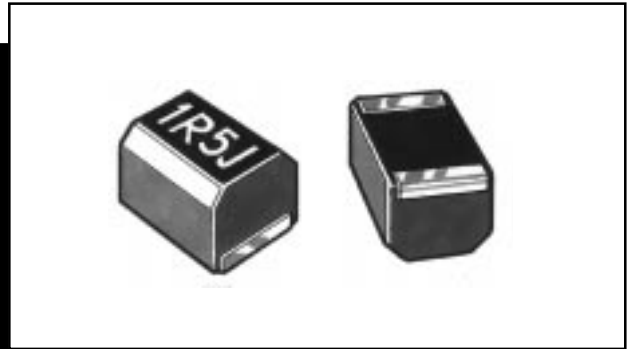


# MEGGITT SIGMA

AXIAL INDUCTORS  
SMD INDUCTORS  
THIN FILM PRINTED INDUCTORS  
POWER CHOKES IN  
RADIAL AND AXIAL STYLE

## SMD Chip Inductor TYPE 3612 SERIES



The 3612 series is a standard 12:10 moulded winding on ferrite, of particularly high quality and reliability. Packaged in reels of 2000 pieces these devices are used on automatic pick and place machines for high speed mounting. Wide solder coated intergrated terminals aid accurate placement. The 3612 series is offered in five versions, the M, L, S, T and P styles. The M is an economy version, the L offers low inductance values, the S is shielded whilst the T is the standard style. The P style is a recently introduced power version offering surprisingly high current carrying capability.

### MEGGITT CITEC KEY FEATURES

- INDUCTANCE RANGE 0.01 $\mu$ H TO 470 $\mu$ H
- SUITABLE FOR DIP AND WAVE SOLDER
- SMALL SIZE - 3.2 x 2.5mm (1210)
- TEMPERATURE RANGE -20°C to +100°C
- TAPED TO IEC 286 Pt3
- LABORATORY DESIGN KITS AVAILABLE
- HIGH RELIABILITY
- AVAILABLE FROM STOCK

