



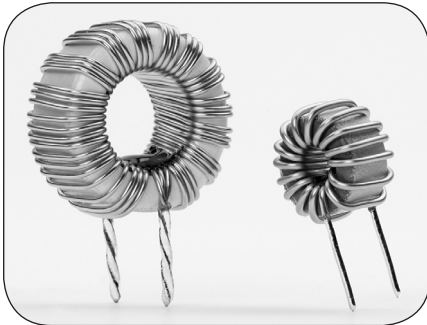
ICE Components, Inc.

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## Output Power Chokes

## I04 Series



### Applications

- 2nd Stage Output Filter for Offline Power Supplies

### Features

- Designed for Use with Popular Flyback Controllers
- Cost Effective Toroid Design
- Low DCR to Minimize Losses
- Range of Inductance Values at Each Current Rating



The I04 series has been designed in collaboration with On Semiconductor to work with the NCP1207 controller as a second stage output filter. With multiple inductance values at popular output current levels, the I04 series provides solutions for a range of output filtering needs. The low DCR values minimize the voltage drop across the inductor and minimize losses due to temperature rise. The low cost designs utilize powdered iron cores from Micrometals to eliminate the risk of long term instability.

The NCP1207 is a PWM current-mode controller for free running quasi-resonant operation. Applications include notebook and offline battery chargers, consumer electronics, set-top boxes, medical power supplies, etc...

### Electrical Specifications

Part Number	Loaded Inductance ( $\mu\text{H}$ ) <sup>1</sup>						DCR (m $\Omega$ , max.)	Temp Rise <sup>5</sup> ( $^{\circ}\text{C}$ )	
	0A	3.3A	6A	8A	10A	13A			16A
I04-4R7-3R3- <u>  </u>	6.4	<b>4.7</b>					11	20.3	
I04-100-3R3- <u>  </u>	14.8	<b>10.0</b>					16.5	19.3	
I04-220-3R3- <u>  </u>	28.8	<b>22.0</b>					26	17.8	
I04-2R2-6R0- <u>  </u>	3.0	2.7	<b>2.2</b>				3.2	18.5	
I04-220-6R0- <u>  </u>	34.8	29.0	<b>22.0</b>				13	16.2	
I04-4R7-8R0- <u>  </u>	7.2	6.5	5.5	<b>4.7</b>			4.2	16.7	
I04-100-8R0- <u>  </u>	14.7	13.3	11.5	<b>10.0</b>			6.5	15.3	
I04-150-8R0- <u>  </u>	20.7	18.5	16.0	<b>15.0</b>			9	15	
I04-220-8R0- <u>  </u>	27.5	26.0	24.0	<b>22.0</b>			7	13.1	
I04-2R2-130- <u>  </u>	3.5			2.8	2.5	<b>2.2</b>	2.4	19.4	
I04-100-130- <u>  </u>	13.7			12.0	11.8	<b>10.0</b>	2.8	10.2	
I04-4R7-160- <u>  </u>	7.5				6.3	5.8	<b>4.7</b>	2	12.1

1. Tested at 20 kHz and a Bmax of 10 Gauss.

2. Electrical specifications at 25 $^{\circ}\text{C}$ .

3. Operating range: -40 $^{\circ}\text{C}$  to +130 $^{\circ}\text{C}$ . This is a combination of ambient plus temperature rise.

4. Meets UL 94V-0.

5. Temperature rise created by total design losses (copper loss plus core loss) at an ambient temperature of 25 $^{\circ}\text{C}$ . Copper loss is calculated using the current associated with the bold faced inductance value. Core loss assumes a output 0.5V ripple at 132kHz.

6. All inductance values assume a maximum temperature rise less than 25 $^{\circ}\text{C}$  at an ambient temperature of 25 $^{\circ}\text{C}$ .

