# SMD Power Inductor
## CDRCH12D78B

RoHS

Halogen Free

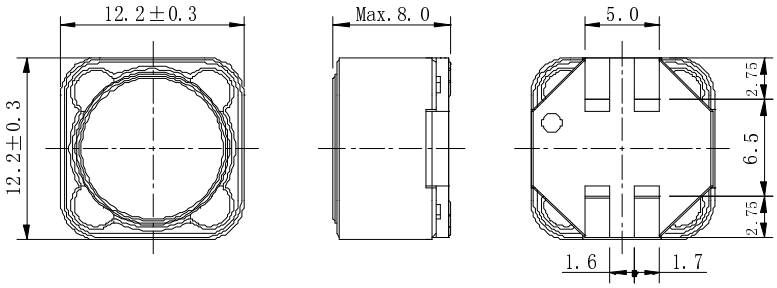
### Description
- Ferrite drum core construction.
- Magnetically shielded.
- L × W × H:12.5 × 12.5 × 8.0 mm Max.
- Product weight: 4.1g(Ref.)
- Moisture Sensitivity Level: 1
- RoHS compliance.
- Halogen Free available.

### Environmental Data
- Operating temperature range: -40℃～+125℃ (including coil's self temperature rise)
- Storage temperature range: -40℃～+125℃
- Solder reflow temperature: 260 ℃ peak.

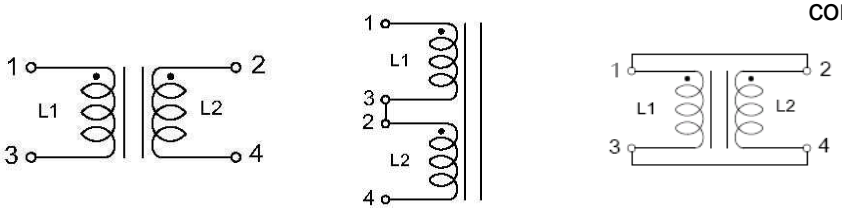
### Packaging
- Carrier tape and reel packaging.
- 13.0"diameter reel
- 500pcs per reel

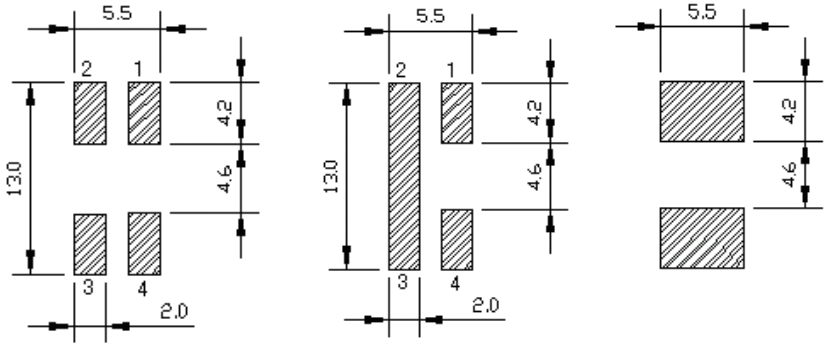
### Applications
- Ideally used in LED modules, DC/DC converters and 1:1 Transformer, etc.

### Dimension - [mm]




### Land pattern and Schematics - [mm]




Dual Inductor | Series Mode | Parallel Mode



Revised: 15-Oct-12

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## Electrical Characteristics

