

# SMD Power Inductor CDEP159



## Description

- Ferrite core construction.
- Magnetically shielded.
- L × W × H: 15.5 × 15.4 × 10.0 mm Max.
- Product weight: 6.5g(Ref.)
- Moisture Sensitivity Level: 1
- RoHS compliance.

## Environmental Data

- Operating temperature range: -40°C ~ +150°C (including coil's self temperature rise)
- Storage temperature range: -40°C ~ +125°C
- Solder reflow temperature: 260 °C peak.

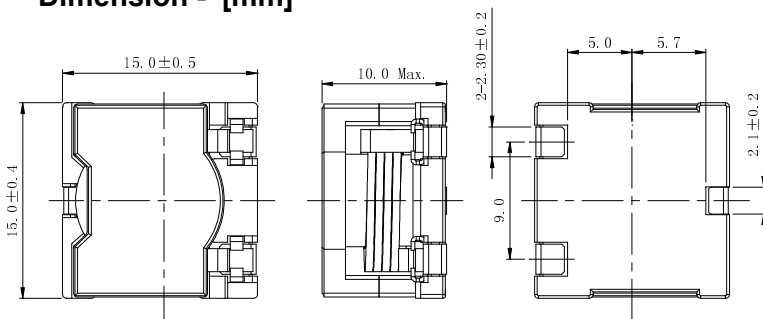
## Packaging

- Carrier tape and reel packaging
- 13.0" diameter reel
- 250pcs per reel

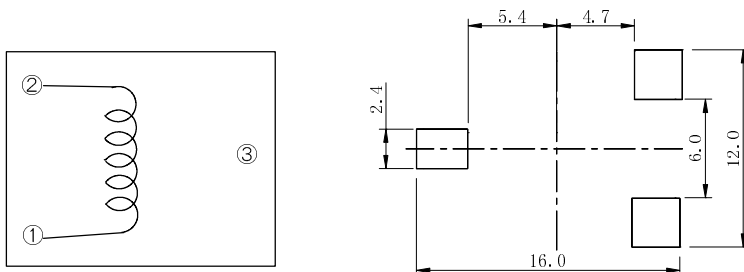
## Applications

- Ideally used in personal computer CPU power supply.

## Dimension - [mm]



## Land pattern and Schematics - [mm]



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## Electrical Characteristics

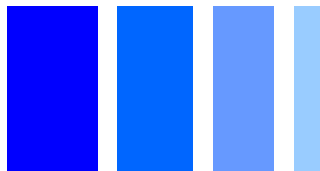
### Electrical Characteristics 1 - High power type

Part No.	Stamp	Inductance ( $\mu$ H) [Within] ※1	D.C.R. (m $\Omega$ ) [Within] (at 20°C)	The saturation current (A) ※2		Temperature Rise current (A) ※3 ( $\Delta$ T=25°C)
				(at 20°C)	(at 150°C)	
CDEP159NP-1R0MC-110	1R0MH	1.0 $\pm$ 20%	1.55 $\pm$ 20%	36.0	24.4	24.0
CDEP159NP-1R8MC-110	1R8MH	1.8 $\pm$ 20%	1.85 $\pm$ 20%	28.4	18.8	20.5
CDEP159NP-2R7MC-110	2R7MH	2.7 $\pm$ 20%	2.3 $\pm$ 20%	22.8	15.3	18.0
CDEP159NP-3R9MC-110	3R9MH	3.9 $\pm$ 20%	3.1 $\pm$ 20%	19.2	12.9	15.5
CDEP159NP-5R4MC-110	5R4MH	5.4 $\pm$ 20%	4.1 $\pm$ 20%	16.2	10.8	14.0
CDEP159NP-6R8MC-110	6R8MH	6.8 $\pm$ 20%	5.5 $\pm$ 20%	14.1	9.4	11.5
CDEP159NP-8R2MC-110	8R2MH	8.2 $\pm$ 20%	7.2 $\pm$ 20%	12.8	8.4	10.5
CDEP159NP-100MC-110	100MH	10.0 $\pm$ 20%	8.3 $\pm$ 20%	11.2	7.5	10.0
CDEP159NP-130MC-110	130MH	13.0 $\pm$ 20%	10.0 $\pm$ 20%	10.4	6.8	9.5
CDEP159NP-150MC-110	150MH	15.0 $\pm$ 20%	12.5 $\pm$ 20%	9.4	6.3	8.5
CDEP159NP-180MC-110	180MH	18.0 $\pm$ 20%	14.0 $\pm$ 20%	8.7	5.8	8.0
CDEP159NP-220MC-110	220MH	22.0 $\pm$ 20%	17.8 $\pm$ 20%	8.2	5.5	7.5

