

# SMD Power Inductor CDEP12D38



## Description

- Ferrite core construction.
- Magnetically shielded.
- L × W × H: 12.9 × 12.9 × 4.0 mm Max.
- Product weight: 2.0 g(Ref.)
- Moisture Sensitivity Level: 1
- RoHS compliance.

## 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.

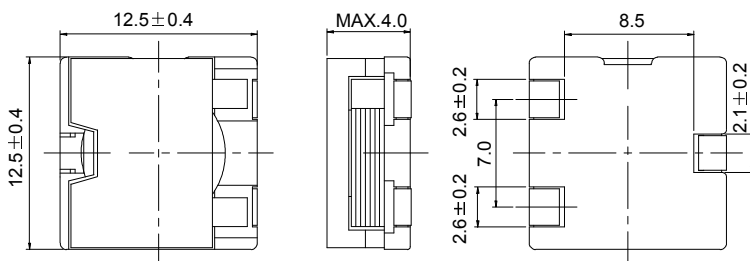
## Packaging

- Carrier tape and reel packaging
- 13.0" diameter reel
- 1000 pcs per reel

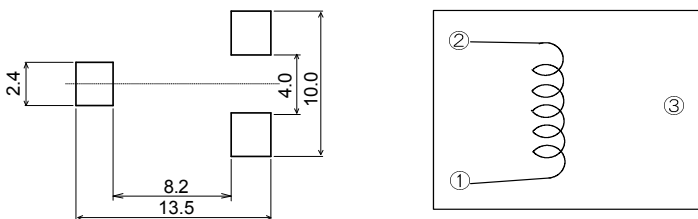
## Applications

- Ideally used in desktop, notebook PC CPU power supply and other high current application.

## Dimension - [mm]



## Land pattern and Schematics - [mm]



# SMD Power Inductor CDEP12D38



## Electrical Characteristics

### ELECTRICAL CHARACTERISTICS-LOW D.C.R. TYPE

PART NO.	STAMP	INDUCTANCE ※1	D.C.R. (mΩ) [MAX.] (at 20°C)	SATURATION CURRENT (A)※2		TEMPERATURE RISE CURRENT (A) ※3 ΔT=40°C
				(at 20°C)	(at105°C)	
CDEP12D38NP-ØR5MC-12Ø	0R5ML	0.5 μH±20%	1.5(1.19)	19.2(24.0)	15.6(19.5)	20.0
CDEP12D38NP-1R1MC-12Ø	1R1ML	1.1 μH±20%	2.7(2.20)	12.8(16.0)	10.8(13.5)	16.0
CDEP12D38NP-1R9MC-12Ø	1R9ML	1.9 μH±20%	4.8(4.00)	9.6(12.0)	8.0(10.0)	12.5
CDEP12D38NP-3RØMC-12Ø	3R0ML	3.0 μH±20%	7.7(6.40)	7.6(9.5)	6.4(8.0)	10.5
CDEP12D38NP-4R3MC-12Ø	4R3ML	4.3 μH±20%	11.2(9.30)	6.4(8.0)	5.2(6.5)	8.5
CDEP12D38NP-5R9MC-12Ø	5R9ML	5.9 μH±20%	13.3(11.0)	5.6(7.0)	4.5(5.6)	7.5
CDEP12D38NP-7R7MC-12Ø	7R7ML	7.7 μH±20%	21.0(17.5)	4.8(6.0)	4.0(5.0)	5.5

### ELECTRICAL CHARACTERISTICS-STANDARD TYPE

PART NO.	STAMP	INDUCTANCE ※1	D.C.R. (mΩ) [MAX.] (at 20°C)	SATURATION CURRENT (A)※2		TEMPERATURE RISE CURRENT (A) ※3 ΔT=40°C
				(at 20°C)	(at105°C)	
CDEP12D38NP-ØR3MC-88	0R3MS	0.35 μH±20%	1.5(1.19)	27.2(34.0)	22.0(27.5)	20.0
CDEP12D38NP-ØR8MC-88	0R8MS	0.8 μH±20%	2.7(2.20)	18.0(22.5)	14.8(18.5)	16.0
CDEP12D38NP-1R4MC-88	1R4MS	1.4 μH±20%	4.8(4.00)	13.2(16.5)	11.0(13.8)	12.5
CDEP12D38NP-2R2MC-88	2R2MS	2.2 μH±20%	7.7(6.40)	10.8(13.5)	8.8(11.0)	10.5
CDEP12D38NP-3R2MC-88	3R2MS	3.2 μH±20%	11.2(9.30)	9.2(11.5)	7.4(9.2)	8.5
CDEP12D38NP-4R3MC-88	4R3MS	4.3 μH±20%	13.3(11.0)	7.8(9.7)	6.3(7.9)	7.5
CDEP12D38NP-5R6MC-88	5R6MS	5.6 μH±20%	21.0(17.5)	6.8(8.5)	5.4(6.8)	5.5

※1. Measuring condition: at 100kHz.