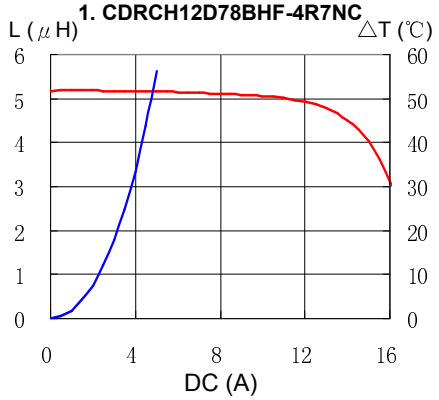
| Part Name | Stamp | Inductance (μH) [within] ※1 | D.C.R. (Ω) [Max.] ※2 | Saturation Current (A) ※3 | Temperature rise current (A) ※4 | Mode |
|---|---|---|---|---|---|---|
| CDRCH12D78BHF-4R7NC | 4R7 | 4.7±30% | 40m(30m) | 13.2(15.6) | 3.9(4.4) | Dual |
| | | 18.8±30% | 80m(60m) | 6.6(7.8) | 2.8(3.1) | Series |
| | | 4.7±30% | 20m(16m) | 13.2(15.6) | 5.4(6.1) | Parallel |
| CDRCH12D78BHF-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 |
| CDRCH12D78BHF-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 |
| CDRCH12D78BHF-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 |
| CDRCH12D78BHF-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 |
| CDRCH12D78BHF-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 |
| CDRCH12D78BHF-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 |
| CDRCH12D78BHF-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 |
| CDRCH12D78BHF-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 |
| CDRCH12D78BHF-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 |
| CDRCH12D78BHF-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 |
| CDRCH12D78BHF-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 |
| CDRCH12D78BHF-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 △t=40℃.(Ta=20℃)

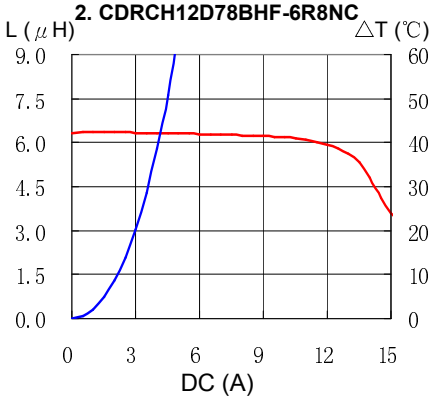
## Saturation Current & Temperature Rise Graph - Dual inductor