### Electrical Characteristics 2 – Standard type

Part No. ※1	Stamp	Inductance ( $\mu$ H) [Within] ※2	D.C.R. (m $\Omega$ ) [Within] (at 20°C)	The saturation current (A) ※3		Temperature Rise current (A) ※4 ( $\Delta$ T=25°C)
				(at 20°C)	(at 150°C)	
CDEP159NP-1R2MC-130	1R2MS	1.2 $\pm$ 20%	1.55 $\pm$ 20%	30.4	20.8	24.0
CDEP159NP-2R2MC-130	2R2MS	2.2 $\pm$ 20%	1.85 $\pm$ 20%	23.1	15.3	20.5
CDEP159NP-3R3MC-130	3R3MS	3.3 $\pm$ 20%	2.3 $\pm$ 20%	18.8	12.7	18.0
CDEP159NP-4R7MC-130	4R7MS	4.7 $\pm$ 20%	3.1 $\pm$ 20%	15.3	10.5	15.5
CDEP159NP-6R4MC-130	6R4MS	6.4 $\pm$ 20%	4.1 $\pm$ 20%	13.2	9.0	14.0
CDEP159NP-8R2MC-130	8R2MS	8.2 $\pm$ 20%	5.5 $\pm$ 20%	11.6	8.0	11.5
CDEP159NP-100MC-130	100MS	10.0 $\pm$ 20%	7.2 $\pm$ 20%	10.4	7.1	10.5
CDEP159NP-130MC-130	130MS	13.0 $\pm$ 20%	8.3 $\pm$ 20%	9.7	6.5	10.0
CDEP159NP-150MC-130	150MS	15.0 $\pm$ 20%	10.0 $\pm$ 20%	8.5	5.8	9.5
CDEP159NP-180MC-130	180MS	18.0 $\pm$ 20%	12.5 $\pm$ 20%	7.7	5.3	8.5
CDEP159NP-220MC-130	220MS	22.0 $\pm$ 20%	14.0 $\pm$ 20%	7.3	5.0	8.0
CDEP159NP-270MC-130	270MS	27.0 $\pm$ 20%	17.8 $\pm$ 20%	6.6	4.5	7.5

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## Electrical Characteristics

### Electrical Characteristics 3 – Low D.C.R type

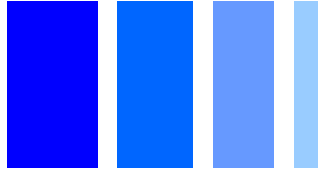
Part No. ※1	Stamp	Inductance ( $\mu$ H) [Within] ※2	D.C.R. (m $\Omega$ ) [Within] (at 20°C)	The saturation current (A) ※3		Temperature Rise current (A) ※4 ( $\Delta T=25^\circ\text{C}$ )
				(at 20°C)	(at 150°C)	
CDEP159NP-2R0MC-220	2R0ML	2.0 $\pm$ 20%	1.55 $\pm$ 20%	16.0	12.3	24.0
CDEP159NP-3R6MC-220	3R6ML	3.6 $\pm$ 20%	1.85 $\pm$ 20%	14.4	9.7	20.5
CDEP159NP-5R4MC-220	5R4ML	5.4 $\pm$ 20%	2.3 $\pm$ 20%	11.0	7.5	18.0
CDEP159NP-8R2MC-220	8R2ML	8.2 $\pm$ 20%	3.1 $\pm$ 20%	8.9	6.1	15.5
CDEP159NP-100MC-220	100ML	10.0 $\pm$ 20%	4.1 $\pm$ 20%	7.7	5.4	14.0
CDEP159NP-150MC-220	150ML	15.0 $\pm$ 20%	5.5 $\pm$ 20%	6.9	4.8	11.5
CDEP159NP-180MC-220	180ML	18.0 $\pm$ 20%	7.2 $\pm$ 20%	6.1	4.2	10.5
CDEP159NP-220MC-220	220ML	22.0 $\pm$ 20%	8.3 $\pm$ 20%	5.4	3.7	10.0
CDEP159NP-270MC-220	270ML	27.0 $\pm$ 20%	10.0 $\pm$ 20%	4.9	3.4	9.5
CDEP159NP-330MC-220	330ML	33.0 $\pm$ 20%	12.5 $\pm$ 20%	4.5	3.1	8.5
CDEP159NP-360MC-220	360ML	36.0 $\pm$ 20%	14.0 $\pm$ 20%	4.2	2.9	8.0
CDEP159NP-430MC-220	430ML	43.0 $\pm$ 20%	17.8 $\pm$ 20%	3.8	2.6	7.5

