C ~ +125°C (including coil's self temperature rise)
- Storage temperature range: -40°C ~ +125°C
- Solder reflow temperature: 260 °C peak.

## Packaging

- Carrier tape and reel packaging.
- 13.0" diameter reel
- 500pcs per reel

## Land pattern and Schematics - [mm]

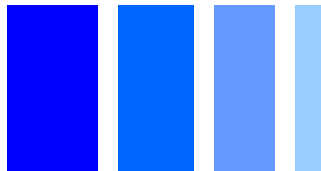


## Applications

- Ideally used in LED modules, DC/DC converters and 1:1 Transformer, etc.

# SMD Power Inductor

## CDRCH12D78B



### Electrical Characteristics

Part Name	Stamp	Inductance ( $\mu\text{H}$ ) [within] ※1	D.C.R. ( $\Omega$ ) [Max.] ※2	Saturation Current (A) ※3	Temperature rise current (A) ※4	Mode
CDRCH12D78BNP-4R7NC	4R7	4.7±30%	40m(30m)	13.2(15.6)	3.9(4.4)	Dual
		18.8±30%	80m(60m)	6.6(7.8)	2.8(3.1)	Series
		4.7±30%	20m(16m)	13.2(15.6)	5.4(6.1)	Parallel
CDRCH12D78BNP-6R8NC	6R8	6.8±30%	46m(36m)	12.0(14.2)	3.6(4.1)	Dual
		27.2±30%	92m(72m)	6.0(7.1)	2.6(3.0)	Series
		6.8±30%	23m(18m)	12.0(14.2)	5.0(5.6)	Parallel
CDRCH12D78BNP-100MC	100	10±20%	54m(42m)	10.0(11.8)	3.2(3.6)	Dual
		40±20%	108m(84m)	5.0(5.9)	2.3(2.6)	Series
		10±20%	27m(21m)	10.0(11.8)	4.4(5.0)	Parallel
CDRCH12D78BNP-150MC	150	15±20%	72m(58m)	8.2(9.7)	2.8(3.2)	Dual
		60±20%	144m(116m)	4.1(4.8)	2.0(2.3)	Series
		15±20%	36m(29m)	8.2(9.7)	4.0(4.6)	Parallel
CDRCH12D78BNP-220MC	220	22±20%	96m(80m)	7.0(8.2)	2.3(2.6)	Dual
		88±20%	192m(160m)	3.5(4.1)	1.6(1.8)	Series
		22±20%	48m(40m)	7.0(8.2)	3.3(3.7)	Parallel
CDRCH12D78BNP-330MC	330	33±20%	144m(120m)	5.5(6.5)	1.8(2.1)	Dual
		132±20%	290m(240m)	2.75(3.25)	1.3(1.5)	Series
		33±20%	72m(60m)	5.5(6.5)	2.7(3.0)	Parallel
CDRCH12D78BNP-470MC	470	47±20%	186m(155m)	4.6(5.5)	1.5(1.7)	Dual
		188±20%	372m(310m)	2.3(2.75)	1.1(1.3)	Series
		47±20%	93m(77m)	4.6(5.5)	2.4(2.6)	Parallel
CDRCH12D78BNP-680MC	680	68±20%	266m(222m)	3.9(4.6)	1.3(1.5)	Dual
		272±20%	532m(444m)	1.95(2.3)	0.94(1.05)	Series
		68±20%	133m(111m)	3.9(4.6)	2.0(2.3)	Parallel
CDRCH12D78BNP-101MC	101	100±20%	384m(320m)	3.1(3.7)	1.10(1.25)	Dual
		440±20%	768m(640m)	1.55(1.85)	0.78(0.88)	Series
		100±20%	192m(160m)	3.1(3.7)	1.6(1.8)	Parallel
CDRCH12D78BNP-151MC	151	150±20%	648m(540m)	2.5(3.0)	0.83(0.95)	Dual
		600±20%	1.29(1.08)	1.25(1.50)	0.60(0.68)	Series
		150±20%	324m(270m)	2.5(3.0)	1.2(1.4)	Parallel
CDRCH12D78BNP-221MC	221	220±20%	936m(780m)	2.1(2.5)	0.68(0.78)	Dual
		880±20%	1.87(1.56)	1.05(1.25)	0.48(0.55)	Series
		220±20%	468m(390m)	2.1(2.5)	1.0(1.15)	Parallel
CDRCH12D78BNP-331MC	331	330±20%	1.35(1.17)	1.7(2.1)	0.56(0.64)	Dual
		1320±20%	2.7(2.34)	0.85(1.05)	0.40(0.45)	Series
		330±20%	675m(585m)	1.7(2.1)	0.83(0.94)	Parallel
CDRCH12D78BNP-471MC	471	470±20%	2.01(1.75)	1.5(1.75)	0.45(0.52)	Dual
		1880±20%	4.02(3.50)	0.75(0.88)	0.31(0.35)	Series
		470±20%	1005m(875m)	1.5(1.75)	0.67(0.76)	Parallel