L (20℃) △T

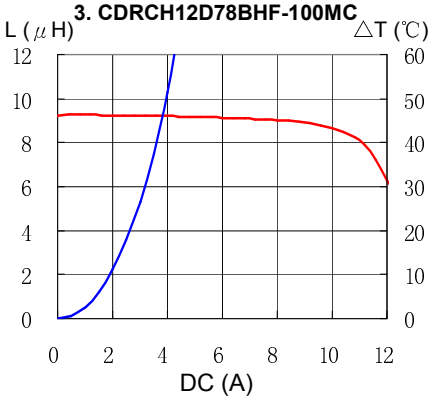
1. CDRCH12D78BHF-4R7NC



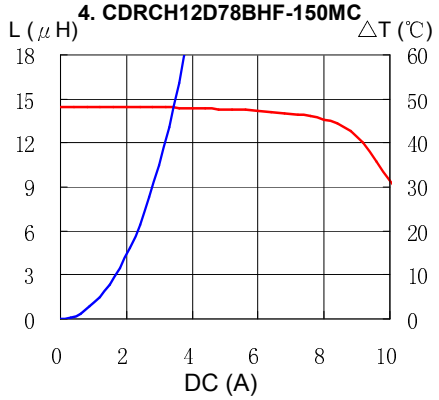

2. CDRCH12D78BHF-6R8NC



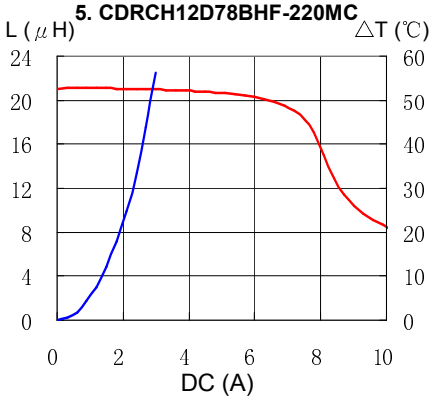

3. CDRCH12D78BHF-100MC



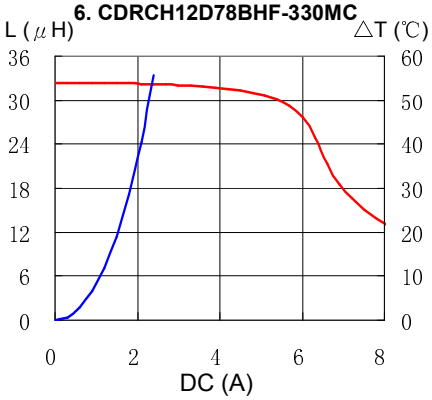

4. CDRCH12D78BHF-150MC



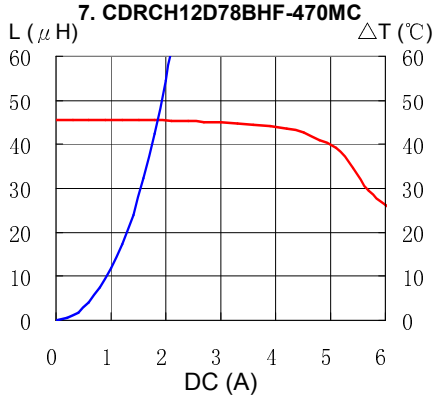

5. CDRCH12D78BHF-220MC



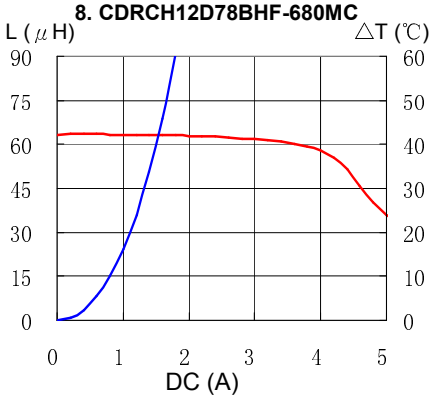

6. CDRCH12D78BHF-330MC



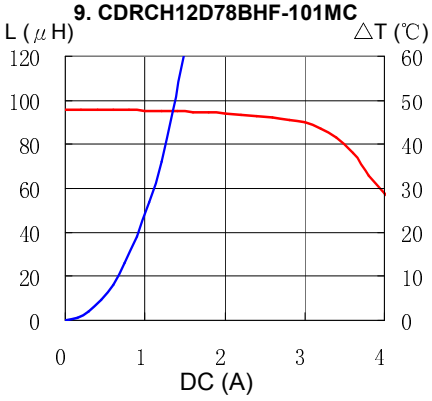

7. CDRCH12D78BHF-470MC



