

TYS Low Profile SMD Power Inductors

CATALOGUE



Laird[™]

ABOUT LAIRD TECHNOLOGIES

Laird Technologies designs and manufactures customized, performance-critical products for wireless and other advanced electronics applications.

The company is a global market leader in the design and supply of electromagnetic interference (EMI) shielding, thermal management products, mechanical actuation systems, signal integrity components, and wireless antennae solutions, as well as radio frequency (RF) modules and systems.

Laird Technologies partners with its customers to customize product solutions for applications in many industries including:

- Network Equipment
- Handsets
- Telecommunications
- Data Transfer & Information Technology
- Computers
- Automotive Electronics
- Aerospace
- Defense
- Medical Equipment
- Consumer Electronics
- Industrial

Laird Technologies offers its customers unique product solutions, dedication to research and development, as well as a seamless network of manufacturing and customer support facilities across the globe.



TABLE OF CONTENTS

| | |
|---|----|
| Features and Applications | 4 |
| Part Number Explanation | 4 |
| Electrical Specifications | 4 |
| Product Selection Guide | 5 |
| Shapes and Dimensions | 6 |
| TYS Series 3010/3012/3015 | 7 |
| TYS Series 4012/4018/4020/4030 | 9 |
| TYS Series 5020/5040 | 11 |
| TYS Series 6020/6028/6045 | 13 |
| TYS Series 8040 | 15 |
| Temperature Profile of Reflow Soldering | 15 |
| Packaging Information | 16 |
| Sample Kit Lists | 17 |
| Notes | 18 |
| Notes | 19 |



All parts listed in this catalog are lead free and RoHS compliant.

NOTICE

Laird Technologies' products or subcomponents are not specifically designed or tested by Laird Technologies for use in any medical applications, surgical applications, medical device manufacturing, or any similar procedure or process requiring approval, testing, or certification by the United States food and drug administration or other similar Governmental entity. Applications with unusual environmental requirements such as military, medical, life-support or Life-sustaining equipment are specifically not recommended without additional testing for such application.

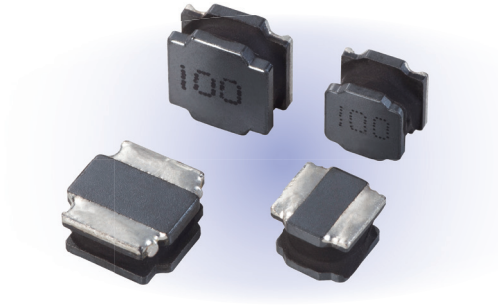
FEATURES AND APPLICATIONS

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



PART NUMBER EXPLANATION

| | | | | | |
|---------------------|----------------|--|--|---|-----------------------|
| T Y S | 3 0 1 0 | 4 R 7 | M | - | 1 0 |
| Product series code | Part size code | Inductance value code (i.e. 4R7: 4.7µH) | Tolerance % (i.e. M: ±20% , N:±30%) | | Standard catalog part |

Note:

Please contact territory sales for automotive inquiry and confirmation on an automotive grade component. If it is available, a new customized part number will be assigned for an automotive application.

ELECTRICAL SPECIFICATIONS

- Electrical specifications at 20°C
- Tolerance: M: ±20%, N:±30%
- Inductance tested at 100KHz, 1V
- RMS Current is defined based on temperature rise 40°C from 20°C ambient.
- Saturation Current is the DC current at which the inductance drops approximate 30% from its value without current.
- Operate temperature range: -40°C ~ +125°C(including self-heating temperature rise)
- Storage temperature range (packaging conditions):-10°C ~ 40°C and RH 70%(MAX.)

Note: RMS current is tested on a typical PCB and apply a constant current in still air. The temperature rise is dependent on the application system condition including PCB PAD pattern, trace width and thickness and adjacent components etc. It's suggest to verify the temperature rise of the component under the real operation application conditions.

TYS SERIES PRODUCT SELECTION GUIDE

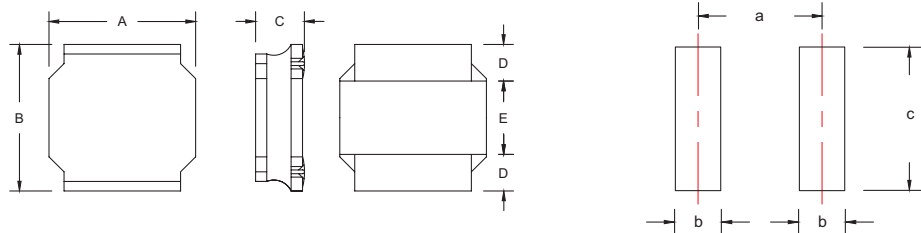
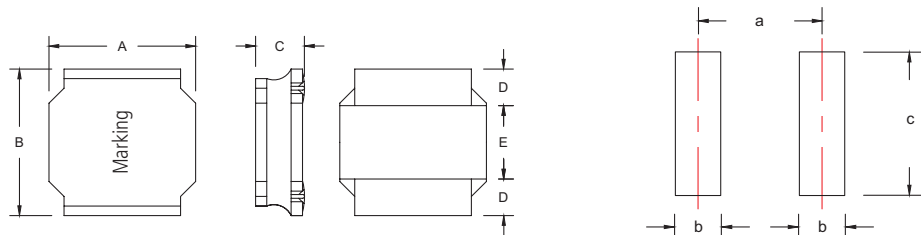


| PART SIZE CODE | DIMENSIONS | Inductance Range | | | | | | PG NO. |
|----------------|-----------------|------------------|-------------------------|------------|-------------|-------------|-------------|--------|
| | | 0.1 μ H | 1 μ H | 10 μ H | 100 μ H | 200 μ H | 330 μ H | |
| 3010 | 3.0 x 3.0 x 1.0 | 0.22 | 1 μ H — 47 μ H | 1.4 | | | | 7 |
| 3012 | 3.0 x 3.0 x 1.2 | 0.21 | 1 μ H — 100 μ H | 1.87 | | | | 7 |
| 3015 | 3.0 x 3.0 x 1.5 | 0.35 | 1 μ H — 47 μ H | 2.32 | | | | 7 |
| 4012 | 4.0 x 4.0 x 1.2 | 0.25 | 1 μ H — 100 μ H | 2.61 | | | | 9 |
| 4018 | 4.0 x 4.0 x 1.8 | 0.27 | 1 μ H — 220 μ H | 4.8 | | | | 9 |
| 4020 | 4.0 x 4.0 x 2.0 | 0.25 | 1 μ H — 100 μ H | 4.78 | | | | 9 |
| 4030 | 4.0 x 4.0 x 3.0 | 0.55 | 1 μ H — 120 μ H | 5.26 | | | | 9 |
| 5020 | 5.0 x 5.0 x 2.0 | | 1 μ H — 22 μ H | 1.15 | 4.1 | | | 11 |
| 5040 | 5.0 x 5.0 x 4.0 | | 1 μ H — 100 μ H | 0.75 | 7.35 | | | 11 |
| 6020 | 6.0 x 6.0 x 2.0 | | 1 μ H — 22 μ H | 1.05 | 4.15 | | | 13 |
| 6028 | 6.0 x 6.0 x 2.8 | | 1 μ H — 100 μ H | 0.65 | 5.75 | | | 13 |
| 6045 | 6.0 x 6.0 x 4.5 | | 1 μ H — 330 μ H | 0.57 | 9.85 | | | 13 |
| 8040 | 8.0 x 8.0 x 4.0 | | 1 μ H — 330 μ H | 0.68 | 9.85 | | | 15 |