※1 Measuring frequency inductance at 100 kHz.

※2 ( ) are typical value.

※3 Saturation current: The value of D.C. current when the inductance is over 70% of the initial value.

※4 Temperature rise current: The value of D.C. current when the temperature rise is  $\Delta t=40^{\circ}\text{C}$ . ( $T_a=20^{\circ}\text{C}$ )

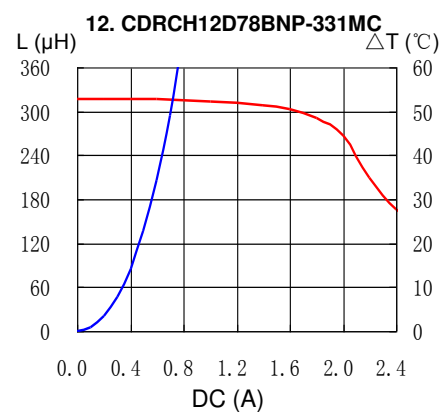
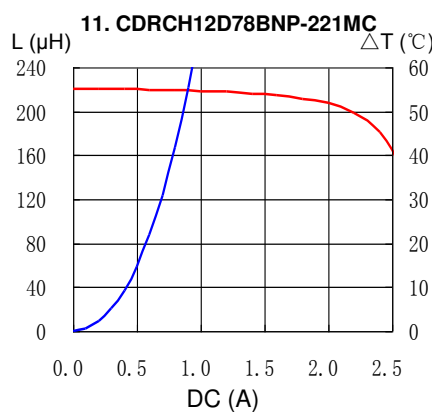
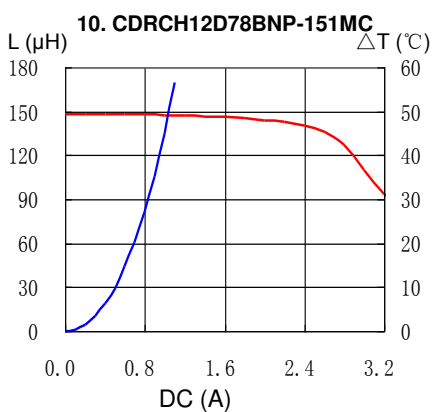