※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.

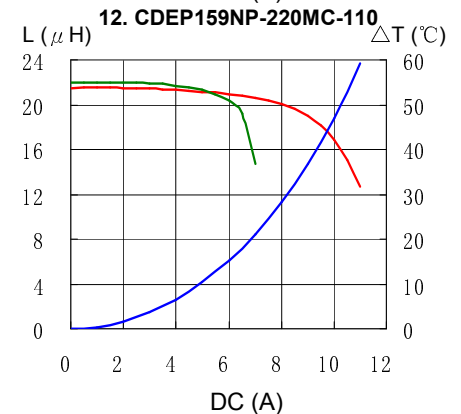
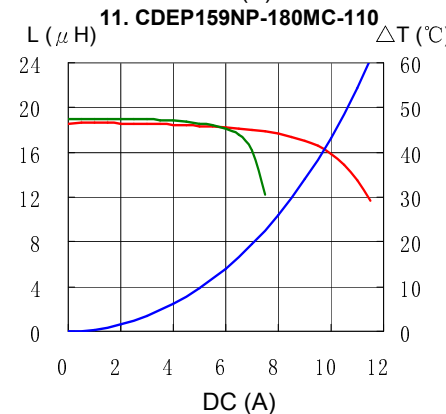
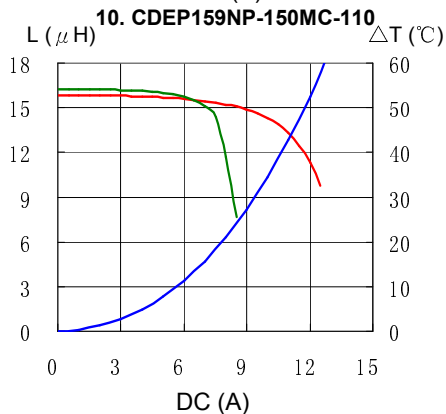
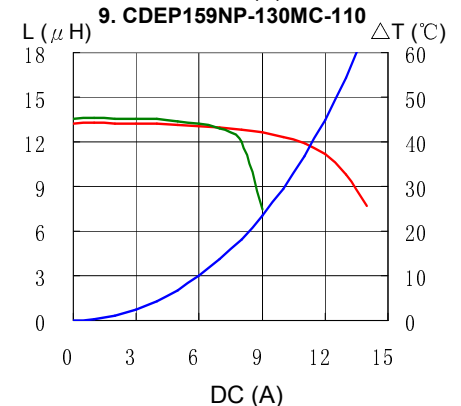
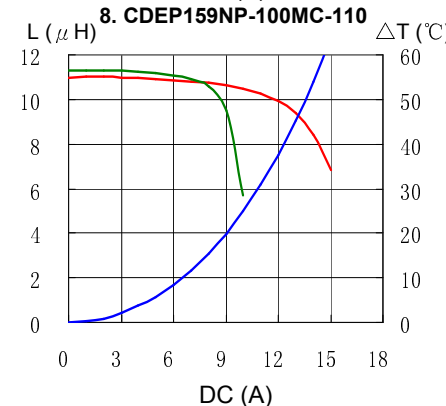
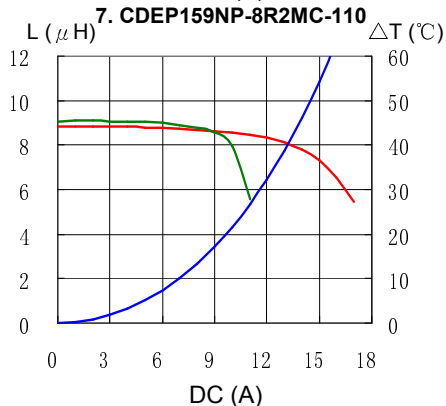
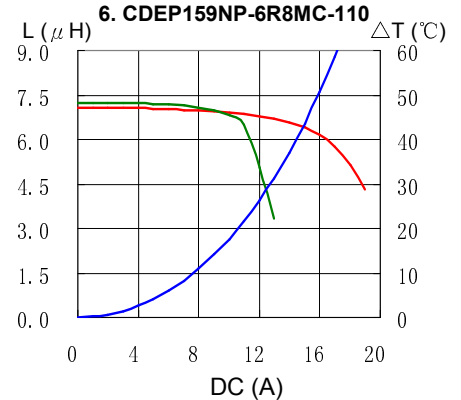