SATURATION Current (A)

TYS SERIES SHAPES AND DIMENSIONS

| SERIES (UNIT: mm) | FIGURE | A | B | C | D | E | a | b | c |
|-------------------|--------|---------|---------|---------------|----------|----------|------|-----|-----|
| TYS3010 | A | 3.0±0.2 | 3.0±0.2 | 1.0 +0.2/-0.3 | 0.75±0.2 | 1.50±0.2 | 2.3 | 0.8 | 2.7 |
| TYS3012 | | | | 1.2 +0.2/-0.3 | | | | | |
| TYS3015 | | | | 1.5 +0.2/-0.3 | | | | | |
| TYS4012 | B | 4.0±0.2 | 4.0±0.2 | 1.2 +0.2/-0.3 | 1.30±0.3 | 1.40±0.3 | 2.7 | 1.5 | 4.0 |
| TYS4018 | | | | 1.8 +0.2/-0.3 | | | | | |
| TYS4020 | | | | 2.0Max. | 0.95±0.2 | 2.10±0.2 | 3.0 | 1.1 | 3.7 |
| TYS4030 | | | | 3.0Max. | 1.30±0.3 | 1.40±0.3 | 2.7 | 1.5 | 4.0 |
| TYS5020 | B | 5.0±0.2 | 5.0±0.2 | 2.0 +0.2/-0.3 | 1.25±0.2 | 2.5±0.2 | 3.75 | 1.4 | 5.0 |
| TYS5040 | | | | 4.0 +0.2/-0.3 | | | | | |
| TYS6020 | B | 6.0±0.3 | 6.0±0.3 | 2.0 +0.2/-0.3 | 1.60±0.3 | 2.8±0.3 | 4.4 | 1.8 | 6.0 |
| TYS6028 | | | | 2.8 +0.2/-0.3 | | | | | |
| TYS6045 | | | | 4.5 +0.2/-0.3 | 1.80±0.3 | 2.4±0.3 | 4.2 | 2.0 | 6.0 |
| TYS8040 | B | 8.0±0.3 | 8.0±0.3 | 4.0 +0.2/-0.3 | 2.45±0.3 | 3.1±0.3 | 5.5 | 2.5 | 8.0 |

FIGURE A

FIGURE B


TYS SERIES 3010/3012/3015

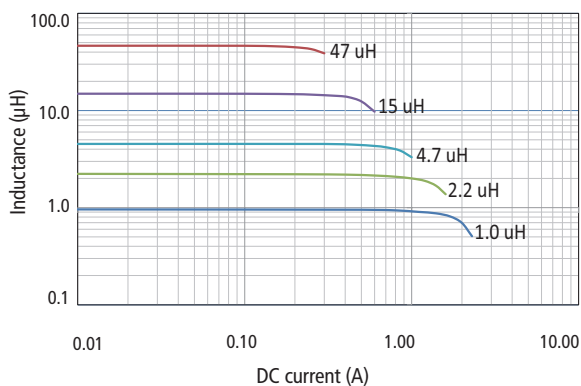
ELECTRICAL SPECIFICATIONS

| PART NO. | INDUCTANCE (μH) | R _{dc} (Ω) Max | SATURATION CURRENT (A) | RMS CURRENT (A) | SRF MHZ (REF) |
|----------------|-----------------|-------------------------|------------------------|-----------------|---------------|
| TYS30101R0N-10 | 1 | 0.0850 | 1.40 | 1.45 | 180 |
| TYS30101R5N-10 | 1.5 | 0.1040 | 1.27 | 1.30 | 120 |
| TYS30102R2N-10 | 2.2 | 0.1430 | 1.15 | 1.09 | 100 |
| TYS30103R3N-10 | 3.3 | 0.1890 | 0.97 | 0.96 | 74 |
| TYS30104R7M-10 | 4.7 | 0.2930 | 0.75 | 0.77 | 59 |
| TYS30106R8M-10 | 6.8 | 0.3970 | 0.55 | 0.66 | 42 |
| TYS3010100M-10 | 10 | 0.5200 | 0.55 | 0.58 | 39 |
| TYS3010150M-10 | 15 | 0.7930 | 0.42 | 0.47 | 30 |
| TYS3010220M-10 | 22 | 1.2090 | 0.35 | 0.38 | 28 |
| TYS3010330M-10 | 33 | 2.0150 | 0.29 | 0.30 | 18 |
| TYS3010470M-10 | 47 | 2.5350 | 0.22 | 0.26 | 18 |
| TYS30121R0N-10 | 1 | 0.0520 | 1.87 | 2.20 | 120 |
| TYS30121R5N-10 | 1.5 | 0.0585 | 1.62 | 2.01 | 110 |
| TYS30122R2N-10 | 2.2 | 0.0975 | 1.20 | 1.55 | 84 |
| TYS30123R3M-10 | 3.3 | 0.1300 | 1.05 | 1.36 | 64 |
| TYS30124R7M-10 | 4.7 | 0.1560 | 0.90 | 1.24 | 61 |
| TYS30126R8M-10 | 6.8 | 0.2470 | 0.75 | 0.98 | 61 |
| TYS3012100M-10 | 10 | 0.3445 | 0.60 | 0.83 | 42 |
| TYS3012150M-10 | 15 | 0.5980 | 0.45 | 0.71 | 27 |
| TYS3012220M-10 | 22 | 0.8385 | 0.42 | 0.53 | 23 |
| TYS3012330M-10 | 33 | 1.1375 | 0.36 | 0.46 | 18 |
| TYS3012470M-10 | 47 | 1.8850 | 0.27 | 0.35 | 14 |
| TYS3012680M-10 | 68 | 2.1710 | 0.24 | 0.33 | 12 |
| TYS3012101M-10 | 100 | 3.7180 | 0.21 | 0.25 | 12 |
| TYS30151R0N-10 | 1 | 0.0450 | 2.32 | 2.35 | 150 |
| TYS30151R5N-10 | 1.5 | 0.0650 | 2.30 | 1.70 | 100 |
| TYS30152R2N-10 | 2.2 | 0.0780 | 1.60 | 1.60 | 86 |
| TYS30153R3M-10 | 3.3 | 0.1140 | 1.32 | 1.36 | 68 |
| TYS30154R7M-10 | 4.7 | 0.1625 | 1.10 | 1.09 | 46 |
| TYS30156R8M-10 | 6.8 | 0.2600 | 0.85 | 0.85 | 39 |
| TYS3015100M-10 | 10 | 0.3250 | 0.72 | 0.77 | 41 |
| TYS3015150M-10 | 15 | 0.4940 | 0.66 | 0.65 | 30 |
| TYS3015220M-10 | 22 | 0.5980 | 0.52 | 0.57 | 23 |
| TYS3015330M-10 | 33 | 1.0660 | 0.44 | 0.43 | 20 |
| TYS3015470M-10 | 47 | 1.6250 | 0.35 | 0.35 | 14 |