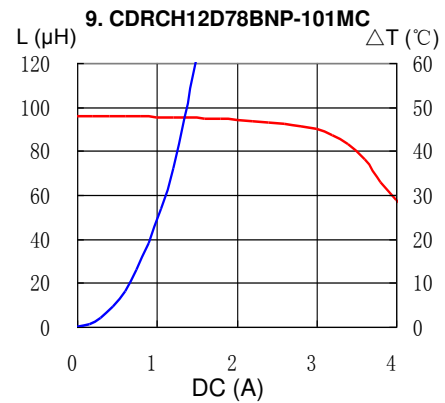
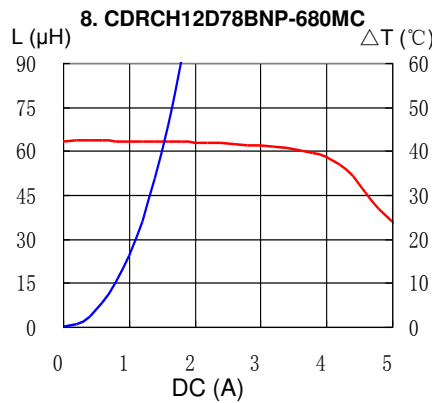
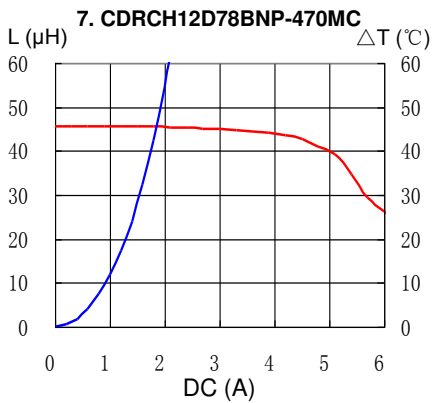
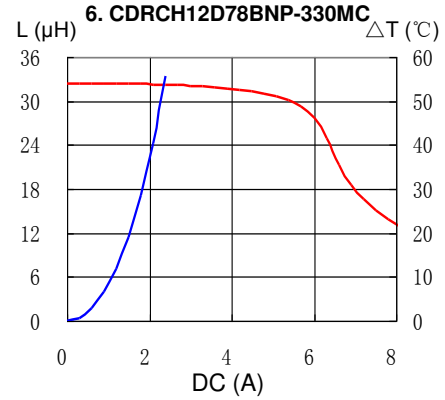
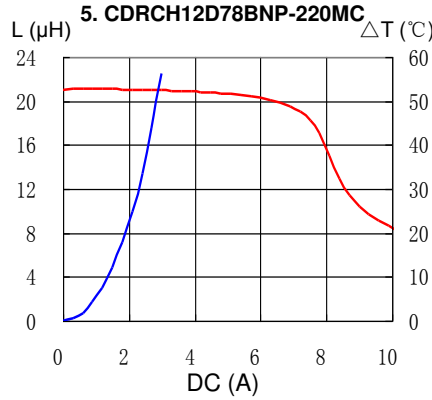
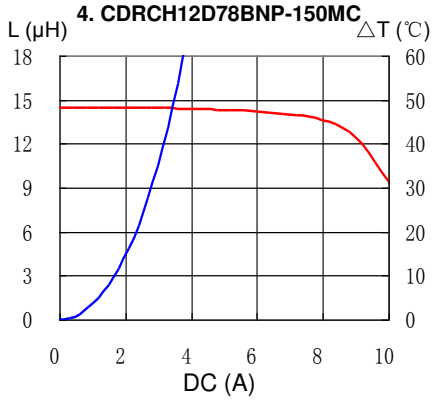
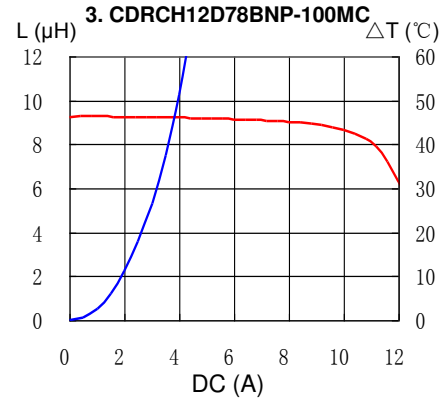
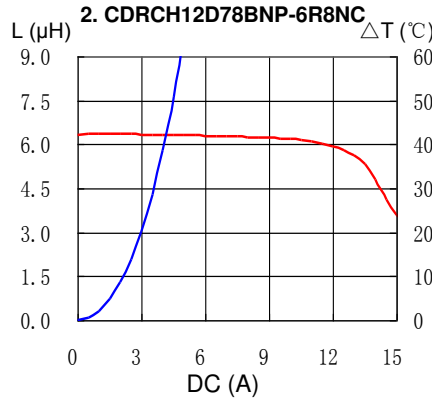
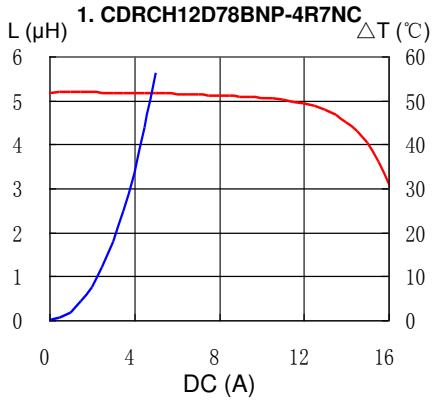


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## Saturation Current & Temperature Rise Graph - Dual inductor