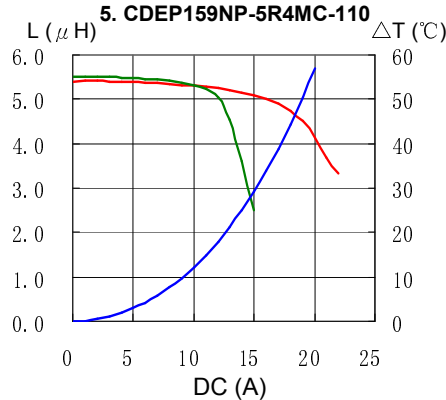
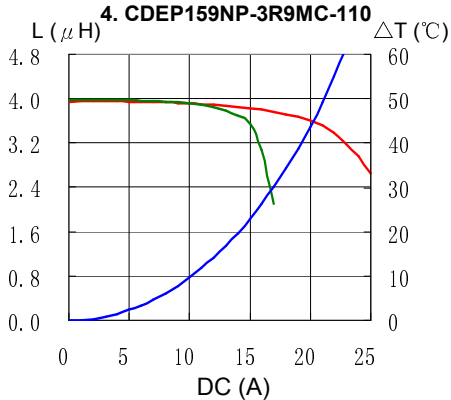
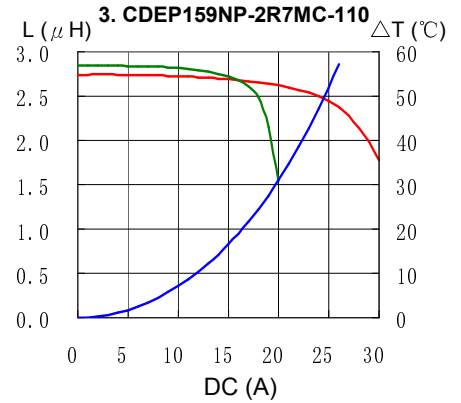
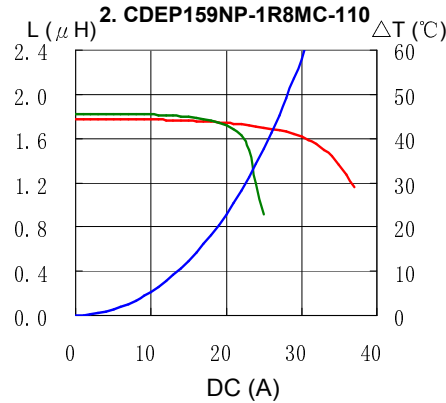
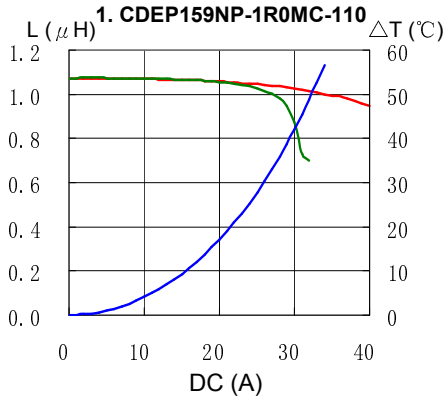
※3. Temperature rise current: The value of D.C. current when the temperature rise is  $\Delta t=25^\circ\text{C}$  ( $T_a=20^\circ\text{C}$ ).