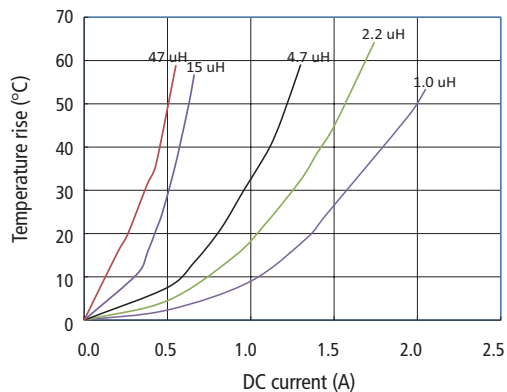
TYS SERIES 3010/3012/3015

TYPICAL ELECTRICAL CHARACTERISTICS

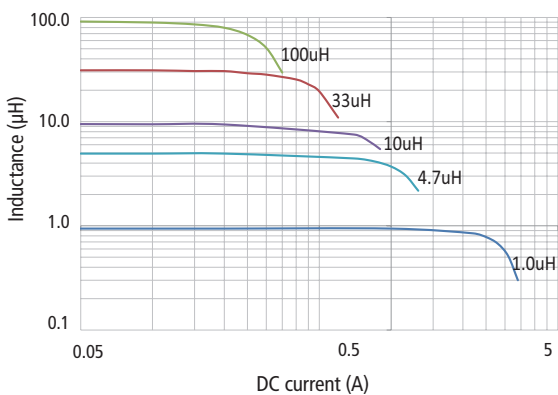
TYS3010 Typical L vs DC Current



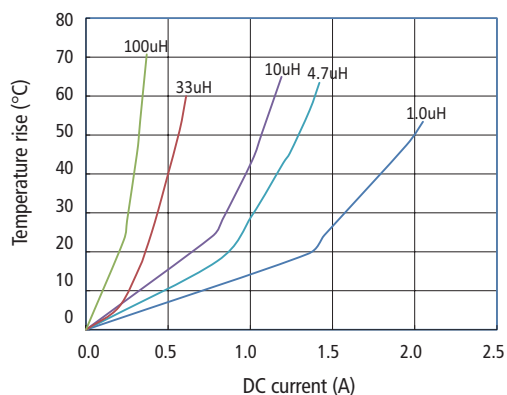
TYS3010 Temperature Rise vs DC Current



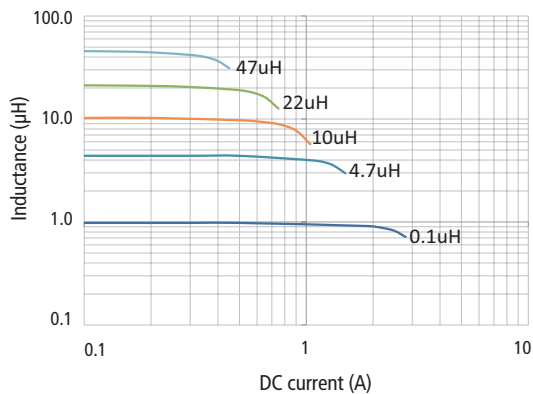
TYS3012 Typical L vs DC Current



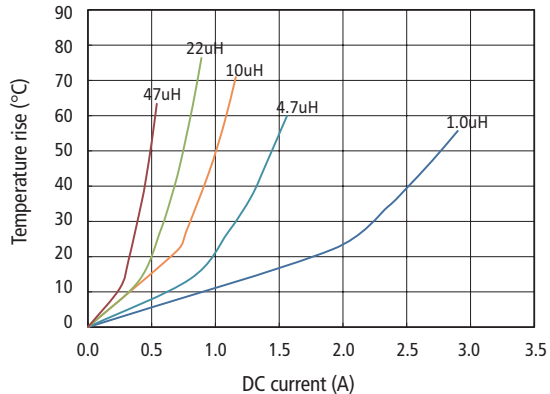
TYS3012 Temperature Rise vs DC Current



TYS3015 Typical L vs DC Current



TYS3015 Temperature Rise vs DC Current



TYS SERIES 4012 / 4018 / 4020 / 4030

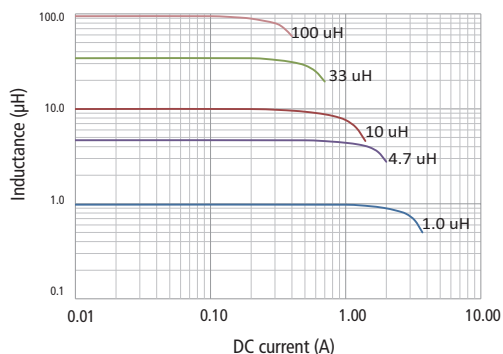
ELECTRICAL SPECIFICATIONS

| PART NO. | INDUCTANCE (μH) | Rdc (Ω) Max | SATURATION CURRENT (A) | RMS CURRENT (A) | SRF MHZ (REF) |
|----------------|-----------------|-------------|------------------------|-----------------|---------------|
| TYS40121R0N-10 | 1 | 0.0650 | 2.61 | 1.65 | 120 |
| TYS40122R2N-10 | 2.2 | 0.1040 | 1.76 | 1.32 | 74 |
| TYS40123R3N-10 | 3.3 | 0.1430 | 1.72 | 1.12 | 60 |
| TYS40124R7N-10 | 4.7 | 0.1630 | 1.15 | 1.05 | 50 |
| TYS40125R6N-10 | 5.6 | 0.1820 | 1.00 | 1.00 | 42 |
| TYS40126R8M-10 | 6.8 | 0.2570 | 0.85 | 0.84 | 40 |
| TYS4012100M-10 | 10 | 0.3450 | 0.80 | 0.77 | 33 |
| TYS4012150M-10 | 15 | 0.4420 | 0.56 | 0.64 | 25 |
| TYS4012220M-10 | 22 | 0.7630 | 0.46 | 0.49 | 20 |
| TYS4012330M-10 | 33 | 1.0530 | 0.42 | 0.42 | 17 |
| TYS4012470M-10 | 47 | 1.4300 | 0.35 | 0.37 | 12 |
| TYS4012680M-10 | 68 | 2.5350 | 0.38 | 0.27 | 11 |
| TYS4012101M-10 | 100 | 2.8730 | 0.25 | 0.25 | 9.4 |
| TYS40181R0N-10 | 1 | 0.0325 | 4.80 | 2.00 | 80 |
| TYS40182R2M-10 | 2.2 | 0.0590 | 2.70 | 1.65 | 52 |
| TYS40184R7M-10 | 4.7 | 0.1170 | 1.70 | 1.20 | 34 |
| TYS40186R8M-10 | 6.8 | 0.1430 | 1.45 | 1.06 | 29 |
| TYS4018100M-10 | 10 | 0.2340 | 1.30 | 0.84 | 24 |