## ELECTRICAL - Style M (Economy)

| Inductance Code | Inductance ( $\mu$ H ) | Tolerance ( $\pm$ % ) | Q Min | LQ Test Freq. (MHz) | Rdc Max ( $\Omega$ ) | S.R.F. (MHz) | Idc (mA) Max |
|-----------------|------------------------|-----------------------|-------|---------------------|----------------------|--------------|--------------|
| R22             | 0.22                   | 10                    | 25    | 25.2                | 0.29                 | 230          | 360          |
| R27             | 0.27                   | 10                    | 25    | 25.2                | 0.32                 | 210          | 345          |
| R33             | 0.33                   | 10                    | 25    | 25.2                | 0.35                 | 190          | 330          |
| R39             | 0.39                   | 10                    | 25    | 25.2                | 0.39                 | 175          | 305          |
| R47             | 0.47                   | 10                    | 25    | 25.2                | 0.44                 | 160          | 290          |
| R56             | 0.56                   | 10                    | 25    | 25.2                | 0.49                 | 150          | 275          |
| R68             | 0.68                   | 10                    | 25    | 25.2                | 0.55                 | 135          | 260          |
| R82             | 0.82                   | 10                    | 25    | 25.2                | 0.61                 | 125          | 245          |
| 1R0             | 1.00                   | 5/10                  | 30    | 7.96                | 0.69                 | 115          | 230          |
| 1R2             | 1.20                   | 5/10                  | 30    | 7.96                | 0.75                 | 100          | 215          |
| 1R5             | 1.50                   | 5/10                  | 30    | 7.96                | 0.75                 | 90           | 210          |
| 1R8             | 1.80                   | 5/10                  | 30    | 7.96                | 0.82                 | 85           | 200          |
| 2R2             | 2.20                   | 5/10                  | 30    | 7.96                | 0.95                 | 80           | 190          |
| 2R7             | 2.70                   | 5/10                  | 30    | 7.96                | 1.10                 | 75           | 180          |
| 3R3             | 3.30                   | 5/10                  | 30    | 7.96                | 1.20                 | 65           | 180          |
| 3R9             | 3.90                   | 5/10                  | 30    | 7.96                | 1.30                 | 60           | 175          |
| 4R7             | 4.70                   | 5/10                  | 30    | 7.96                | 1.50                 | 55           | 165          |
| 5R6             | 5.60                   | 5/10                  | 30    | 7.96                | 1.60                 | 50           | 160          |
| 6R8             | 6.80                   | 5/10                  | 30    | 7.96                | 1.80                 | 45           | 150          |
| 8R2             | 8.20                   | 5/10                  | 30    | 7.96                | 2.00                 | 40           | 140          |
| 100             | 10.00                  | 5/10                  | 30    | 2.52                | 2.10                 | 36           | 140          |
| 120             | 12.00                  | 5/10                  | 30    | 2.52                | 2.50                 | 33           | 125          |
| 150             | 15.00                  | 5/10                  | 30    | 2.52                | 2.80                 | 30           | 120          |
| 180             | 18.00                  | 5/10                  | 30    | 2.52                | 3.30                 | 27           | 110          |
| 220             | 22.00                  | 5/10                  | 30    | 2.52                | 3.70                 | 25           | 105          |
| 270             | 27.00                  | 5/10                  | 30    | 2.52                | 5.00                 | 22           | 90           |
| 330             | 33.00                  | 5/10                  | 30    | 2.52                | 5.60                 | 20           | 85           |
| 390             | 39.00                  | 5/10                  | 30    | 2.52                | 6.40                 | 20           | 80           |
| 470             | 47.00                  | 5/10                  | 30    | 2.52                | 7.00                 | 15           | 75           |
| 560             | 56.00                  | 5/10                  | 30    | 2.52                | 8.00                 | 15           | 70           |
| 680             | 68.00                  | 5/10                  | 30    | 2.52                | 9.00                 | 15           | 65           |
| 820             | 82.00                  | 5/10                  | 30    | 2.52                | 10.00                | 11           | 60           |
| 101             | 100.00                 | 5/10                  | 20    | 0.796               | 10.00                | 10           | 60           |
| 121             | 120.00                 | 5/10                  | 20    | 0.796               | 11.00                | 10           | 55           |
| 151             | 150.00                 | 5/10                  | 20    | 0.796               | 15.00                | 8            | 50           |
| 181             | 180.00                 | 5/10                  | 20    | 0.796               | 17.00                | 7            | 50           |
| 221             | 220.00                 | 5/10                  | 20    | 0.796               | 21.00                | 7            | 45           |

## ELECTRICAL - Style S (Shielded)

| Inductance Code | Inductance ( $\mu$ H ) | Tolerance ( $\pm$ % ) | Q Min | LQ Test Freq. (MHz) | Rdc Max (W) | S.R.F. (MHz) | Idc (mA) Max |
|-----------------|------------------------|-----------------------|-------|---------------------|-------------|--------------|--------------|
| 100             | 10                     | 10                    | 40    | 1.0                 | 1.80        | 30           | 18           |
| 120             | 12                     | 10                    | 40    | 1.0                 | 2.00        | 28           | 17           |
| 150             | 15                     | 10                    | 40    | 1.0                 | 2.20        | 25           | 15           |
| 180             | 18                     | 10                    | 40    | 1.0                 | 2.50        | 23           | 13           |
| 220             | 22                     | 10                    | 40    | 1.0                 | 2.80        | 20           | 12           |
| 270             | 27                     | 10                    | 40    | 1.0                 | 3.20        | 18           | 10           |
| 330             | 33                     | 10                    | 40    | 1.0                 | 3.50        | 17           | 10           |
| 390             | 39                     | 10                    | 40    | 1.0                 | 3.80        | 15           | 9            |
| 470             | 47                     | 10                    | 40    | 1.0                 | 4.00        | 14           | 8            |
| 560             | 56                     | 10                    | 40    | 1.0                 | 4.50        | 13           | 7            |
| 680             | 68                     | 10                    | 40    | 1.0                 | 5.00        | 12           | 6            |
| 820             | 82                     | 10                    | 40    | 1.0                 | 6.00        | 11           | 6            |
| 101             | 100                    | 10                    | 40    | 1.0                 | 7.00        | 10           | 5            |
| 121             | 120                    | 10                    | 40    | 1.0                 | 8.00        | 9            | 5            |
| 151             | 150                    | 10                    | 40    | 0.1                 | 9.00        | 5            | 5            |
| 181             | 180                    | 10                    | 40    | 0.1                 | 11.00       | 5            | 5            |
| 221             | 220                    | 10                    | 40    | 0.1                 | 12.00       | 4            | 5            |
| 271             | 270                    | 10                    | 40    | 0.1                 | 14.00       | 4            | 5            |

