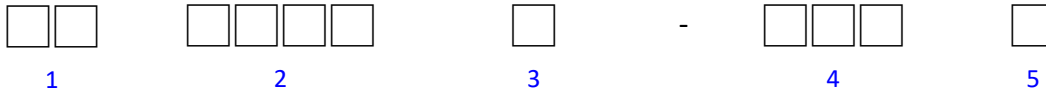


⊕ Applications

- High current, low loss of iron powder core.
- Low profile for machine placement.
- Minimize electromagnetic interference.
- Prevent EMI effect via precise impedance.
- Custom design available.

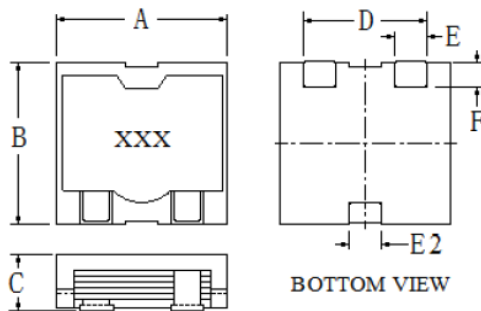
⊕ Product Identification :



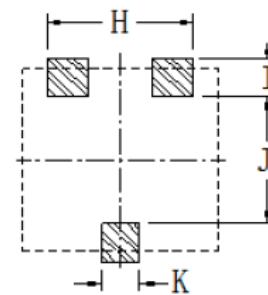
| Series name | Dimensions(WxLxH) | | Internal code |
|-------------|-------------------|-----------------|-----------------------------|
| SB | 0450 | 10.6*10.6*5.2mm | A |
| | 0555 | 13.0*13.5*5.8mm | : |
| | 0590 | 13.0*13.5*9.0mm | L = Low DCR S = Standard |

| Inductance | | Tolerance | |
|------------|-------------|-----------|-----|
| 1R5 | 1.5 μ H | J | 5% |
| 4R7 | 4.7 μ H | K | 10% |
| 100 | 10 μ H | M | 20% |
| 330 | 33 μ H | N | 30% |

⊕ Shapes And Dimensions



⊕ Recommended PCB Pattern



| Part No. | Dimensions(mm) | | | | | | | | | | | |
|----------|----------------|-----------|------|-----------|------|------|------|------|------|------|------|--|
| | A | B | C | D | E | E2 | F | H | I | J | K | |
| SB0450M | 10.60 | 10.60 | 5.20 | 8.00 | 2.50 | 1.50 | 2.00 | 8.20 | 2.50 | 5.80 | 2.40 | |
| | Max. | Max. | Max. | ± 0.2 | Ref. | Ref. | Ref. | Ref. | Ref. | Ref. | Ref. | |
| SB0555M | 12.70 | 13.00 | 5.80 | 9.50 | 2.50 | 2.50 | 1.80 | 9.80 | 2.50 | 8.00 | 3.00 | |
| | ± 0.4 | ± 0.4 | Max. | ± 0.3 | Ref. | Ref. | Ref. | Ref. | Ref. | Ref. | Ref. | |
| SB0590M | 13.00 | 13.50 | 9.00 | 9.40 | 2.50 | 2.50 | 2.00 | 9.80 | 2.50 | 8.00 | 3.00 | |
| | Max. | Max. | Max. | ± 0.3 | Ref. | Ref. | Ref. | Ref. | Ref. | Ref. | Ref. | |

⊕ Electrical Characteristics :

| Part No. (COILCRAFT P/N) | Inductance (μ H) | DCR (m Ω) | Isat (Amp) | Irms (Amp) | Test Frequency |
|---------------------------------|--------------------------|----------------------|---------------|---------------|-----------------------------|
| SB0450M-R80M (SER1052-801ML) | 0.8 $\pm 20\%$ | 3.8 Typ. | 4 Max. | 25.6 Max. | 16.3 Max. 100K / 0.1V |
| SB0450M-1R0M (SER1052-102ML) | 1 $\pm 20\%$ | 3.8 Typ. | 4 Max. | 17.5 Max. | 16.3 Max. 100K / 0.1V |
| SB0450M-1R2M (SER1052-122ML) | 1.2 $\pm 20\%$ | 5.4 Typ. | 6 Max. | 21.3 Max. | 15 Max. 100K / 0.1V |
| SB0450M-1R3M (SER1052-132ML) | 1.3 $\pm 20\%$ | 3.8 Typ. | 4 Max. | 17.2 Max. | 16.3 Max. 100K / 0.1V |
| SB0450M-1R5M (SER1052-152ML) | 1.5 $\pm 20\%$ | 3.8 Typ. | 4 Max. | 14.5 Max. | 15 Max. 100K / 0.1V |
| SB0450M-1R8M (SER1052-182ML) | 1.8 $\pm 20\%$ | 5.4 Typ. | 6 Max. | 14.3 Max. | 15 Max. 100K / 0.1V |
| SB0450M-2R0M (SER1052-202ML) | 2 $\pm 20\%$ | 7.8 Typ. | 9 Max. | 16.2 Max. | 11.5 Max. 100K / 0.1V |