| TYS4018150M-10 | 15 | 0.3250 | 0.94 | 0.65 | 19 |
| TYS4018220M-10 | 22 | 0.4680 | 0.80 | 0.59 | 16 |
| TYS4018330M-10 | 33 | 0.6890 | 0.65 | 0.49 | 12 |
| TYS4018470M-10 | 47 | 0.8450 | 0.57 | 0.42 | 10 |
| TYS4018680M-10 | 68 | 1.3000 | 0.47 | 0.32 | 8.3 |
| TYS4018101M-10 | 100 | 2.2750 | 0.40 | 0.25 | 6.5 |
| TYS4018151M-10 | 150 | 3.2500 | 0.31 | 0.22 | 5.5 |
| TYS4018221M-10 | 220 | 5.2000 | 0.27 | 0.17 | 4 |
| TYS40201R0N-10 | 1 | 0.0377 | 4.78 | 2.15 | 75 |
| TYS40202R2N-10 | 2.2 | 0.0520 | 3.40 | 1.85 | 49 |
| TYS40203R3M-10 | 3.3 | 0.0910 | 3.20 | 1.40 | 44 |
| TYS40204R7M-10 | 4.7 | 0.0975 | 2.35 | 1.34 | 42 |
| TYS40206R8M-10 | 6.8 | 0.1625 | 2.20 | 1.04 | 33 |
| TYS4020100M-10 | 10 | 0.2145 | 1.60 | 0.90 | 26 |
| TYS4020150M-10 | 15 | 0.2990 | 1.35 | 0.77 | 24 |
| TYS4020220M-10 | 22 | 0.4550 | 1.05 | 0.62 | 15 |
| TYS4020330M-10 | 33 | 0.7150 | 0.85 | 0.49 | 11 |
| TYS4020470M-10 | 47 | 1.4300 | 0.35 | 0.37 | 12 |
| TYS4020680M-10 | 68 | 2.5350 | 0.38 | 0.27 | 11 |
| TYS4020101M-10 | 100 | 2.8370 | 0.25 | 0.25 | 9.4 |
| TYS40301R0N-10 | 1 | 0.0182 | 5.26 | 4.15 | 70 |
| TYS40301R5N-10 | 1.5 | 0.0260 | 4.84 | 3.34 | 62 |
| TYS40302R2N-10 | 2.2 | 0.0390 | 4.90 | 2.95 | 52 |
| TYS40303R3M-10 | 3.3 | 0.0520 | 3.30 | 2.40 | 38 |
| TYS40304R7M-10 | 4.7 | 0.0780 | 2.90 | 2.00 | 31 |
| TYS40306R8M-10 | 6.8 | 0.1170 | 2.75 | 1.60 | 24 |
| TYS4030100M-10 | 10 | 0.1300 | 1.95 | 1.50 | 21 |
| TYS4030150M-10 | 15 | 0.2470 | 1.65 | 1.11 | 16 |
| TYS4030220M-10 | 22 | 0.2925 | 1.30 | 1.00 | 10 |
| TYS4030330M-10 | 33 | 0.4290 | 1.10 | 0.84 | 10 |
| TYS4030470M-10 | 47 | 0.6370 | 0.95 | 0.72 | 8.4 |
| TYS4030680M-10 | 68 | 1.1284 | 0.72 | 0.52 | 7 |
| TYS4030101M-10 | 100 | 1.4950 | 0.60 | 0.45 | 5.6 |
| TYS4030121M-10 | 120 | 1.7550 | 0.55 | 0.42 | 5.4 |