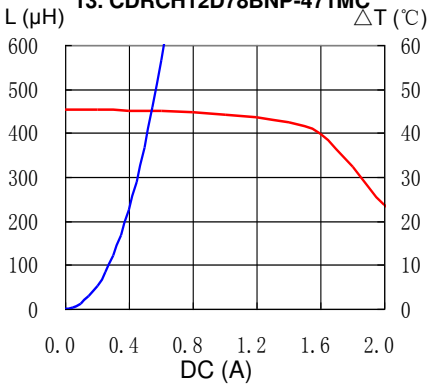
— L (20°C)    —  $\Delta T$



# SMD Power Inductor CDRCH12D78B



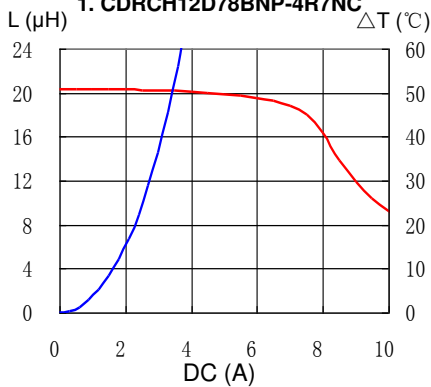
13. CDRCH12D78BNP-471MC



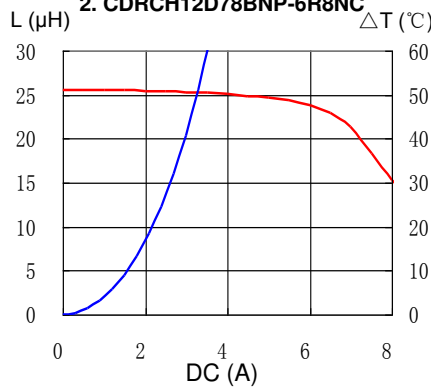
## Saturation Current & Temperature Rise Graph - Series Mode

— L (20°C) —  $\Delta T$

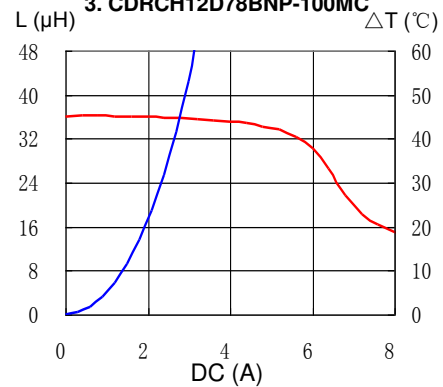
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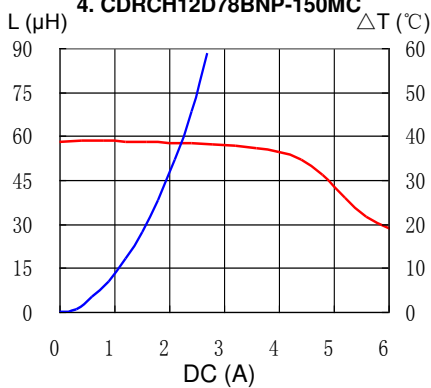
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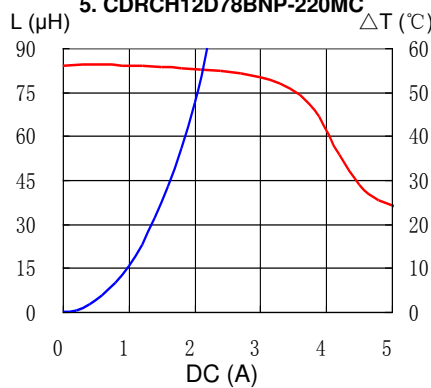
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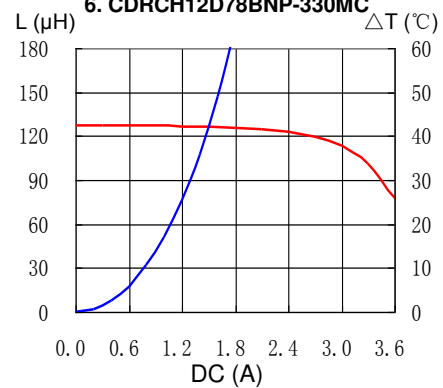
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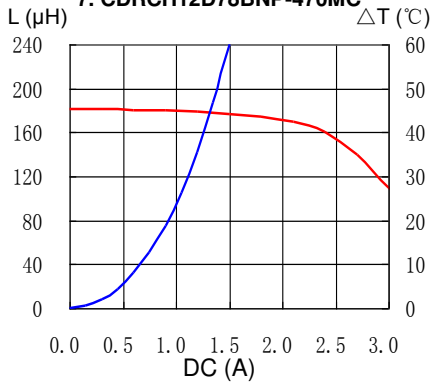
5. CDRCH12D78BNP-220MC