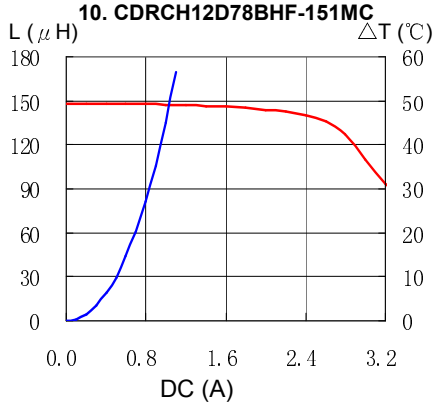

8. CDRCH12D78BHF-680MC



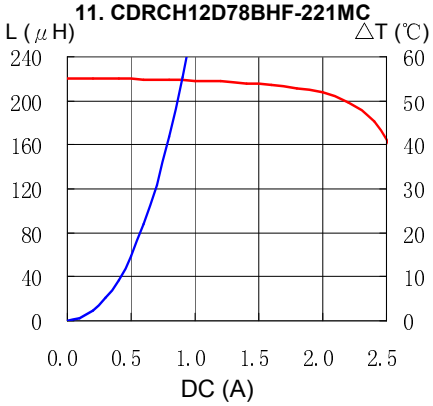

9. CDRCH12D78BHF-101MC



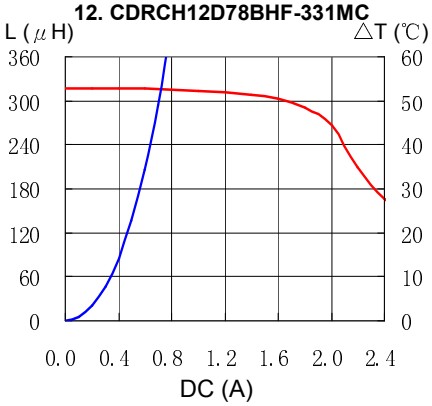

10. CDRCH12D78BHF-151MC



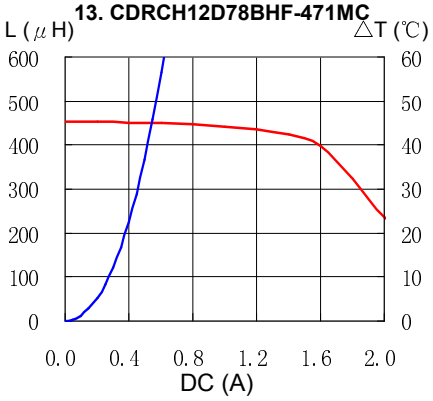

11. CDRCH12D78BHF-221MC




12. CDRCH12D78BHF-331MC



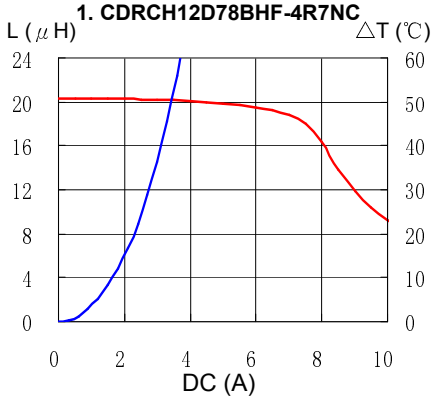
13. CDRCH12D78BHF-471MC



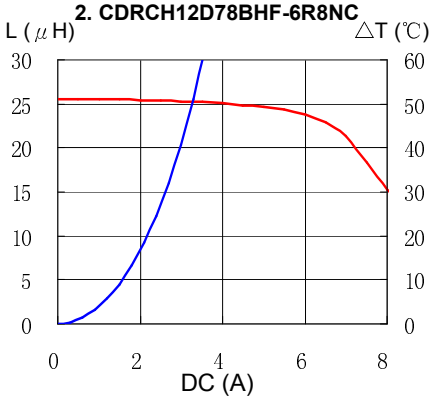

## Saturation Current & Temperature Rise Graph - Series Mode

L (20℃) △T

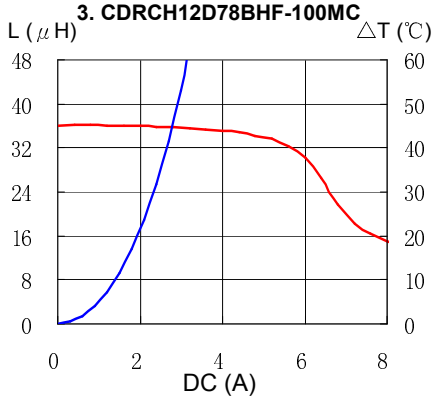