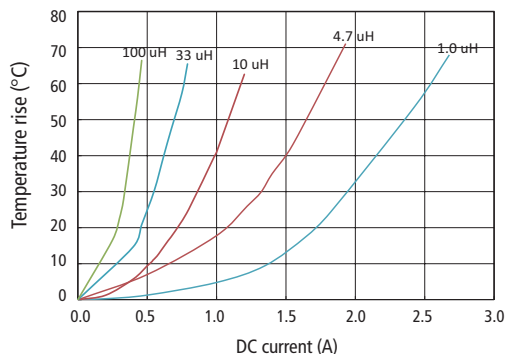
TYS SERIES 4012 / 4018 / 4020 / 4030

TYPICAL ELECTRICAL CHARACTERISTICS

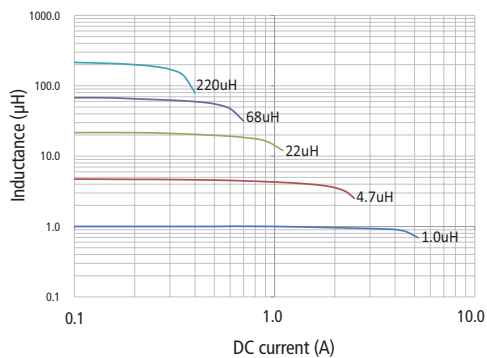
TYS4012 Typical L vs DC Current



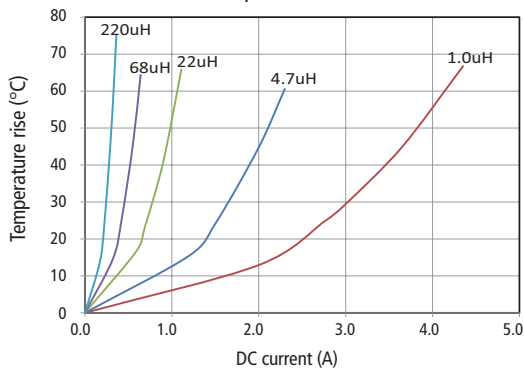
TYS4012 Temperature Rise vs DC Current



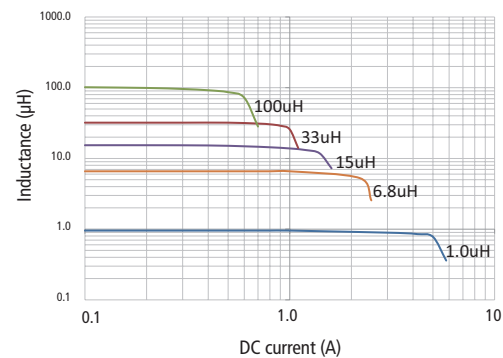
TYS4018 Typical L vs DC Current



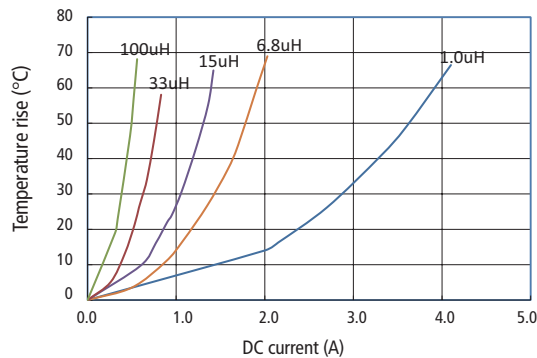
TYS4018 Temperature Rise vs DC Current



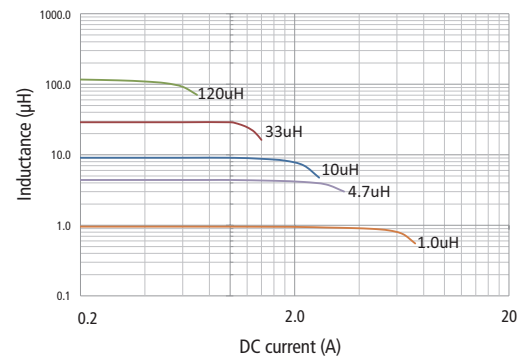
TYS4020 Typical L vs DC Current



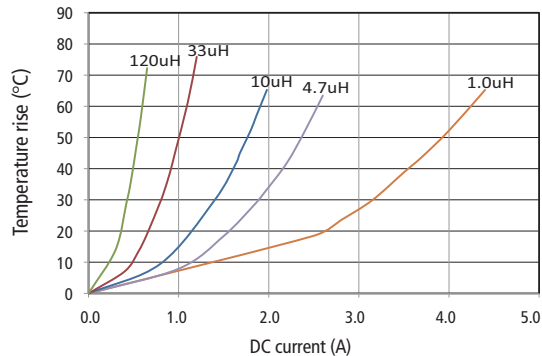
TYS4020 Temperature Rise vs DC Current



TYS4030 Typical L vs DC Current



TYS4030 Temperature Rise vs DC Current



TYS SERIES 5020 / 5040

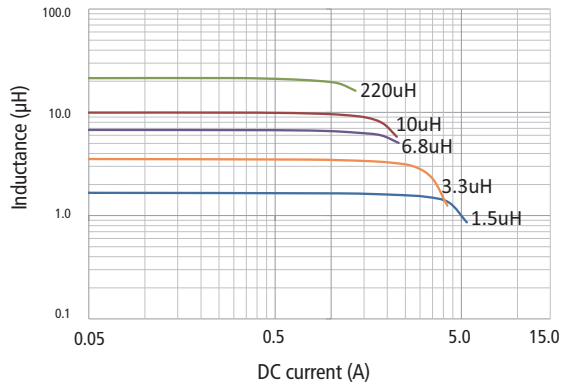
ELECTRICAL SPECIFICATIONS

| PART NO. | INDUCTANCE (μ H) | R _{dc} (Ω) Max | SATURATION CURRENT (A) | RMS CURRENT (A) | SRF MHZ (REF) |
|----------------|--------------------------|-------------------------------------|---------------------------|--------------------|------------------|
| TYS50201R0N-10 | 1 | 0.0260 | 4.10 | 3.80 | 114 |
| TYS50201R5N-10 | 1.5 | 0.0340 | 4.10 | 3.20 | 68 |
| TYS50202R2N-10 | 2.2 | 0.0416 | 3.20 | 2.90 | 57 |
| TYS50203R3N-10 | 3.3 | 0.0560 | 2.55 | 2.50 | 46 |
| TYS50203R6N-10 | 3.6 | 0.0560 | 2.80 | 2.50 | 43 |
| TYS50204R7M-10 | 4.7 | 0.0740 | 2.50 | 2.20 | 37 |
| TYS50206R8M-10 | 6.8 | 0.1080 | 2.05 | 1.80 | 30 |
| TYS5020100M-10 | 10 | 0.1430 | 1.70 | 1.55 | 24 |
| TYS5020150M-10 | 15 | 0.2150 | 1.35 | 1.25 | 20 |
| TYS5020220M-10 | 22 | 0.2940 | 1.15 | 1.10 | 14 |
| TYS50401R0N-10 | 1 | 0.0144 | 7.35 | 4.90 | 117 |
| TYS50401R5N-10 | 1.5 | 0.0180 | 6.30 | 4.30 | 86 |
| TYS50402R2N-10 | 2.2 | 0.0228 | 4.90 | 3.80 | 50 |
| TYS50403R3N-10 | 3.3 | 0.0288 | 3.95 | 3.40 | 32 |
| TYS50404R7N-10 | 4.7 | 0.0360 | 3.50 | 3.00 | 28 |
| TYS50406R8M-10 | 6.8 | 0.0516 | 2.90 | 2.50 | 21 |
| TYS5040100M-10 | 10 | 0.0768 | 2.35 | 2.10 | 18 |
| TYS5040150M-10 | 15 | 0.1030 | 2.00 | 2.00 | 13 |
| TYS5040220M-10 | 22 | 0.1550 | 1.60 | 1.50 | 11 |
| TYS5040330M-10 | 33 | 0.2260 | 1.30 | 1.20 | 9.1 |
| TYS5040470M-10 | 47 | 0.3260 | 1.10 | 1.00 | 6.7 |
| TYS5040680M-10 | 68 | 0.4800 | 0.90 | 0.80 | 5.7 |
| TYS5040101M-10 | 100 | 0.6720 | 0.75 | 0.70 | 4.7 |