※2. Saturation current: The value of D.C. current when the inductance decreases to 75% of it's nominal value.

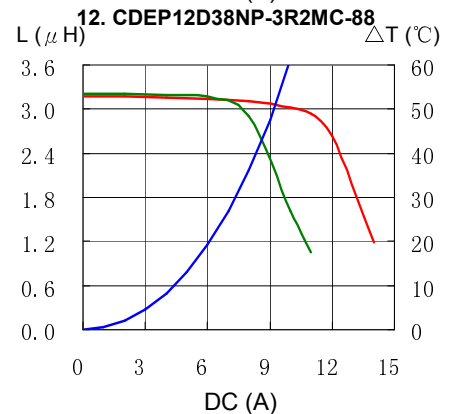
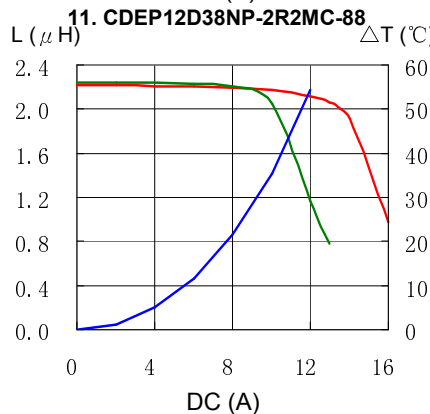
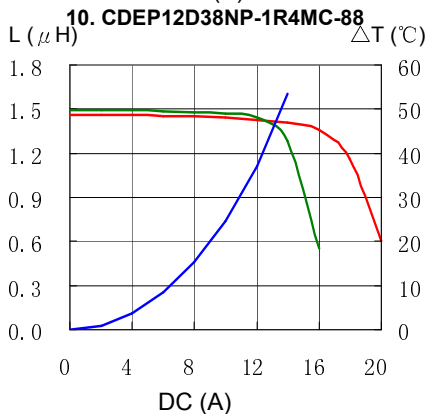
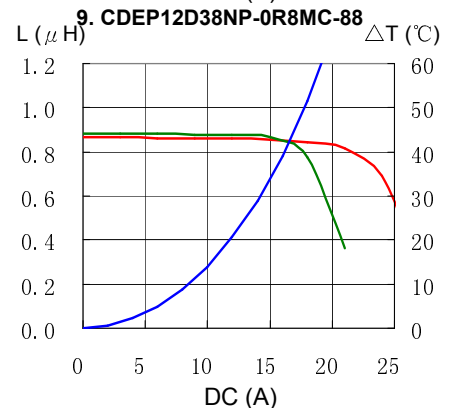
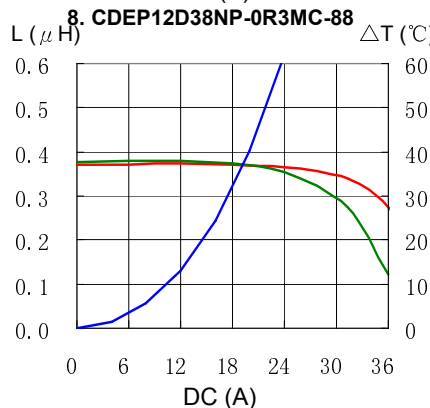
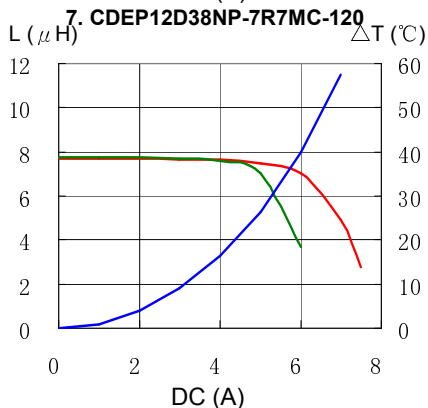