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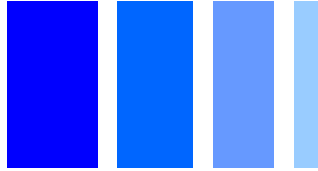


## Saturation Current & Temperature Rise Graph

— L (20°C) — L (150°C) —  $\Delta T$

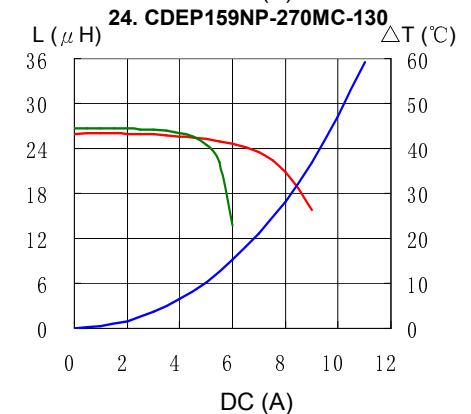
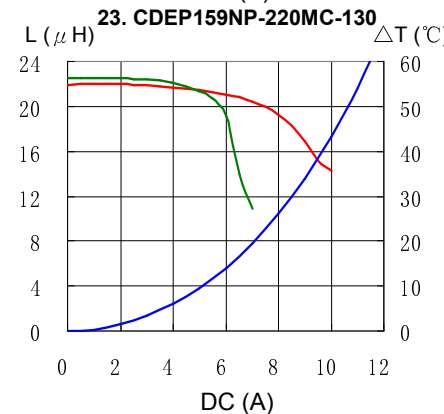
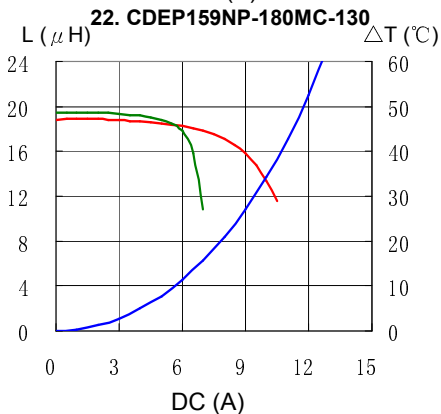
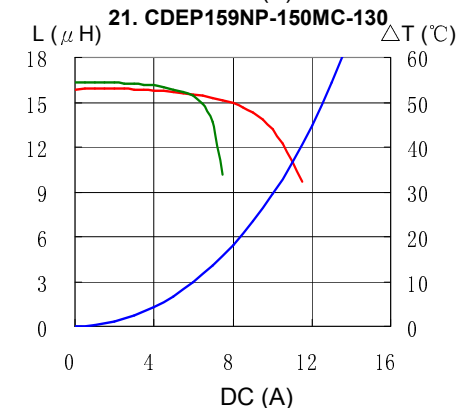