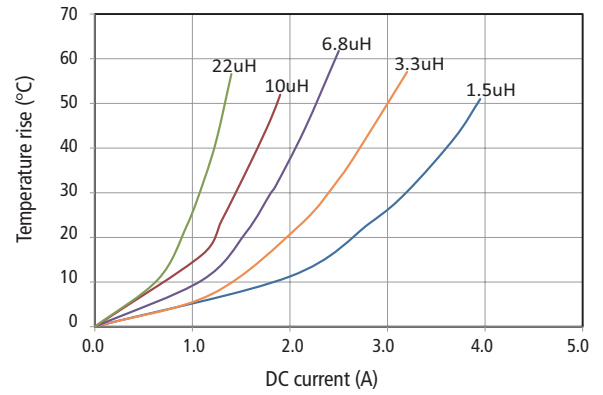
TYS SERIES 5020 / 5040

TYPICAL ELECTRICAL CHARACTERISTICS

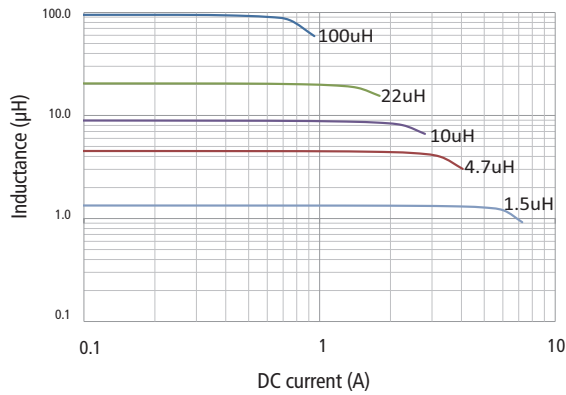
TYS5020 Typical L vs DC Current



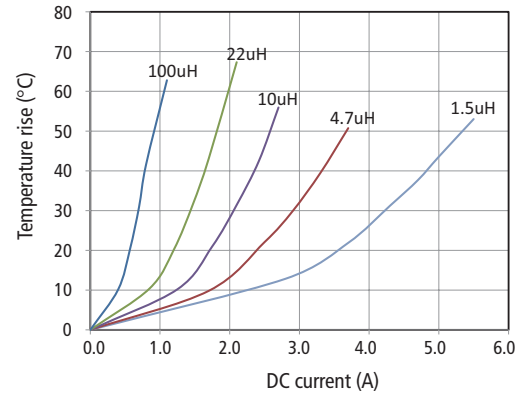
TYS5020 Temperature Rise vs DC Current



TYS5040 Typical L vs DC Current



TYS5040 Temperature Rise vs DC Current



TYS SERIES 6020 / 6028 / 6045

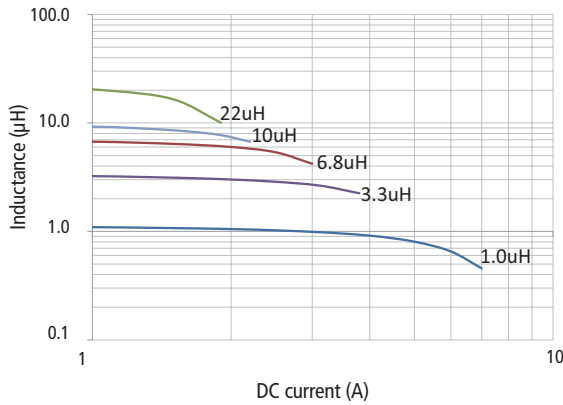
ELECTRICAL SPECIFICATIONS

| PART NO. | INDUCTANCE (μH) | Rdc (Ω) Max | SATURATION CURRENT (A) | RMS CURRENT (A) | SRF MHZ (REF) |
|----------------|-----------------|-------------|------------------------|-----------------|---------------|
| TYS60201R0N-10 | 1 | 0.0260 | 4.15 | 3.50 | 100 |
| TYS60201R5N-10 | 1.5 | 0.0286 | 4.25 | 3.20 | 79 |
| TYS60202R2N-10 | 2.2 | 0.0364 | 3.75 | 2.75 | 61 |
| TYS60203R3N-10 | 3.3 | 0.0455 | 3.15 | 2.60 | 51 |
| TYS60204R7N-10 | 4.7 | 0.0754 | 3.00 | 2.00 | 41 |
| TYS60206R8N-10 | 6.8 | 0.1027 | 2.20 | 1.80 | 31 |
| TYS6020100M-10 | 10 | 0.1365 | 1.75 | 1.40 | 27 |
| TYS6020220M-10 | 22 | 0.2652 | 1.05 | 1.00 | 16 |
| TYS60281R0N-10 | 1 | 0.0130 | 5.75 | 5.20 | 70 |
| TYS60281R3N-10 | 1.3 | 0.0169 | 6.00 | 4.58 | 65 |
| TYS60281R5N-10 | 1.5 | 0.0169 | 6.00 | 4.58 | 65 |
| TYS60282R2N-10 | 2.2 | 0.0260 | 5.10 | 3.75 | 48 |
| TYS60283R3N-10 | 3.3 | 0.0325 | 4.15 | 3.48 | 41 |
| TYS60284R7N-10 | 4.7 | 0.0390 | 3.00 | 3.08 | 35 |
| TYS60286R8M-10 | 6.8 | 0.0611 | 2.60 | 2.40 | 27 |
| TYS6028150M-10 | 15 | 0.1625 | 1.75 | 1.45 | 18 |
| TYS6028220M-10 | 22 | 0.1820 | 1.45 | 1.40 | 14 |
| TYS6028330M-10 | 33 | 0.2405 | 1.35 | 1.22 | 12 |
| TYS6028470M-10 | 47 | 0.4095 | 1.15 | 1.06 | 9.5 |
| TYS6028680M-10 | 68 | 0.4680 | 0.80 | 0.86 | 7.7 |
| TYS6028101M-10 | 100 | 0.6500 | 0.65 | 0.70 | 7.1 |
| TYS60451R0N-10 | 1 | 0.0143 | 9.85 | 5.14 | 100 |
| TYS60451R3N-10 | 1.3 | 0.0130 | 8.35 | 5.40 | 100 |
| TYS60451R5N-10 | 1.5 | 0.0156 | 8.80 | 4.95 | 65 |
| TYS60451R8N-10 | 1.8 | 0.0156 | 7.60 | 4.95 | 74 |
| TYS60452R2N-10 | 2.2 | 0.0182 | 6.75 | 4.60 | 52 |
| TYS60452R3N-10 | 2.3 | 0.0273 | 6.00 | 3.50 | 60 |
| TYS60453R0N-10 | 3 | 0.0260 | 5.60 | 3.80 | 35 |
| TYS60453R3N-10 | 3.3 | 0.0273 | 5.90 | 3.70 | 32 |
| TYS60454R5M-10 | 4.5 | 0.0338 | 4.97 | 3.30 | 24 |
| TYS60454R7M-10 | 4.7 | 0.0338 | 4.97 | 3.30 | 24 |
| TYS60456R3M-10 | 6.3 | 0.0455 | 4.43 | 3.00 | 26 |
| TYS60456R8M-10 | 6.8 | 0.0403 | 3.90 | 3.00 | 20 |
| TYS6045100M-10 | 10 | 0.0624 | 3.20 | 2.45 | 15 |
| TYS6045150M-10 | 15 | 0.0884 | 2.50 | 2.05 | 12 |
| TYS6045220M-10 | 22 | 0.1157 | 2.05 | 1.80 | 10 |
| TYS6045470M-10 | 47 | 0.2600 | 1.40 | 1.20 | 6.4 |
| TYS6045680M-10 | 68 | 0.3757 | 1.20 | 1.00 | 6.4 |
| TYS6045101M-10 | 100 | 0.5630 | 0.95 | 0.80 | 4.2 |
| TYS6045221M-10 | 220 | 1.0840 | 0.70 | 0.59 | 3.5 |
| TYS6045331M-10 | 330 | 1.6510 | 0.57 | 0.57 | 2.8 |