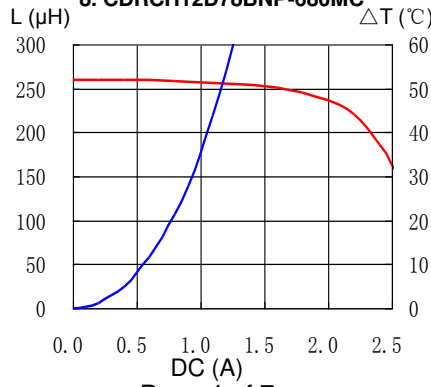
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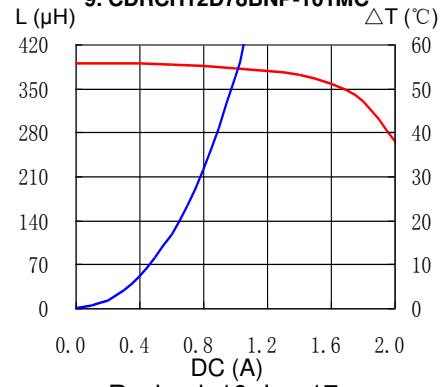
7. CDRCH12D78BNP-470MC



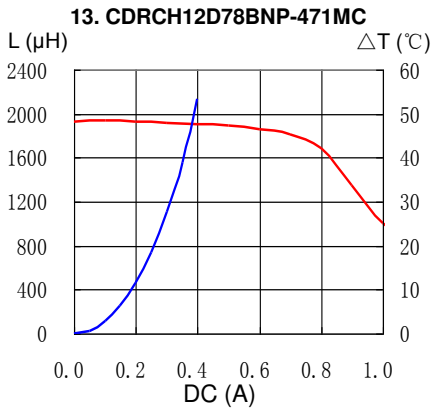
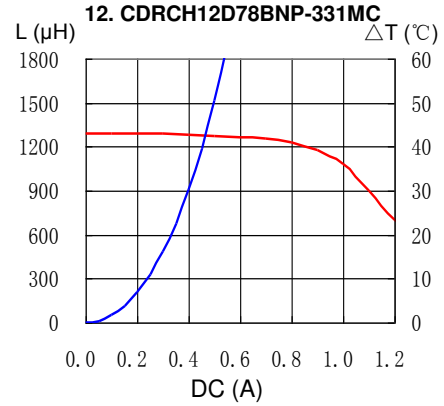
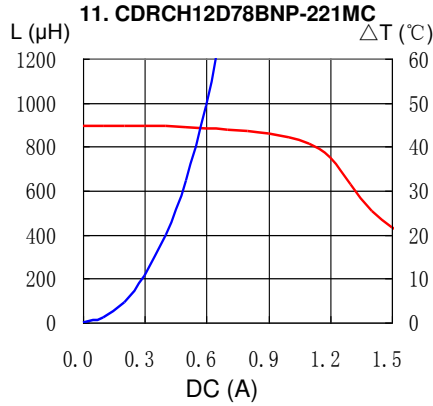
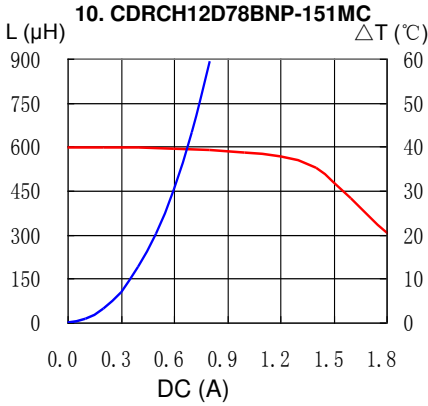
8. CDRCH12D78BNP-680MC



