



**FEATURES**



- Magnetic shielded structure
- Low DCR and high efficiency
- Low profile and small size
- High reliability

**APPLICATIONS**

- DC-DC converters and power suppliers
- LCD TV's, Blu-ray and gaming consoles
- Tablets, notebooks, servers and printers
- Smart phones, GPS, set top box and base stations
- LED lighting
- Automotive

**ELECTRICAL SPECIFICATIONS**

| PART NO.       | INDUCTANCE<br>( $\mu$ H) | Rdc<br>( $\Omega$ ) $\pm 30\%$ | SATURATION<br>CURRENT <sup>5</sup><br>(A) | RMS<br>CURRENT <sup>4</sup><br>(A) | SRF<br>MHZ (REF) |
|----------------|--------------------------|--------------------------------|-------------------------------------------|------------------------------------|------------------|
| TYS40121R0N-10 | 1.0                      | 0.050                          | 2.61                                      | 1.65                               | 120              |
| TYS40122R2N-10 | 2.2                      | 0.080                          | 1.76                                      | 1.32                               | 74               |
| TYS40123R3N-10 | 3.3                      | 0.110                          | 1.72                                      | 1.12                               | 60               |
| TYS40124R7N-10 | 4.7                      | 0.125                          | 1.15                                      | 1.05                               | 50               |
| TYS40125R6N-10 | 5.6                      | 0.140                          | 1.00                                      | 1.00                               | 42               |
| TYS40126R8M-10 | 6.8                      | 0.198                          | 0.85                                      | 0.84                               | 40               |
| TYS4012100M-10 | 10                       | 0.265                          | 0.80                                      | 0.77                               | 33               |
| TYS4012150M-10 | 15                       | 0.340                          | 0.56                                      | 0.64                               | 25               |
| TYS4012220M-10 | 22                       | 0.587                          | 0.46                                      | 0.49                               | 20               |
| TYS4012330M-10 | 33                       | 0.810                          | 0.42                                      | 0.42                               | 17               |
| TYS4012470M-10 | 47                       | 1.10                           | 0.35                                      | 0.37                               | 12               |
| TYS4012680M-10 | 68                       | 1.950                          | 0.38                                      | 0.27                               | 11               |
| TYS4012101M-10 | 100                      | 2.21                           | 0.25                                      | 0.25                               | 9.4              |

1 Electrical specifications at 20°C.

2 Tolerance: M:  $\pm 20\%$ , N:  $\pm 30\%$

3 Inductance tested at 100 KHz, 1V

4 RMS Current is defined based on temperature rise up to or less than 40°C from 20°C ambient.

5 Saturation Current is the DC current at which the inductance drops approximate 30% from its value without current..

6 Operate temperature range: -25°C~+125°C (including self-temperature rise)

7 Storage temperature range (packaging conditions): -10°C~+40°C and RH 70%(MAX.)

**SHAPES AND DIMENSIONS** Unit: mm

| A             | B             | C        | D             | E              | F             | a        | b        | c        |
|---------------|---------------|----------|---------------|----------------|---------------|----------|----------|----------|
| 4.0 $\pm$ 0.2 | 4.0 $\pm$ 0.2 | 1.2 Max. | 3.3 $\pm$ 0.2 | 0.95 $\pm$ 0.2 | 2.1 $\pm$ 0.2 | 1.9 Typ. | 1.1 Typ. | 3.4 Typ. |

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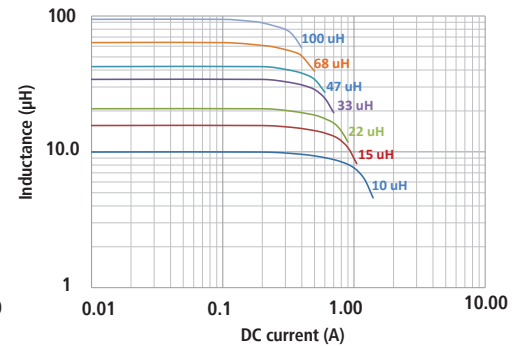
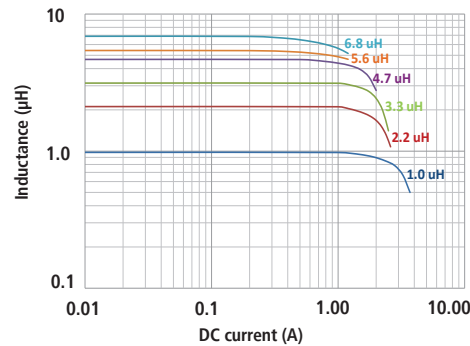
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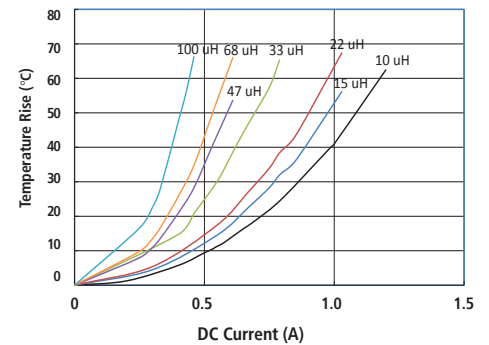
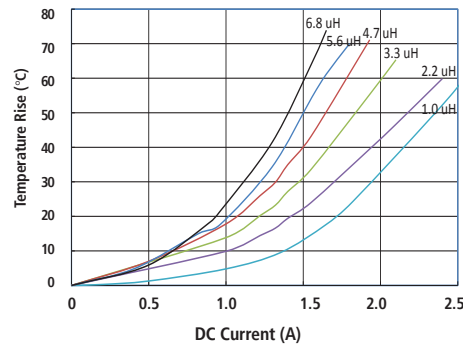
Sample Kit No. **K516** is available  
for the above parts (5pcs each)  
by contacting your local  
Laird Technologies office.

## TYPICAL ELECTRICAL CHARACTERISTICS

Typical L vs Current



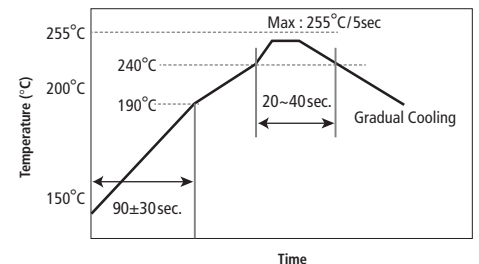
Characters of Temperature Rise



## PACKAGING INFORMATION

- Standard Tape and Reel Quantity (PCS) = 4500
- Reel Size = 13 inches

Temperature Profile of Reflow Soldering



## ORDERING INFORMATION

### PART NUMBER EXAMPLE

|                     |   |   |                |   |   |                                            |   |   |                                         |   |                                    |   |   |
|---------------------|---|---|----------------|---|---|--------------------------------------------|---|---|-----------------------------------------|---|------------------------------------|---|---|
| T                   | Y | S | 4              | 0 | 1 | 2                                          | 4 | R | 7                                       | M | -                                  | 1 | 0 |
| Product series code |   |   | Part size code |   |   | Inductance value code<br>(i.e. 4R7: 4.7uH) |   |   | Tolerance %<br>(i.e. M: ±20% • N: ±30%) |   | PB free code<br>(i.e. 10: PB free) |   |   |

SIP-DS-TYS 4012 1012

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