## ELECTRICAL - Style P (High Current)

| Inductance Code | Inductance ( $\mu$ H ) | Tolerance ( $\pm$ % ) | Q Min | LQ Test Freq. (MHz) | Rdc Max ( $\Omega$ ) | S.R.F. (MHz) | Idc (mA) Max |
|-----------------|------------------------|-----------------------|-------|---------------------|----------------------|--------------|--------------|
| 1R0             | 1.0                    | 20                    | 7     | 7.96                | 0.15                 | 150          | 600          |
| 1R5             | 1.5                    | 20                    | 7     | 7.96                | 0.18                 | 110          | 550          |
| 2R2             | 2.2                    | 20                    | 7     | 7.96                | 0.23                 | 80           | 500          |
| 3R3             | 3.3                    | 20                    | 7     | 7.96                | 0.28                 | 58           | 400          |
| 4R7             | 4.7                    | 20                    | 7     | 7.96                | 0.34                 | 46           | 350          |
| 6R8             | 6.8                    | 20                    | 7     | 7.96                | 0.42                 | 38           | 300          |
| 100             | 10.0                   | 10                    | 15    | 2.52                | 0.50                 | 23           | 240          |
| 120             | 12.0                   | 10                    | 15    | 2.52                | 0.60                 | 21           | 230          |
| 150             | 15.0                   | 10                    | 15    | 2.52                | 0.74                 | 18           | 220          |
| 180             | 18.0                   | 10                    | 15    | 2.52                | 0.90                 | 17           | 205          |
| 220             | 22.0                   | 10                    | 15    | 2.52                | 1.15                 | 15           | 185          |
| 270             | 27.0                   | 10                    | 15    | 2.52                | 1.45                 | 13           | 165          |
| 330             | 33.0                   | 10                    | 15    | 2.52                | 1.65                 | 12           | 155          |
| 390             | 39.0                   | 10                    | 15    | 2.52                | 1.90                 | 11           | 145          |
| 470             | 47.0                   | 10                    | 15    | 2.52                | 2.25                 | 9.5          | 135          |
| 560             | 56.0                   | 10                    | 15    | 2.52                | 3.30                 | 8.5          | 110          |
| 680             | 68.0                   | 10                    | 15    | 2.52                | 3.70                 | 7.5          | 105          |
| 820             | 82.0                   | 10                    | 15    | 2.52                | 4.20                 | 7.0          | 100          |
| 101             | 100.0                  | 10                    | 20    | 0.796               | 5.00                 | 6.5          | 90           |
| 121             | 120.0                  | 10                    | 20    | 0.796               | 7.00                 | 6.5          | 75           |
| 151             | 150.0                  | 10                    | 20    | 0.796               | 8.00                 | 5.5          | 70           |
| 181             | 180.0                  | 10                    | 20    | 0.796               | 9.50                 | 5.0          | 65           |
| 221             | 220.0                  | 10                    | 20    | 0.796               | 11.00                | 4.0          | 60           |
| 271             | 270.0                  | 10                    | 20    | 0.796               | 14.50                | 3.5          | 55           |
| 331             | 330.0                  | 10                    | 20    | 0.796               | 16.00                | 3.0          | 50           |