6. The tolerance for no load inductance is +/-20%.

7. For mounting options, please specify **H** (Horizontal) or **V** (Vertical) at the end of the part number.



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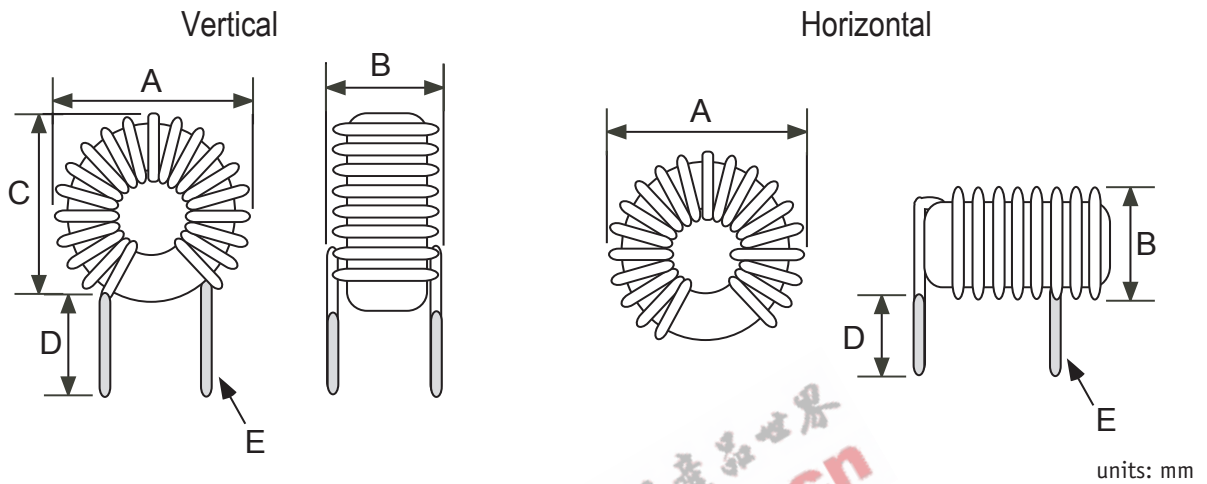
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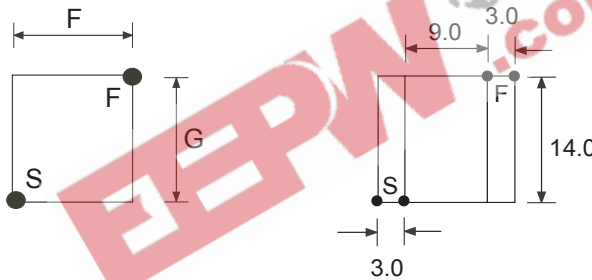
# I04 Series

## Mechanical

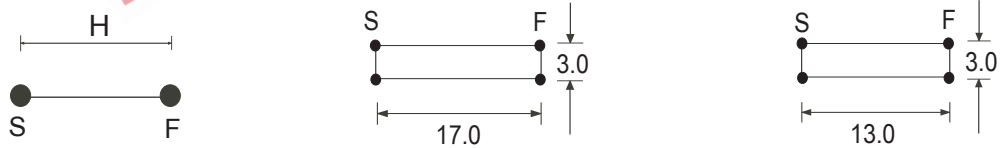


## Footprint

### Vertical



### Horizontal



units: mm

Part Number	A	B	C	D	Lead Dia E	Vertical Footprint		Horizontal Footprint H	PCB Hole Size (recommended)
						F	G		
I04-4R7-3R3	12.0	6.5	11.5	12.7	#21	6.0	8.5	6.0	1.0
I04-100-3R3	14.0	8.5	13.5	12.7	#21	7.0	8.5	7.5	1.0
I04-220-3R3	16.0	12.0	14.5	12.7	#21	12.5	8.0	9.0	1.0
I04-2R2-6R0	15.0	7.5	13.5	12.7	#17	7.0	8.5	7.5	1.5
I04-220-6R0	22.0	15.5	21.0	12.7	#17	12.5	10.5	11.5	1.5
I04-4R7-8R0	18.5	14.0	16.5	12.7	#16	12.5	8.0	8.5	1.7
I04-100-8R0	23.0	14.0	21.0	12.7	#16	12.5	10.5	12.0	1.7
I04-150-8R0	25.5	17.0	23.5	12.7	#16	16.0	14.0	14.5	1.7
I04-220-8R0	33.0	17.0	30.5	12.7	#14	14.0	16.0	18.0	2.0
I04-2R2-130	20.0	15.0	16.5	12.7	#14	12.5	8.0	9.0	2.0
I04-100-130	32.0	16.0	30.5	12.7	#15x2	FIG. 1			1.8
I04-4R7-160	27.0	18.0	24.0	12.7	#14x2	FIG. 2			2.0