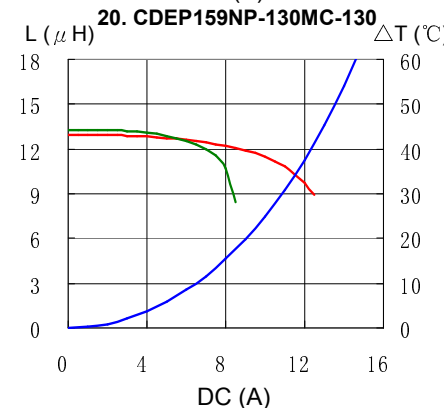
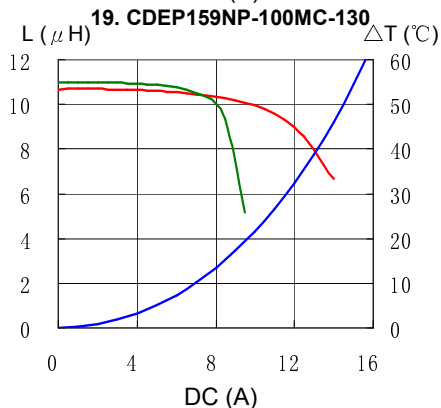
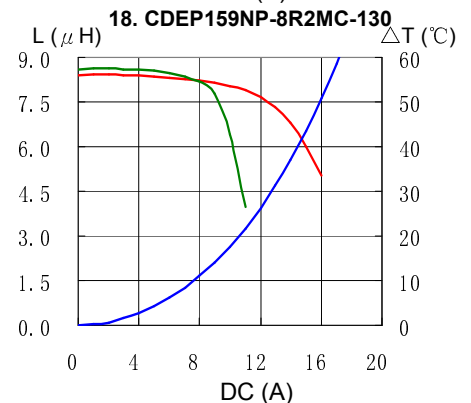
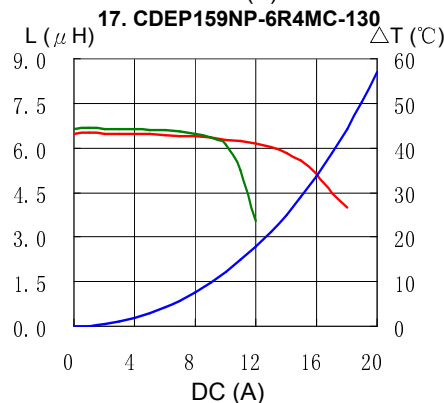
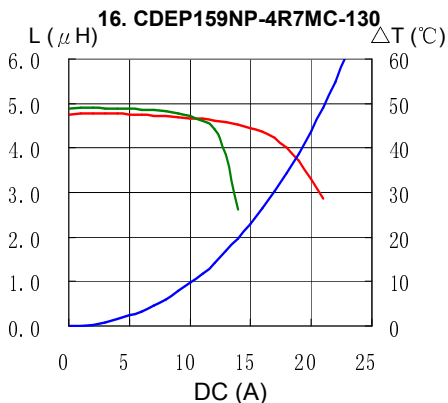
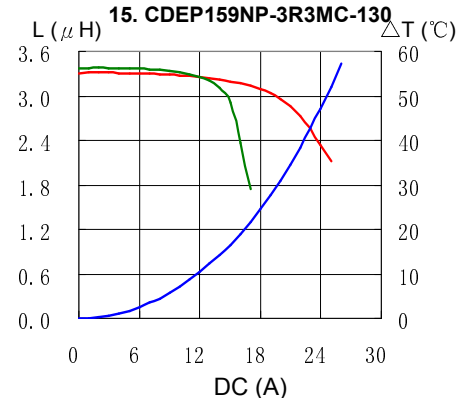
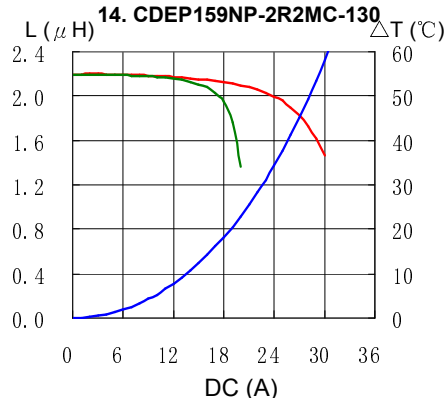
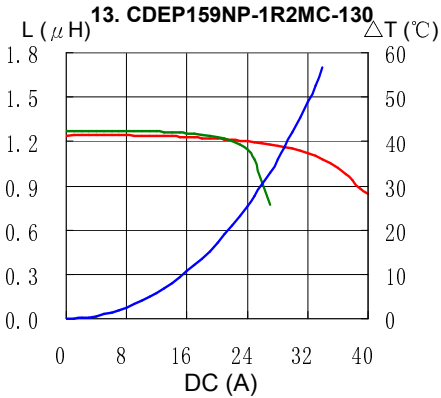


