



### FEATURES



- Magnetic shielded structure
- Low DCR and high efficiency
- Low profile and small size
- High reliability
- AEC-Q200 qualified

### 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>3</sup> (A) | RMS<br>CURRENT <sup>4</sup> (A) | SRF<br>MHZ (REF) |
|----------------|--------------------------|--------------------------------|----------------------------------------|---------------------------------|------------------|
| TYS40201R0N-10 | 1.0                      | 0.029                          | 4.78                                   | 2.15                            | 75               |
| TYS40202R2N-10 | 2.2                      | 0.040                          | 3.40                                   | 1.85                            | 49               |
| TYS40203R3M-10 | 3.3                      | 0.070                          | 3.20                                   | 1.40                            | 44               |
| TYS40204R7M-10 | 4.7                      | 0.075                          | 2.35                                   | 1.34                            | 42               |
| TYS40206R8M-10 | 6.8                      | 0.125                          | 2.20                                   | 1.04                            | 33               |
| TYS4020100M-10 | 10                       | 0.165                          | 1.60                                   | 0.90                            | 26               |
| TYS4020150M-10 | 15                       | 0.230                          | 1.35                                   | 0.77                            | 24               |
| TYS4020220M-10 | 22                       | 0.350                          | 1.05                                   | 0.62                            | 15               |
| TYS4020330M-10 | 33                       | 0.550                          | 0.85                                   | 0.49                            | 11               |
| TYS4020470M-10 | 47                       | 0.710                          | 0.74                                   | 0.44                            | 10               |
| TYS4020680M-10 | 68                       | 1.060                          | 0.61                                   | 0.36                            | 7.7              |
| TYS4020101M-10 | 100                      | 1.550                          | 0.48                                   | 0.31                            | 6.3              |

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

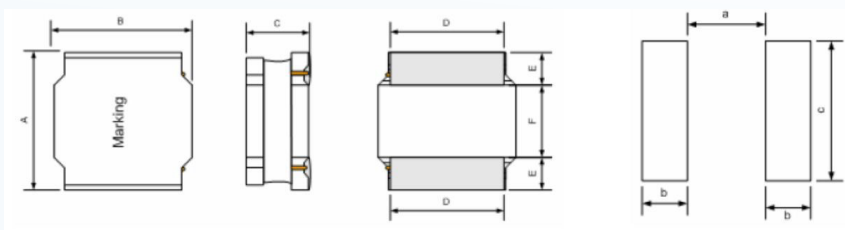
5 Saturation Current is the DC current at which the inductance drops approximate 30% from its value without current

6 Operate temperature range: -40°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

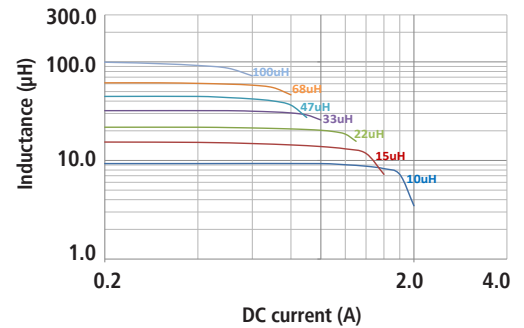
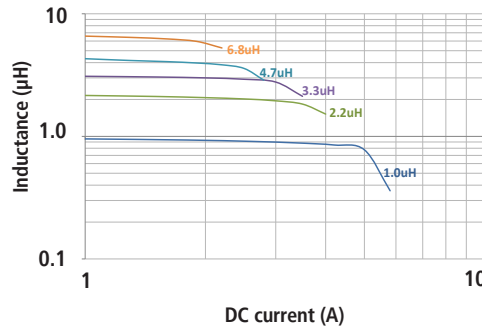


| A             | B             | C        | D             | E              | F             | a        | b        | c        |
|---------------|---------------|----------|---------------|----------------|---------------|----------|----------|----------|
| 4.0 $\pm$ 0.2 | 4.0 $\pm$ 0.2 | 2.0 Max. | 3.3 $\pm$ 0.2 | 0.95 $\pm$ 0.2 | 2.1 $\pm$ 0.2 | 1.9 Typ. | 1.1 Typ. | 3.7 Typ. |

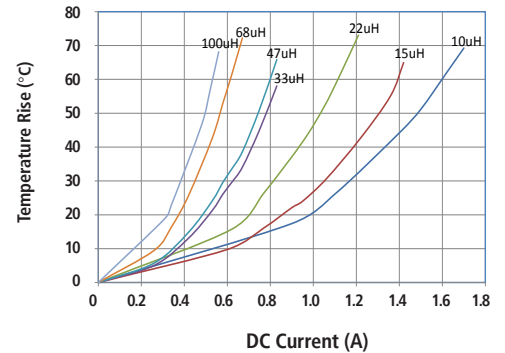
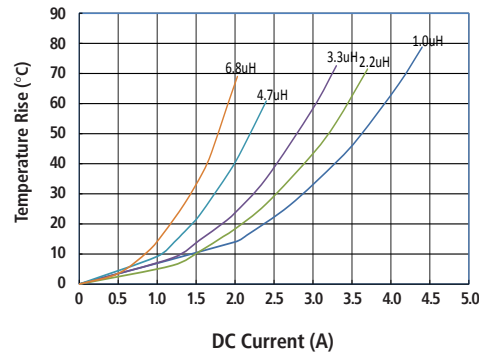
USA: +1.866.928.8181  
Europe: +49.0.8031.2460.0  
Asia: +86.755.2714.1166

### TYPICAL ELECTRICAL CHARACTERISTICS

Typical L vs Current



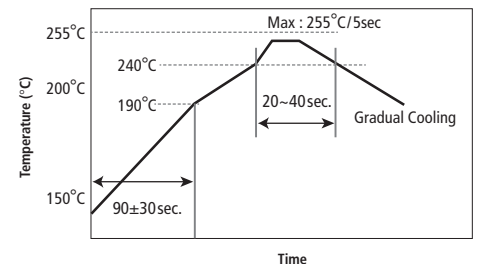
Characteristics of Temperature Rise



### PACKAGING INFORMATION

- Standard Tape and Reel Quantity (PCS) = 3000
- Reel Size = 13 inches

Temperature Profile of Reflow Soldering



### ORDERING INFORMATION

#### PART NUMBER EXAMPLE

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

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# Mouser Electronics

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