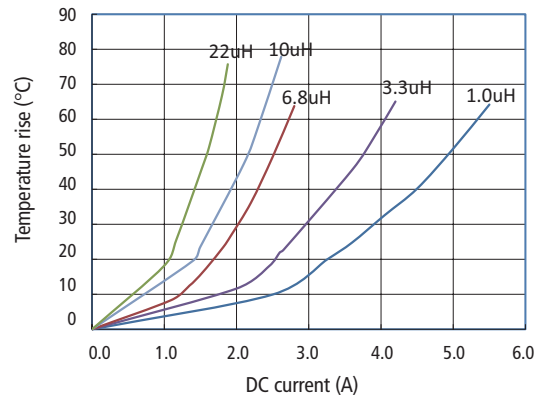
TYS SERIES 6020 / 6028 / 6045

TYPICAL ELECTRICAL CHARACTERISTICS

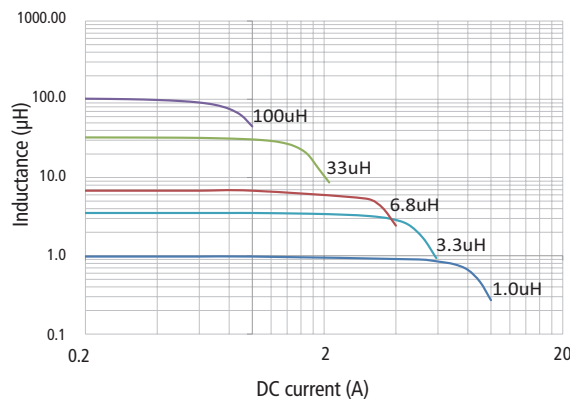
TYS6020 Typical L vs DC Current



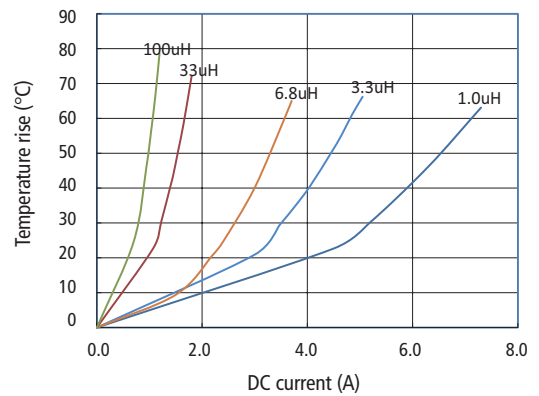
TYS6020 Temperature Rise vs DC Current



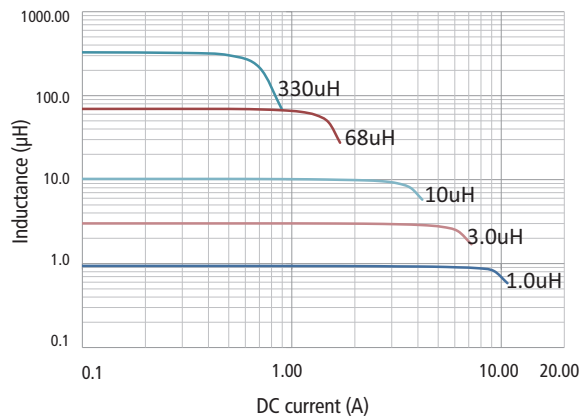
TYS6028 Typical L vs DC Current



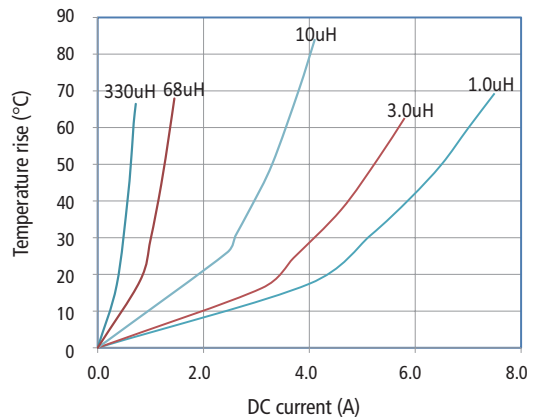
TYS6028 Temperature Rise vs DC Current



TYS6045 Typical L vs DC Current



TYS6045 Temperature Rise vs DC Current



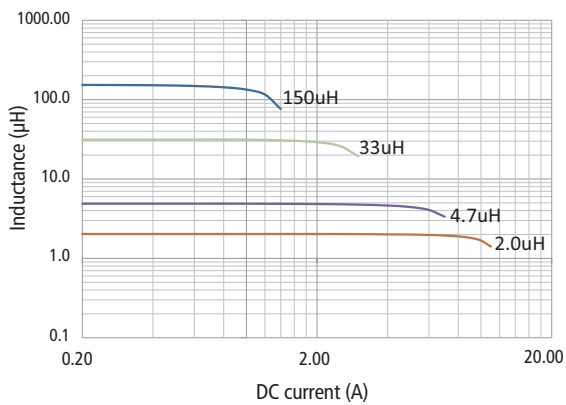
TYS SERIES 8040

ELECTRICAL SPECIFICATIONS

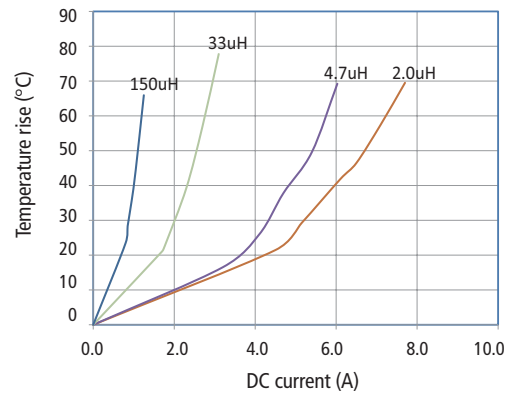
| PART NO. | INDUCTANCE (μH) | Rdc (Ω) Max | SATURATION CURRENT (A) | RMS CURRENT (A) | SRF MHZ (REF) |
|----------------|------------------------------|----------------------|------------------------|-----------------|---------------|
| TYS80401R0N-10 | 1 | 0.0104 | 9.85 | 6.30 | 89 |
| TYS80401R4N-10 | 1.4 | 0.0130 | 8.15 | 5.65 | 67 |
| TYS80402R0N-10 | 2 | 0.0156 | 9.25 | 5.15 | 43 |
| TYS80402R2N-10 | 2.2 | 0.0156 | 7.10 | 5.15 | 41 |
| TYS80403R3N-10 | 3.3 | 0.0221 | 6.50 | 4.40 | 27 |
| TYS80403R6N-10 | 3.6 | 0.0221 | 7.52 | 4.35 | 30 |
| TYS80404R7N-10 | 4.7 | 0.0247 | 5.90 | 4.10 | 24 |
| TYS80406R8M-10 | 6.8 | 0.0312 | 4.55 | 3.60 | 20 |
| TYS8040100M-10 | 10 | 0.0377 | 3.60 | 3.30 | 15 |
| TYS8040220M-10 | 22 | 0.0897 | 2.40 | 2.10 | 9.5 |
| TYS8040330M-10 | 33 | 0.1261 | 2.05 | 1.80 | 7.8 |
| TYS8040470M-10 | 47 | 0.1768 | 1.75 | 1.55 | 6.4 |
| TYS8040680M-10 | 68 | 0.2548 | 1.45 | 1.25 | 4.9 |
| TYS8040101M-10 | 100 | 0.3770 | 1.15 | 1.00 | 4.2 |
| TYS8040151M-10 | 150 | 0.5330 | 1.10 | 0.85 | 3.5 |
| TYS8040221M-10 | 220 | 0.7787 | 0.85 | 0.80 | 3.5 |
| TYS8040331M-10 | 330 | 1.1557 | 0.68 | 0.64 | 2.8 |