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## Saturation Current & Temperature Rise Graph

— L (20°C) — L (150°C) —  $\Delta T$

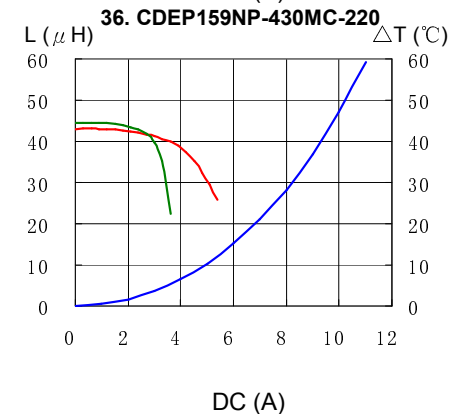
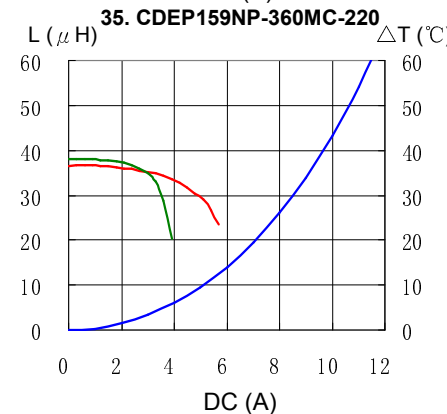
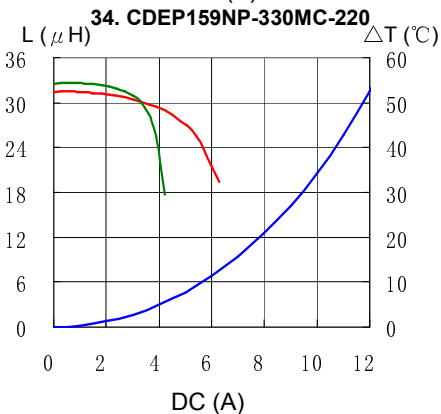
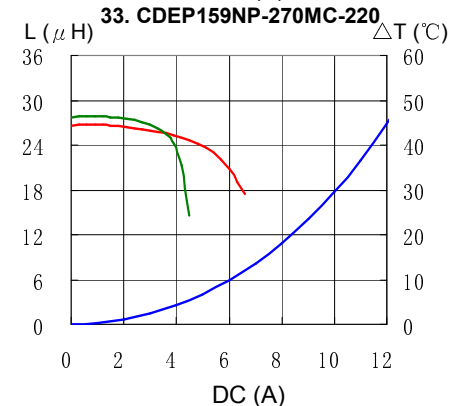
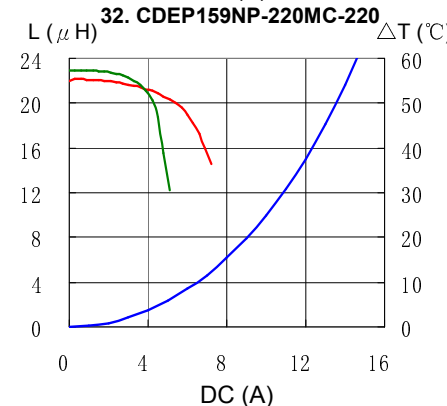
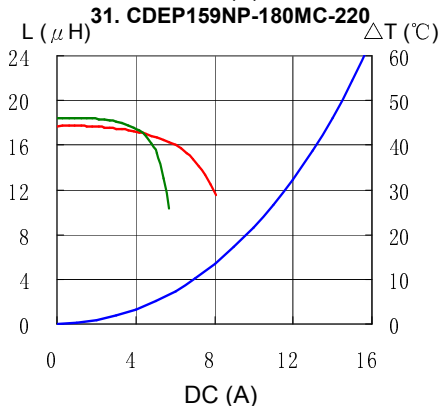
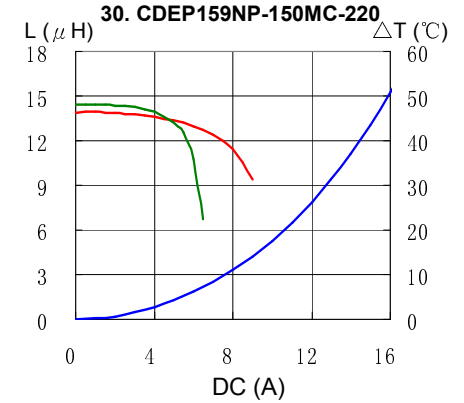
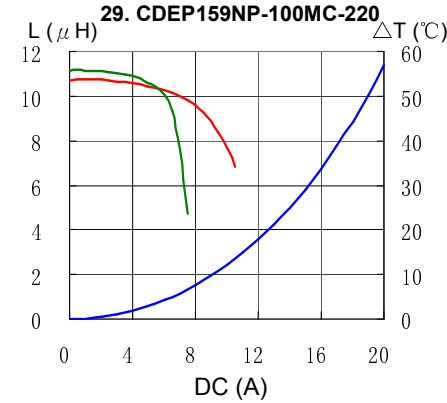
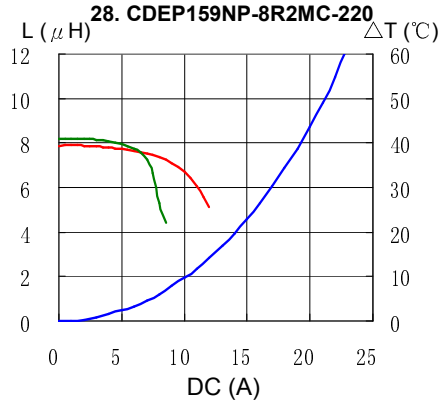
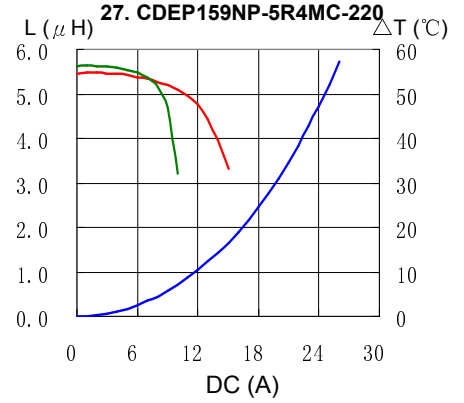
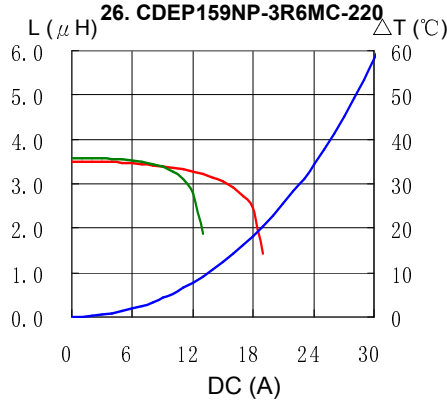
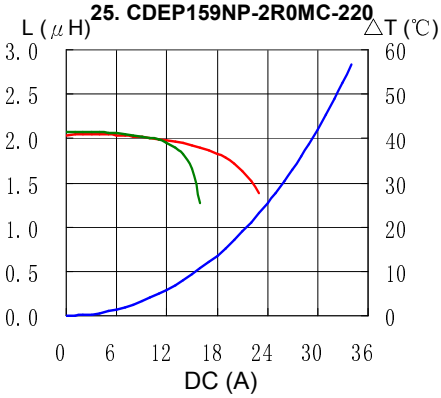