## ELECTRICAL - Style L (Low Inductance)

| Inductance Code | Inductance ( $\mu$ H ) | Tolerance ( $\pm$ % ) | Q Min | Q Test Freq. (MHz) | Q Test Freq. (MHz) | Rdc Max ( $\Omega$ ) | S.R.F. (MHz) | Idc (mA) Max |
|-----------------|------------------------|-----------------------|-------|--------------------|--------------------|----------------------|--------------|--------------|
| 47N             | 0.047                  | 20                    | 10    | 100                | 100                | 0.20                 | 680          | 450          |
| 56N             | 0.056                  | 20                    | 10    | 100                | 100                | 0.22                 | 600          | 420          |
| 68N             | 0.068                  | 20                    | 10    | 100                | 100                | 0.25                 | 540          | 400          |
| 82N             | 0.082                  | 20                    | 10    | 100                | 100                | 0.27                 | 500          | 380          |
| R10             | 0.10                   | 20                    | 10    | 100                | 100                | 0.30                 | 450          | 360          |
| R12             | 0.12                   | 20                    | 10    | 25.2               | 25.2               | 0.67                 | 400          | 240          |
| R15             | 0.15                   | 20                    | 10    | 25.2               | 25.2               | 0.72                 | 350          | 230          |
| R18             | 0.18                   | 20                    | 10    | 25.2               | 25.2               | 0.81                 | 320          | 220          |
| R22             | 0.22                   | 10                    | 10    | 1.0                | 25.2               | 0.90                 | 280          | 210          |
| R27             | 0.27                   | 10                    | 10    | 1.0                | 25.2               | 1.00                 | 250          | 200          |
| R33             | 0.33                   | 10                    | 10    | 1.0                | 25.2               | 1.10                 | 220          | 190          |
| R39             | 0.39                   | 10                    | 10    | 1.0                | 25.2               | 1.20                 | 200          | 180          |
| R47             | 0.47                   | 10                    | 10    | 1.0                | 25.2               | 1.40                 | 180          | 175          |
| R56             | 0.56                   | 10                    | 10    | 1.0                | 25.2               | 1.50                 | 160          | 170          |
| R68             | 0.68                   | 10                    | 10    | 1.0                | 25.2               | 1.70                 | 150          | 155          |
| R82             | 0.82                   | 10                    | 10    | 1.0                | 25.2               | 1.90                 | 135          | 145          |
| 1R0             | 1.00                   | 5                     | 13    | 1.0                | 7.96               | 2.10                 | 120          | 125          |
| 1R2             | 1.20                   | 5                     | 13    | 1.0                | 7.96               | 2.30                 | 110          | 120          |
| 1R5             | 1.50                   | 5                     | 13    | 1.0                | 7.96               | 2.70                 | 95           | 115          |
| 1R8             | 1.80                   | 5                     | 13    | 1.0                | 7.96               | 3.00                 | 85           | 110          |
| 2R2             | 2.20                   | 5                     | 13    | 1.0                | 7.96               | 3.20                 | 80           | 110          |
| 2R7             | 2.70                   | 5                     | 13    | 1.0                | 7.96               | 3.60                 | 70           | 105          |
| 3R3             | 3.30                   | 5                     | 13    | 1.0                | 7.96               | 4.20                 | 62           | 100          |
| 3R9             | 3.90                   | 5                     | 13    | 1.0                | 7.96               | 4.40                 | 57           | 95           |
| 4R7             | 4.70                   | 5                     | 13    | 1.0                | 7.96               | 7.70                 | 52           | 70           |
| 5R6             | 5.60                   | 5                     | 13    | 1.0                | 7.96               | 8.70                 | 46           | 65           |
| 6R8             | 6.80                   | 5                     | 13    | 1.0                | 7.96               | 10.00                | 42           | 60           |
| 8R2             | 8.20                   | 5                     | 13    | 1.0                | 7.96               | 11.00                | 38           | 60           |