1. CDRCH12D78BHF-4R7NC



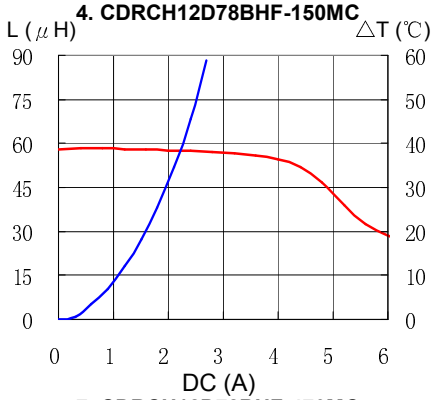

2. CDRCH12D78BHF-6R8NC



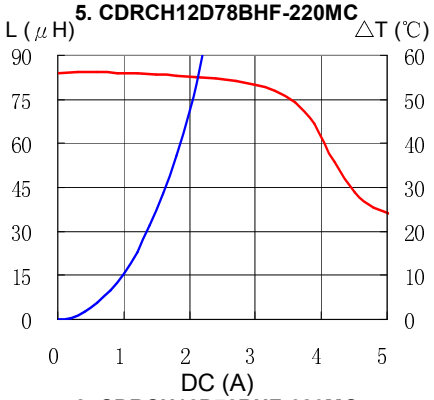

3. CDRCH12D78BHF-100MC



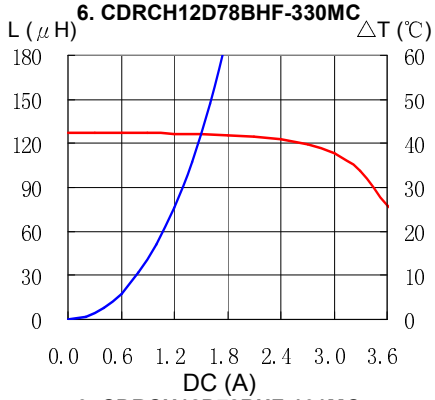

4. CDRCH12D78BHF-150MC



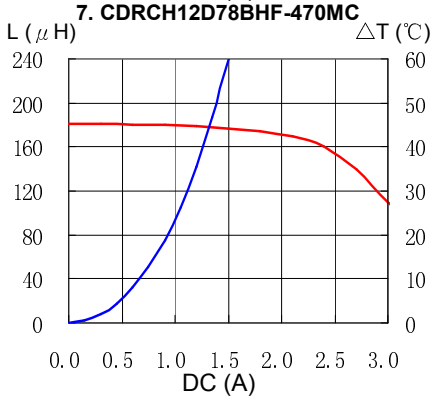

5. CDRCH12D78BHF-220MC



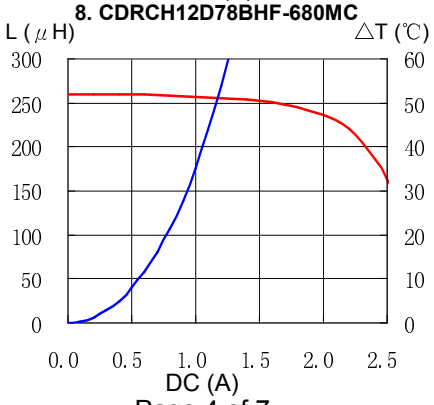

6. CDRCH12D78BHF-330MC



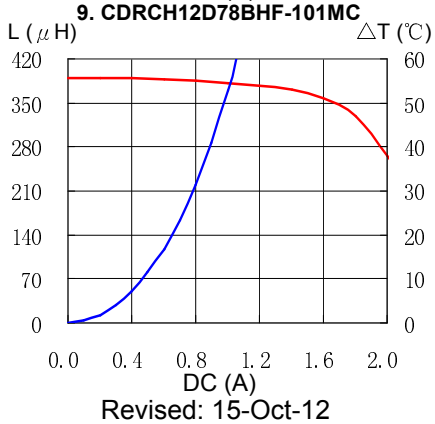

7. CDRCH12D78BHF-470MC



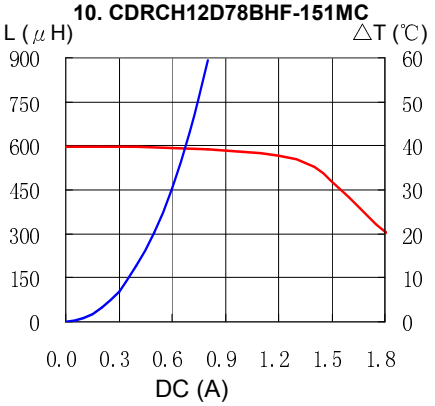

8. CDRCH12D78BHF-680MC