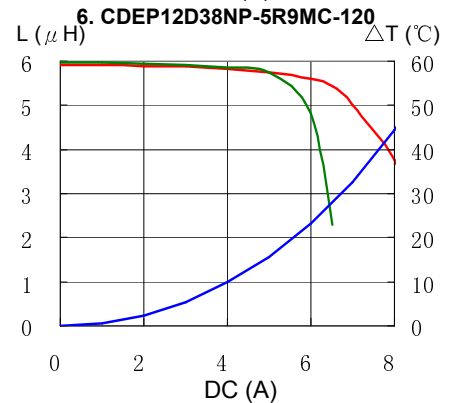
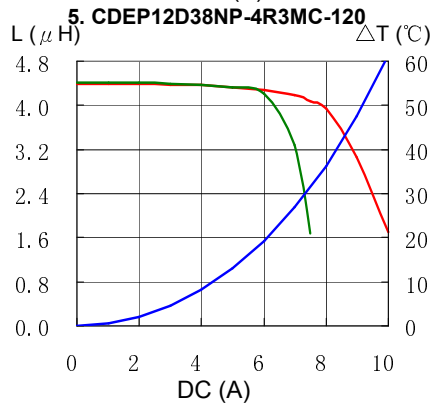
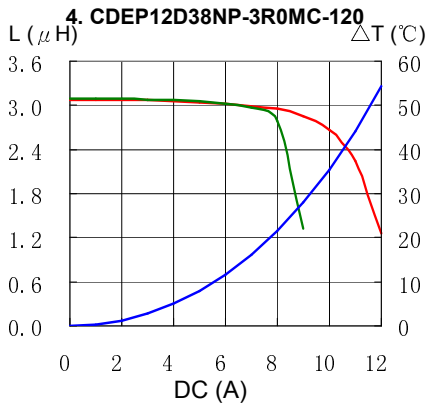
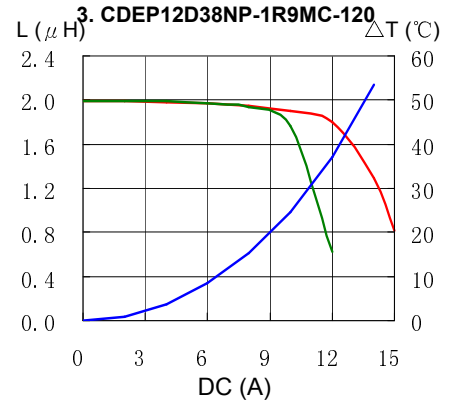
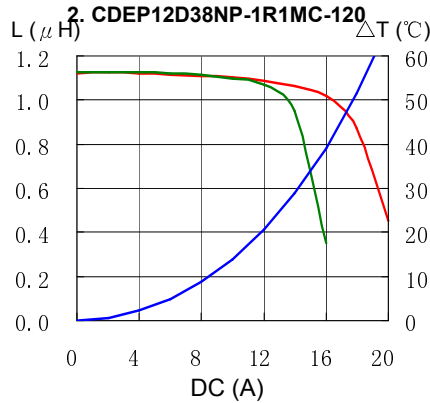
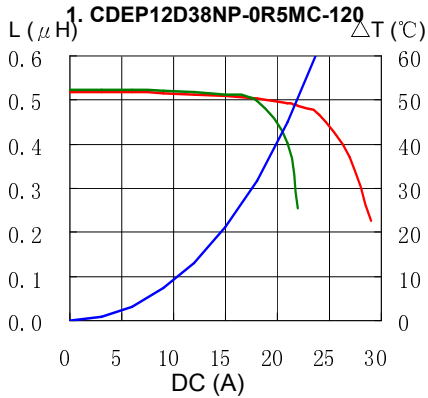
※3. Temperature rise current: The value of D.C. current when the temperature rise is Δt=40°C (Ta=20°C).