## ELECTRICAL - Style T (Standard)

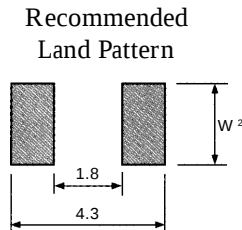
| Inductance Code | Inductance ( $\mu$ H ) | Tolerance ( $\pm$ % ) | Q Min | LQ Test Freq. (MHz) | Rdc Max ( $\Omega$ ) | S.R.F. (MHz) | Idc (mA) Max |
|-----------------|------------------------|-----------------------|-------|---------------------|----------------------|--------------|--------------|
| 010             | 0.010                  | 10                    | 15    | 100                 | 0.13                 | 2500         | 450          |
| 012             | 0.012                  | 10                    | 17    | 100                 | 0.14                 | 2300         | 450          |
| 015             | 0.015                  | 10                    | 19    | 100                 | 0.16                 | 2100         | 450          |
| 018             | 0.018                  | 10                    | 21    | 100                 | 0.18                 | 1900         | 450          |
| 022             | 0.022                  | 10                    | 23    | 100                 | 0.20                 | 1700         | 450          |
| 027             | 0.027                  | 10                    | 23    | 100                 | 0.22                 | 1500         | 450          |
| 033             | 0.033                  | 5/10                  | 25    | 100                 | 0.24                 | 1400         | 450          |
| 039             | 0.039                  | 5/10                  | 25    | 100                 | 0.27                 | 1300         | 450          |
| 047             | 0.047                  | 5/10                  | 26    | 100                 | 0.30                 | 1200         | 450          |
| 056             | 0.056                  | 5/10                  | 26    | 100                 | 0.33                 | 1100         | 450          |
| 068             | 0.068                  | 5/10                  | 27    | 100                 | 0.36                 | 1000         | 450          |
| 082             | 0.082                  | 5/10                  | 27    | 100                 | 0.40                 | 900          | 450          |
| R10             | 0.10                   | 5/10                  | 28    | 100                 | 0.44                 | 700          | 450          |
| R12             | 0.12                   | 5/10                  | 30    | 25.2                | 0.22                 | 500          | 450          |
| R15             | 0.15                   | 5/10                  | 30    | 25.2                | 0.25                 | 450          | 450          |
| R18             | 0.18                   | 5/10                  | 30    | 25.2                | 0.28                 | 400          | 450          |
| R22             | 0.22                   | 5/10                  | 30    | 25.2                | 0.32                 | 350          | 450          |
| R27             | 0.27                   | 5/10                  | 30    | 25.2                | 0.36                 | 320          | 450          |
| R33             | 0.33                   | 5/10                  | 30    | 25.2                | 0.40                 | 300          | 450          |
| R39             | 0.39                   | 5/10                  | 30    | 25.2                | 0.45                 | 250          | 450          |
| R47             | 0.47                   | 5/10                  | 30    | 25.2                | 0.50                 | 220          | 450          |
| R56             | 0.56                   | 5/10                  | 30    | 25.2                | 0.55                 | 180          | 450          |
| R68             | 0.68                   | 5/10                  | 30    | 25.2                | 0.60                 | 160          | 450          |
| R82             | 0.82                   | 5/10                  | 30    | 25.2                | 0.65                 | 140          | 450          |
| 1R0             | 1.0                    | 5                     | 30    | 7.96                | 0.70                 | 120          | 400          |
| 1R2             | 1.2                    | 5                     | 30    | 7.96                | 0.75                 | 100          | 390          |
| 1R5             | 1.5                    | 5                     | 30    | 7.96                | 0.85                 | 85           | 370          |