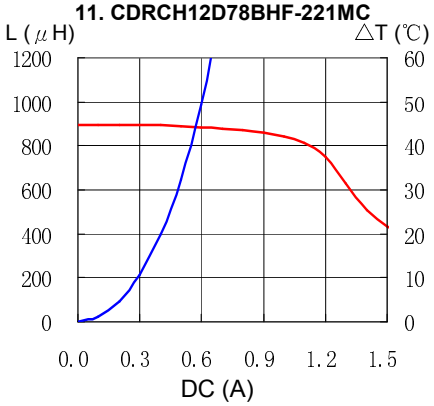

9. CDRCH12D78BHF-101MC



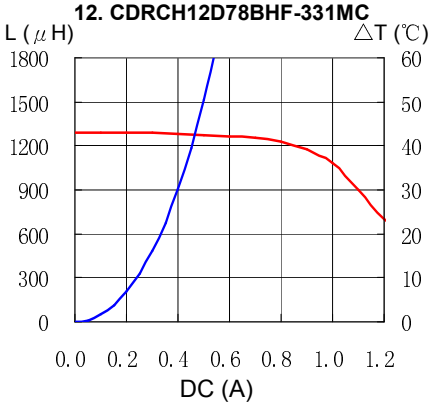
**10. CDRCH12D78BHF-151MC**



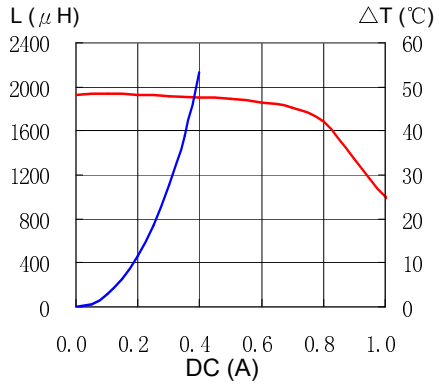

**11. CDRCH12D78BHF-221MC**




**12. CDRCH12D78BHF-331MC**



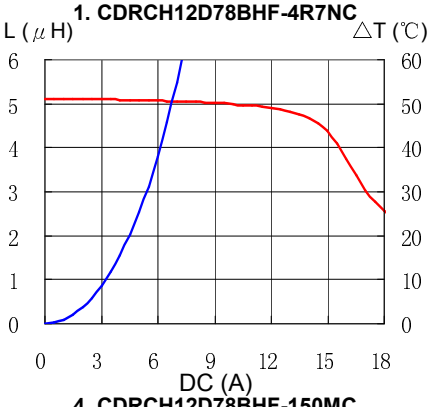

**13. CDRCH12D78BHF-471MC**



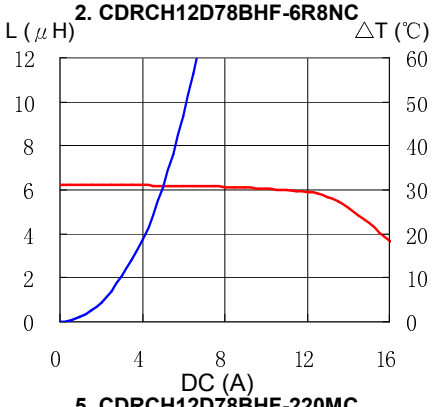

## Saturation Current & Temperature Rise Graph - Parallel Mode

L (20℃) △T

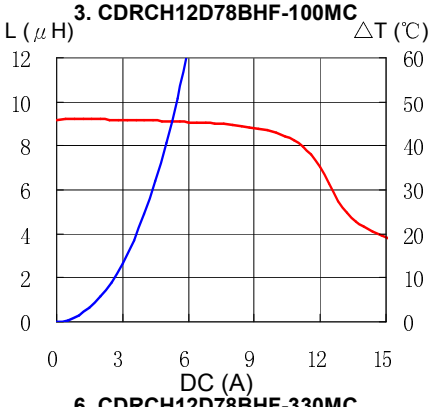