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## Saturation Current & Temperature Rise Graph

— L (20°C) — L (105°C) —  $\Delta T$

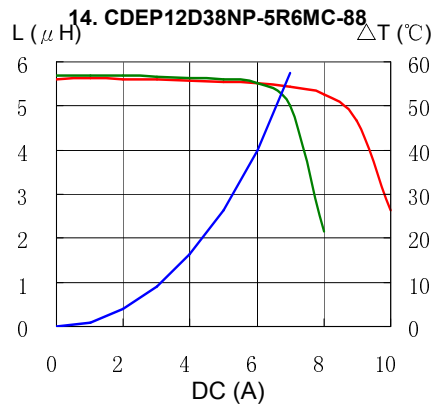
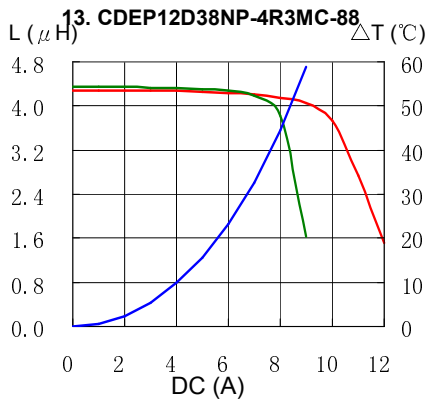


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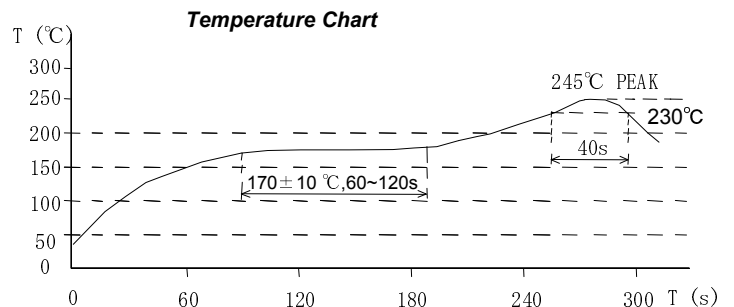
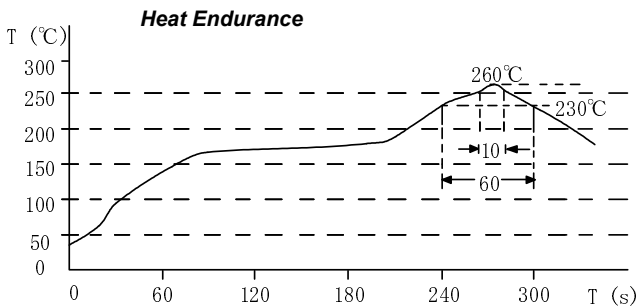


## Saturation Current & Temperature Rise Graph

— L (20°C) — L (105°C) —  $\Delta T$



## Solder Reflow Condition



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**Hong Kong**  
Tel.+852-2880-6781  
FAX.+852-2565-9600  
[sales@hk.sumida.com](mailto:sales@hk.sumida.com)

**Saitama(Japan)**  
Tel.+81-48-691-7300  
FAX.+81-48-691-7340  
[sales@jp.sumida.com](mailto:sales@jp.sumida.com)

**Chicago**  
Tel.+1-847-545-6700  
FAX. +1-847-545-6720  
[sales@us.sumida.com](mailto:sales@us.sumida.com)

**Shanghai**  
Tel.+86-21-5836-3299  
FAX.+86-21-5836-3266  
[shanghai.sales@cn.sumida.com](mailto:shanghai.sales@cn.sumida.com)

**Seoul**  
Tel.+82-2-6237-0777  
FAX.+82-2-6237-0778  
[sales@kr.sumida.com](mailto:sales@kr.sumida.com)

**Oberzell**  
Tel.+49-8591-937-0  
FAX. +49-8591-937-103  
[contact@eu.sumida.com](mailto:contact@eu.sumida.com)

**Shenzhen**  
Tel.+86-755-8291-0228  
FAX.+86-755-8291-0338  
[shenzhen.sales@cn.sumida.com](mailto:shenzhen.sales@cn.sumida.com)

**Singapore**  
Tel.+65-6296-3388  
FAX.+65-6841-4426  
[sales@sg.sumida.com](mailto:sales@sg.sumida.com)

**Neumarkt**  
Tel.+49-9181-4509-110  
FAX. +49-9181-4509-310  
[infocomp@eu.sumida.com](mailto:infocomp@eu.sumida.com)

**Taipei**  
Tel.+886-2-8751-2737  
FAX.+886-2-8751-2738  
[sales@tw.sumida.com](mailto:sales@tw.sumida.com)

**San Jose**  
Tel.+1-408-321-9660  
FAX.+1-408-321-9308  
[sales@us.sumida.com](mailto:sales@us.sumida.com)