| 1R8             | 1.8                    | 5                     | 30    | 7.96                | 0.90                 | 80           | 350          |
| 2R2             | 2.2                    | 5                     | 30    | 7.96                | 1.00                 | 75           | 320          |
| 2R7             | 2.7                    | 5                     | 30    | 7.96                | 1.10                 | 70           | 290          |
| 3R3             | 3.3                    | 5                     | 30    | 7.96                | 1.20                 | 60           | 260          |
| 3R9             | 3.9                    | 5                     | 30    | 7.96                | 1.30                 | 55           | 250          |
| 4R7             | 4.7                    | 5                     | 30    | 7.96                | 1.50                 | 50           | 220          |
| 5R6             | 5.6                    | 5                     | 30    | 7.96                | 1.60                 | 45           | 200          |
| 6R8             | 6.8                    | 5                     | 30    | 7.96                | 1.80                 | 40           | 180          |
| 8R2             | 8.2                    | 5                     | 30    | 7.96                | 2.00                 | 35           | 170          |
| 100             | 10.0                   | 5                     | 30    | 2.52                | 2.10                 | 30           | 150          |
| 120             | 12.0                   | 5                     | 30    | 2.52                | 2.50                 | 20           | 140          |
| 150             | 15.0                   | 5                     | 30    | 2.52                | 2.80                 | 20           | 130          |
| 180             | 18.0                   | 5                     | 30    | 2.52                | 3.30                 | 20           | 120          |
| 220             | 22.0                   | 5                     | 30    | 2.52                | 3.70                 | 20           | 110          |
| 270             | 27.0                   | 5                     | 30    | 2.52                | 5.00                 | 20           | 80           |
| 330             | 33.0                   | 5                     | 30    | 2.52                | 5.60                 | 17           | 70           |
| 390             | 39.0                   | 5                     | 30    | 2.52                | 6.40                 | 16           | 65           |
| 470             | 47.0                   | 5                     | 30    | 2.52                | 7.00                 | 15           | 60           |
| 560             | 56.0                   | 5                     | 30    | 2.52                | 8.00                 | 13           | 55           |
| 680             | 68.0                   | 5                     | 30    | 2.52                | 9.00                 | 12           | 50           |
| 820             | 82.0                   | 5                     | 30    | 2.52                | 10.00                | 11           | 45           |
| 101             | 100.0                  | 5                     | 20    | 0.796               | 10.00                | 10           | 40           |
| 121             | 120.0                  | 5                     | 20    | 0.796               | 11.00                | 10           | 70           |
| 151             | 150.0                  | 5                     | 20    | 0.796               | 15.00                | 8            | 65           |
| 181             | 180.0                  | 5                     | 20    | 0.796               | 17.00                | 7            | 60           |
| 221             | 220.0                  | 5                     | 20    | 0.796               | 21.00                | 7            | 50           |
| 271             | 270.0                  | 5                     | 20    | 0.796               | 28.00                | 6            | 45           |
| 331             | 330.0                  | 5                     | 20    | 0.796               | 34.00                | 5            | 40           |
| 391             | 390.0                  | 5                     | 20    | 0.796               | 42.00                | 5            | 35           |
| 471             | 470.0                  | 5                     | 2.0   | 0.796               | 40.00                | 4            | 25           |