9. CDRCH12D78BNP-101MC

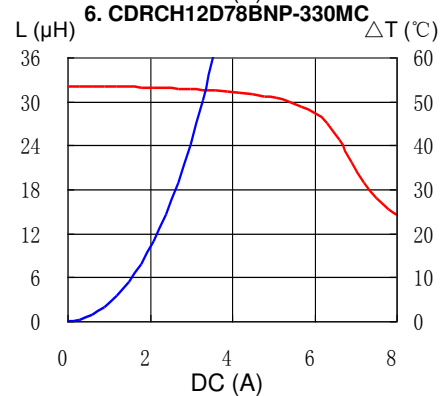
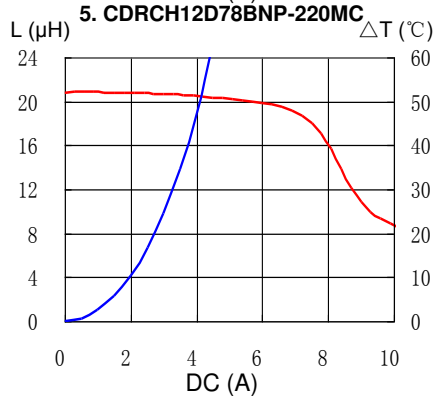
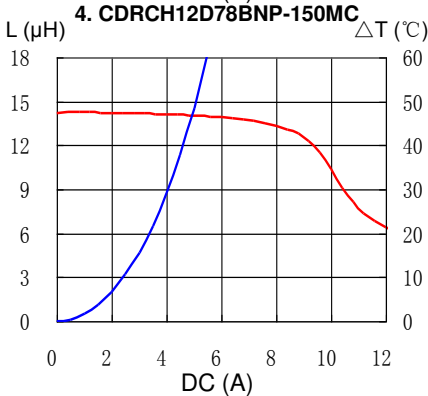
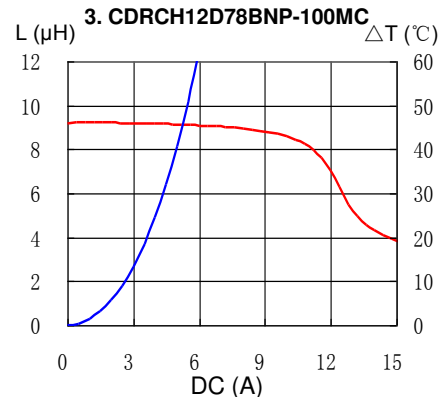
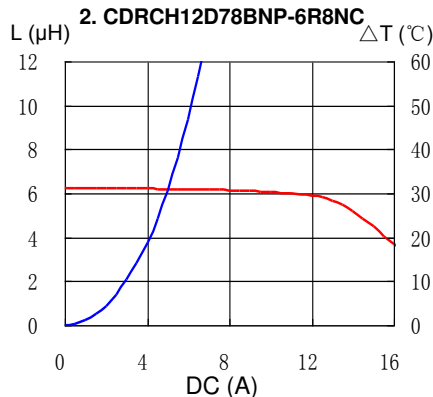
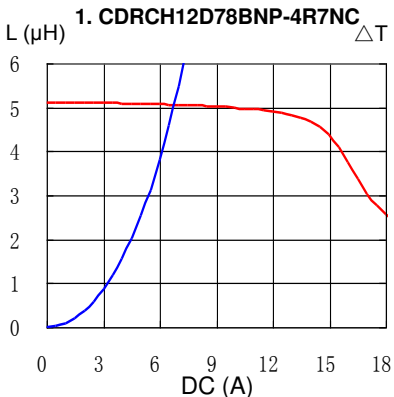