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## Saturation Current & Temperature Rise Graph

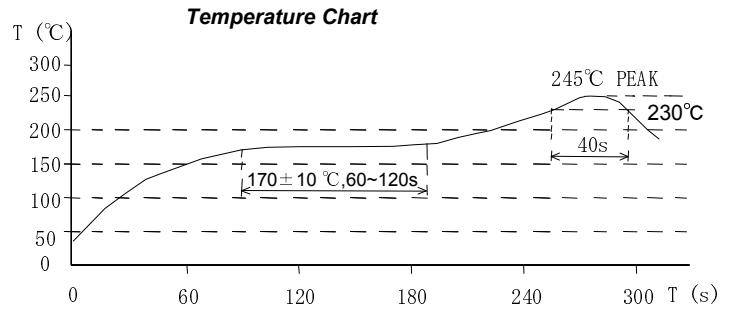
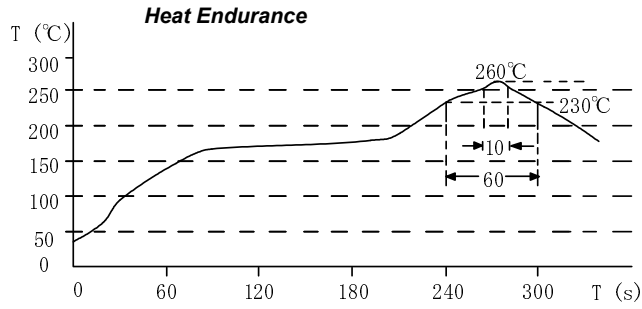
— L (20°C) — L (150°C) —  $\Delta T$



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## Solder Reflow Condition



Please refer to the sales offices on our website - <http://www.sumida.com>

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