## TEMPERATURE

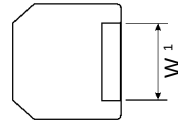
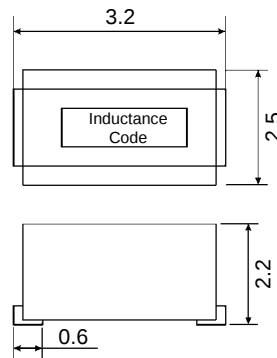
Temperature Range (Storage):  
 Temperature Range (Operating):  
 Resistance to Soldering:

-40°C to +100°C  
 -20°C to +100°C  
 260°C for 10 seconds.

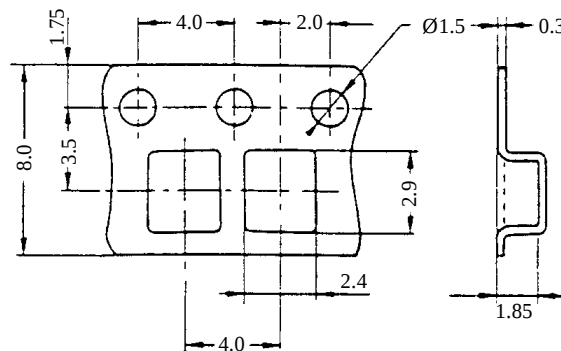
## DIMENSIONS



| Package         | W <sup>1</sup> | W <sup>2</sup> |
|-----------------|----------------|----------------|
| Type T          | 1.10           | 1.30           |
| Type M, S, L, P | 1.90           | 2.15           |



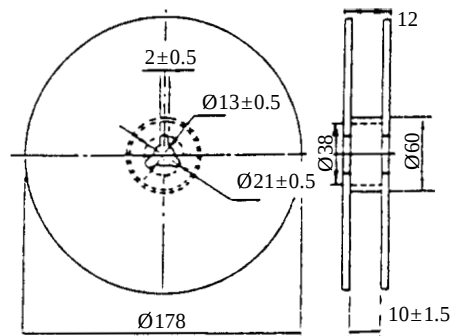
To meet EIA 48  
IEC 286 PT3



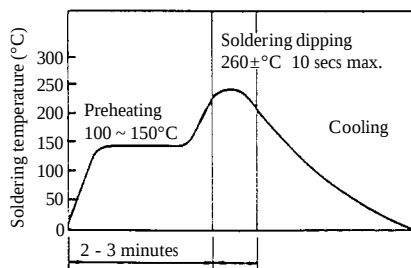
## PACKAGING (TAPE)

Tape and Reel  
Specification

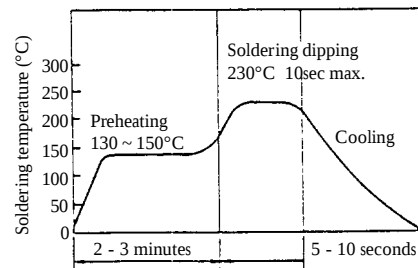
Style M ~ 2000 pieces per 7" Reel  
 Style L ~ 2000 pieces per 7" Reel  
 Style S ~ 2000 pieces per 7" Reel  
 Style T ~ 2000 pieces per 7" Reel  
 Style P ~ 2000 pieces per 7" Reel



## PACKAGING (REEL)



FLOW SOLDERING



REFLOW SOLDERING

## SOLDERING

3612

T

1R5

K

HOW TO ORDER

| Common Part        |
|--------------------|
| 3612<br>12:10 Size |

| Style                                                         |
|---------------------------------------------------------------|
| T - Standard Series<br>L - Low Inductance<br>P - High Current |
| M - Economy<br>S - Shielded                                   |

| Inductance                                |
|-------------------------------------------|
| See Relevant Table for<br>Inductance Code |

| Tolerance                          |
|------------------------------------|
| J - ± 5%<br>K - ± 10%<br>M - ± 20% |



Meggit Electronic Components Ltd. Ohmic House, Westmead Industrial Estate, Swindon, Wilts. SN5 7US  
 Telephone: (01793) 487301 (Admin.) (01793) 611666 (Sales) Email: sales@megelec.co.uk Fax: (01793) 611777

This publication is issued to provide outline information only and (unless specifically agreed to the contrary by the Company in writing) is not to form part of any order or be regarded as a representation relating to the products or service concerned. We reserve the right to alter without notice the specification, design, price or conditions of supply of any product or service. Whilst Meggit Electronic Components products are of the very highest quality and reliability, all electronic components can occasionally be subject to failure. Where failure of a Meggit Electronic Components product could result in life threatening consequences, then the circuit and application must be discussed with the Company. Such areas might include ECG, respiratory, and other medical and nuclear applications and any non fail safe applications circuit.