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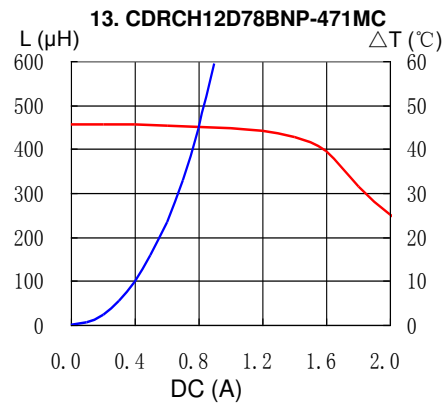
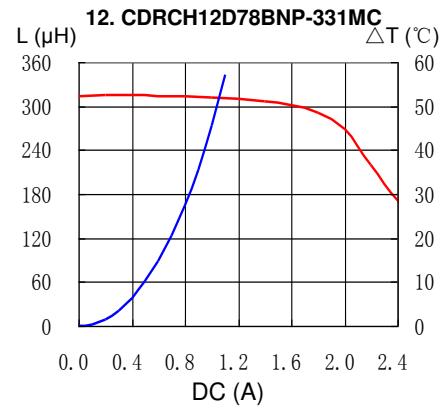
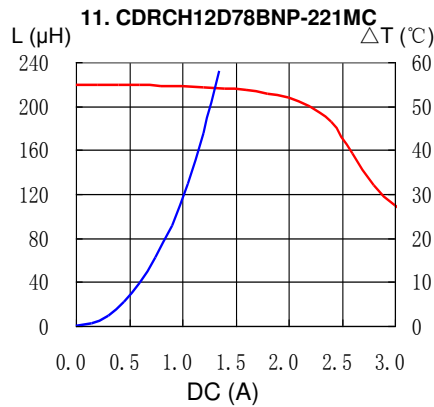
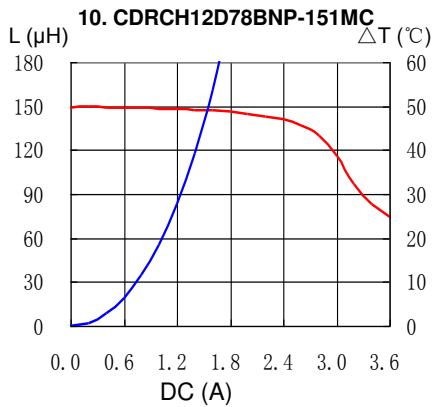
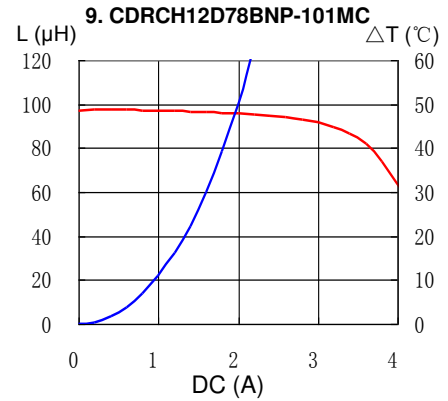
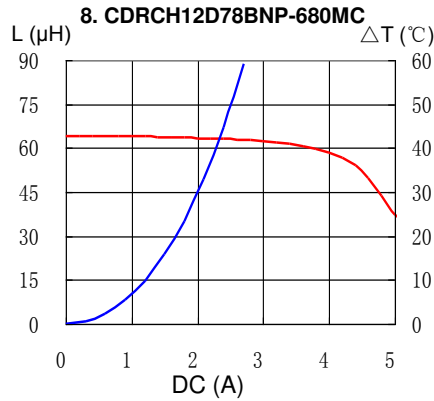
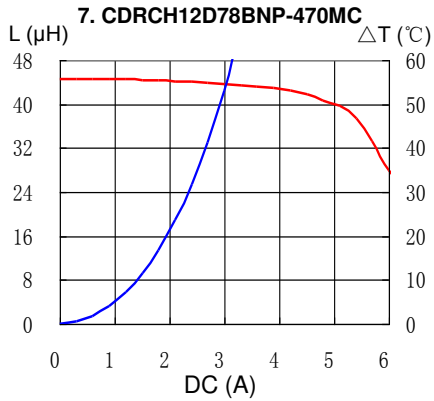


## Saturation Current & Temperature Rise Graph - Parallel Mode

— L (20°C)    — ΔT



# SMD Power Inductor CDRCH12D78B

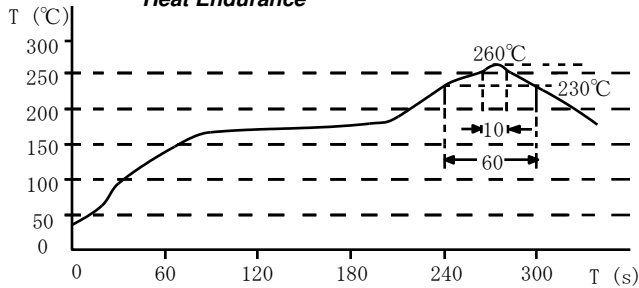


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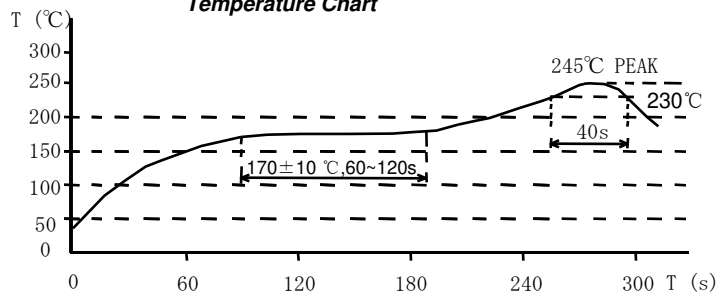


## Solder Reflow Condition

Heat Endurance



Temperature Chart



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