TYPICAL ELECTRICAL CHARACTERISTICS

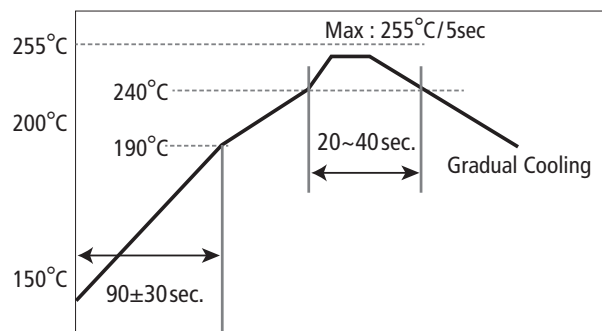
TYS8040 Typical L vs DC Current



TYS8040 Temperature Rise vs DC Current



TEMPERATURE PROFILE OF REFLOW SOLDERING

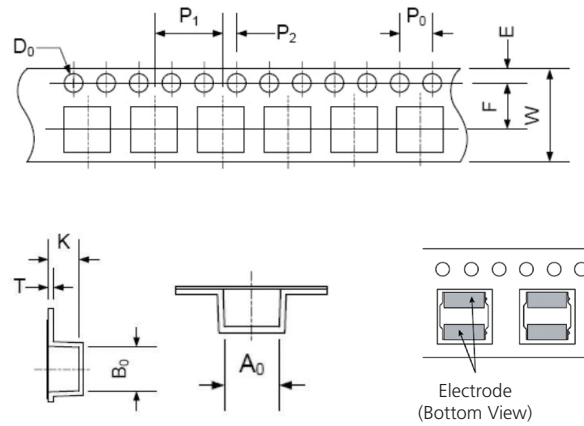


TYS SERIES PACKAGING INFORMATION

STANDARD QUANTITY

| SERIES | TAPE AND REEL QUANTITY (PCS) |
|---------|------------------------------|
| TYS3010 | 2000 |
| TYS3012 | 2000 |
| TYS3015 | 2000 |
| TYS4012 | 4500 |
| TYS4018 | 3000 |
| TYS4020 | 3000 |
| TYS4030 | 2000 |
| TYS5020 | 2500 |
| TYS5040 | 1500 |
| TYS6020 | 2500 |
| TYS6028 | 2000 |
| TYS6045 | 1500 |
| TYS8040 | 1000 |

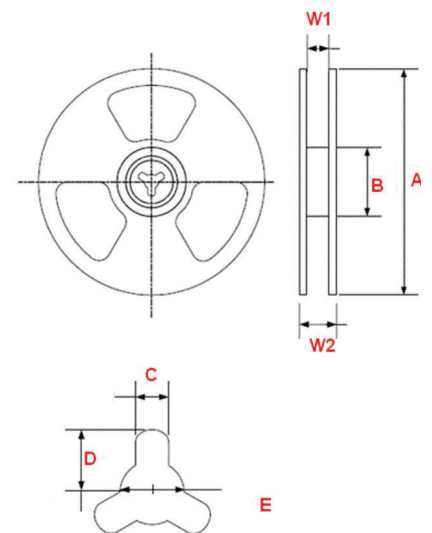
TAPING DIMENSIONS



| SERIES (UNIT: mm) | A ₀ | B ₀ | F | K | T | D ₀ | P ₀ | P ₁ | P ₂ | W | E | | |
|-------------------|----------------|----------------|----------|---------|-----------|----------------|----------------|----------------|----------------|----------|----------|--------|--------|
| TYS3010 | 3.3±0.1 | 3.3±0.1 | 3.5±0.05 | 1.4±0.1 | 0.25±0.03 | 1.5+0.1/-0 | 4±0.1 | 4±0.1 | 2±0.1 | 8±0.3 | 1.75±0.1 | | |
| TYS3012 | | | | 1.6±0.1 | | | | | | | | | |
| TYS3015 | | | | 1.9±0.1 | | | | | | | | | |
| TYS4012 | 4.3±0.1 | 4.3±0.1 | 5.5±0.05 | 1.4±0.1 | 0.35±0.03 | | | 4±0.1 | | 8±0.1 | | 2±0.1 | 12±0.3 |
| TYS4018 | | | | 2.1±0.1 | | | | | | | | | |
| TYS4020 | | | | 2.4±0.1 | | | | | | | | | |
| TYS4030 | 5.4±0.1 | 5.4±0.1 | 5.5±0.1 | 3.2±0.1 | 0.4±0.03 | | | 4±0.1 | 8±0.1 | 2±0.1 | | 12±0.3 | |
| TYS5020 | | | | 2.2±0.1 | | | | | | | | | |
| TYS5040 | | | | 4.2±0.1 | | | | | | | | | |
| TYS6020 | 6.4±0.1 | 6.4±0.1 | 7.5±0.1 | 2.5±0.1 | 0.4±0.03 | | | 4±0.1 | 8±0.1 | 2±0.1 | | 16±0.3 | |
| TYS6028 | | | | 3.3±0.1 | | | | | | | | | |
| TYS6045 | | | | 4.7±0.1 | | | | | | | | | |
| TYS8040 | 8.35±0.1 | 8.35±0.1 | 8.35±0.1 | 4.4±0.1 | 4.4±0.1 | 4±0.1 | 8±0.1 | 12±0.1 | 16±0.3 | 1.75±0.1 | | | |

REEL DIMENSIONS

| SERIES (UNIT: mm) | A | W1 | W2 | B | C | D | E | |
|-------------------|---------|---------------|-------|--------|----------|-----------|-------------|-------------|
| TYS3010 | 178±2.0 | 8.4+1.5/-0.0 | <14.4 | 58±2.0 | 2.45±0.2 | / | 13.5±0.2 | |
| TYS3012 | | | | | | | | |
| TYS3015 | | | | | | | | |
| TYS4012 | 330 | 12.4+0.2/-0.0 | <18.4 | 100 | 2.30±0.2 | 10.75±0.2 | 13.0+0.2/-0 | |
| TYS4018 | | | | | | | | |
| TYS4020 | | | | | | | | |
| TYS4030 | | | | | | | | |
| TYS5020 | | | | | | | | |
| TYS5040 | | | | | | | | |
| TYS6020 | | 16.4+0.2/-0.0 | <22.4 | <22.4 | 100 | 2.30±0.2 | 10.75±0.2 | 13.0+0.2/-0 |
| TYS6028 | | | | | | | | |
| TYS6045 | | | | | | | | |
| TYS8040 | | | | | | | | |



SAMPLE KIT LISTS

KIT NO:K-510 TYS IND

It contains parts of each single series as following lists

| SERIES | PART NUMBER QTY | SAMPLE QTY / PN |
|---------|-----------------|-----------------|
| TYS3010 | 11 | 5 |
| TYS3012 | 13 | 5 |
| TYS3015 | 11 | 5 |
| TYS4012 | 13 | 5 |
| TYS4018 | 13 | 5 |
| TYS4020 | 12 | 5 |
| TYS4030 | 14 | 5 |
| TYS5020 | 10 | 5 |
| TYS5040 | 13 | 5 |
| TYS6020 | 8 | 5 |
| TYS6028 | 13 | 5 |
| TYS6045 | 20 | 5 |
| TYS8040 | 17 | 3 |

NOTES



Americas: +1 800 634.2673 Option 1

Europe: +420 488.575277

Asia: +86 757.2563.8860

www.lairdtech.com

MCP-CAT-TYS SERIES 060117

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