**1. CDRCH12D78BHF-4R7NC**



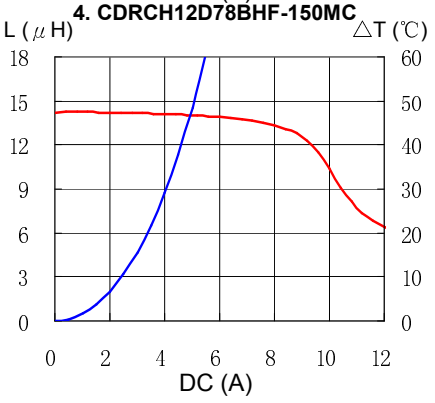

**2. CDRCH12D78BHF-6R8NC**



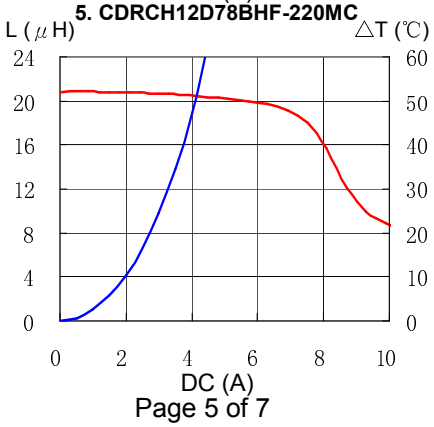

**3. CDRCH12D78BHF-100MC**



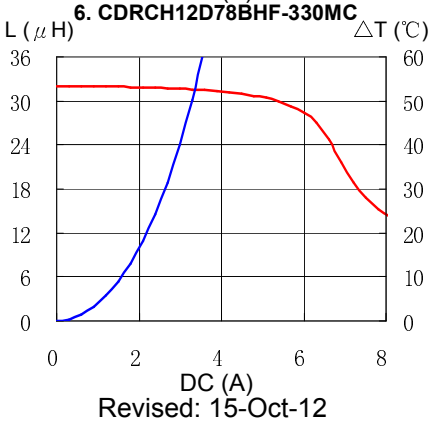

**4. CDRCH12D78BHF-150MC**



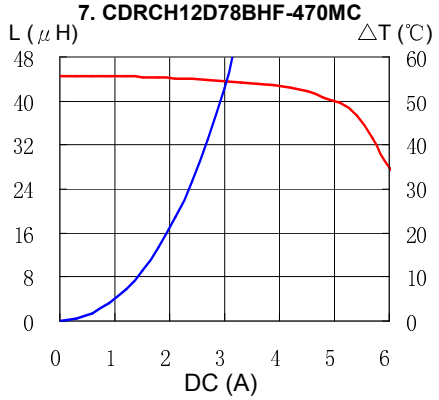

**5. CDRCH12D78BHF-220MC**



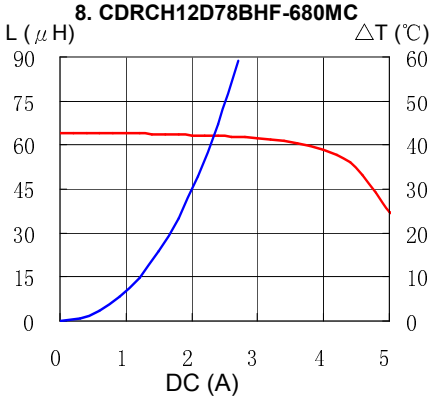

**6. CDRCH12D78BHF-330MC**



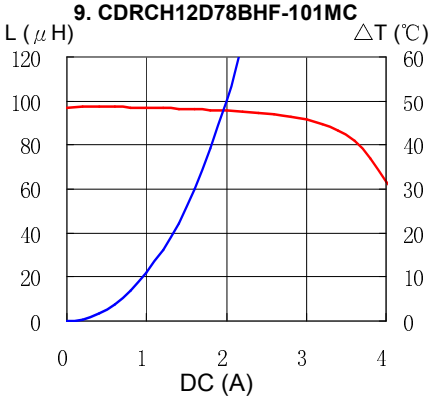
**7. CDRCH12D78BHF-470MC**



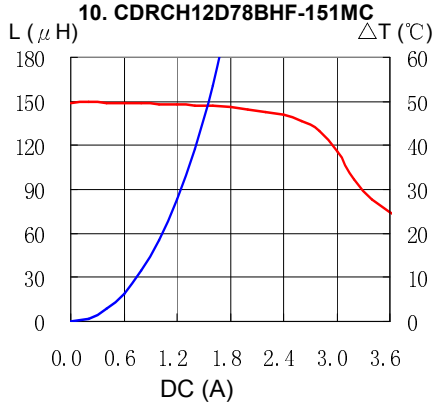

**8. CDRCH12D78BHF-680MC**



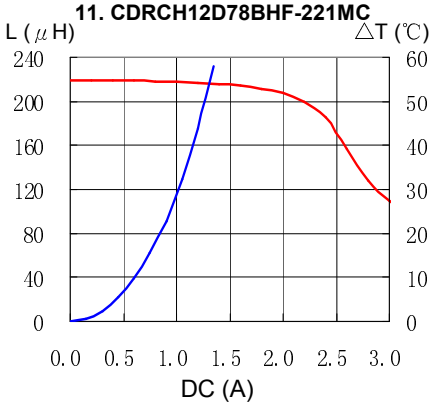

**9. CDRCH12D78BHF-101MC**



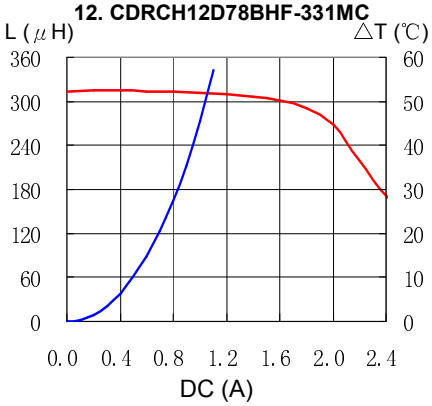

**10. CDRCH12D78BHF-151MC**



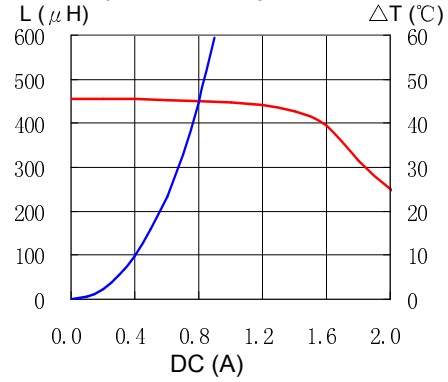

**11. CDRCH12D78BHF-221MC**




**12. CDRCH12D78BHF-331MC**

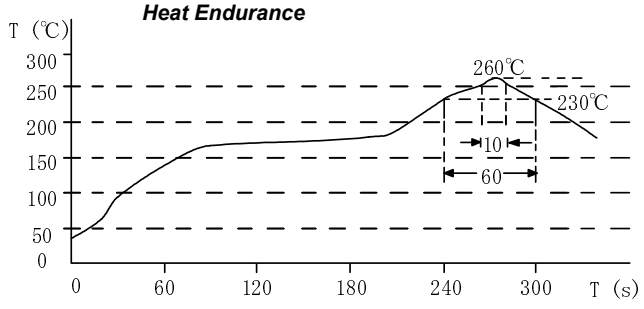



**13. CDRCH12D78BHF-471MC**

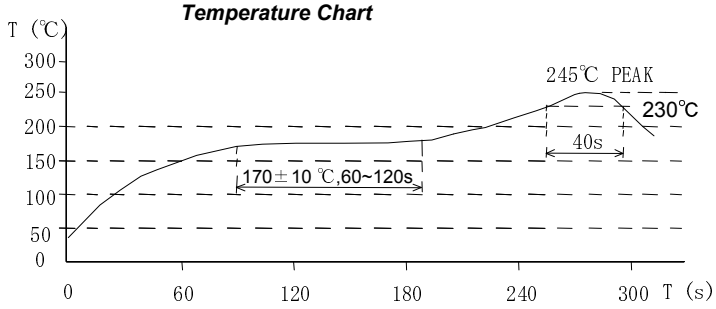


## Solder Reflow Condition

*Heat Endurance*




*Temperature Chart*

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