⊕ Electrical Characteristics :

| Part No. (COILCRAFT P/N) | Inductance (μ H) | DCR (m Ω) | | Isat (Amp) | Irms (Amp) | Test Ferquency |
|---------------------------------|--------------------------|----------------------|-------------|---------------|---------------|----------------|
| SB0450M-2R2M (SER1052-222ML) | 2.2 $\pm 20\%$ | 3.8 Typ. | 4 Max. | 10 Max. | 16.3 Max. | 100K / 0.1V |
| SB0450M-2R5M (SER1052-252ML) | 2.5 $\pm 20\%$ | 5.4 Typ. | 7.5 Max. | 12.1 Max. | 12 Max. | 100K / 0.1V |
| SB0450M-3R2M (SER1052-322ML) | 3.2 $\pm 20\%$ | 5.4 Typ. | 6 Max. | 8.5 Max. | 15 Max. | 100K / 0.1V |
| SB0450M-4R0M (SER1052-402ML) | 4 $\pm 20\%$ | 7.8 Typ. | 9 Max. | 8.8 Max. | 11.5 Max. | 100K / 0.1V |
| SB0450M-4R3M (SER1052-432ML) | 4.3 $\pm 20\%$ | 5.4 Typ. | 7.5 Max. | 7 Max. | 12 Max. | 100K / 0.1V |
| SB0450M-5R7M (SER1052-572ML) | 5.7 $\pm 20\%$ | 7.8 Typ. | 9 Max. | 6 Max. | 11.5 Max. | 100K / 0.1V |
| SB0450M-5R7M (SER1052-572ML) | 5.7 $\pm 20\%$ | 7.8 Typ. | 9 Max. | 6 Max. | 11.5 Max. | 100K / 0.1V |

⊕ Electrical Characteristics :

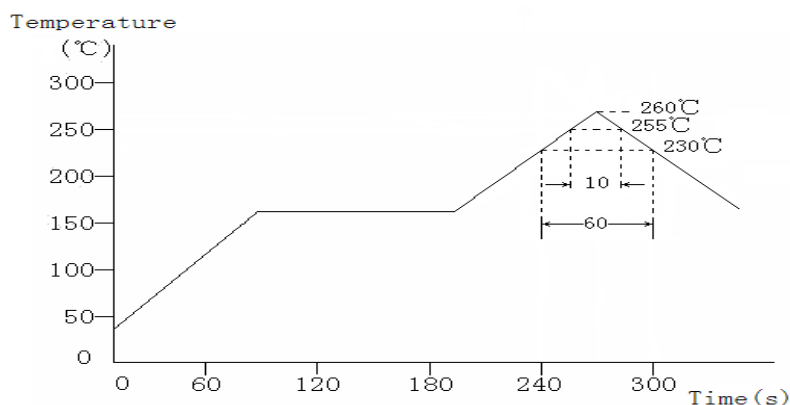
| Part No. (COILCRAFT P/N) | Inductance (μ H) | DCR (m Ω) | | Isat (Amp) | Irms (Amp) | Test Ferquency |
|---------------------------------|--------------------------|----------------------|---------------|---------------|---------------|----------------|
| SB0555M-R33M (SER1360-331KL) | 0.33 $\pm 20\%$ | 0.77 Typ. | 0.85 Max. | 43 Max. | 16.9 Max. | 100K / 0.1V |
| SB0555M-R65M (SER1360-651KL) | 0.65 $\pm 20\%$ | 0.77 Typ. | 0.85 Max. | 28 Max. | 16.9 Max. | 100K / 0.1V |
| SB0555M-1R0M (SER1360-102KL) | 1 $\pm 20\%$ | 2.36 Typ. | 2.6 Max. | 33.5 Max. | 13 Max. | 100K / 0.1V |
| SB0555M-1R8M (SER1360-182KL) | 1.8 $\pm 20\%$ | 2.36 Typ. | 2.6 Max. | 20 Max. | 13 Max. | 100K / 0.1V |
| SB0555M-3R3M (SER1360-332KL) | 3.3 $\pm 20\%$ | 6.05 Typ. | 6.6 Max. | 14 Max. | 9.4 Max. | 100K / 0.1V |
| SB0555M-2R7M (SER1360-272KL) | 2.7 $\pm 20\%$ | 2.36 Typ. | 2.6 Max. | 14 Max. | 13 Max. | 100K / 0.1V |
| SB0555M-4R0M (SER1360-402KL) | 4 $\pm 20\%$ | 5.5 Typ. | 6.05 Max. | 13 Max. | 9.4 Max. | 100K / 0.1V |
| SB0555M-4R7M (SER1360-472KL) | 4.7 $\pm 20\%$ | 5.5 Typ. | 6.05 Max. | 12 Max. | 9.4 Max. | 100K / 0.1V |
| SB0555M-6R0M (SER1360-602KL) | 6 $\pm 20\%$ | 5.5 Typ. | 6.05 Max. | 9.5 Max. | 9.4 Max. | 100K / 0.1V |
| SB0555M-8R0M (SER1360-802KL) | 8 $\pm 20\%$ | 9.83 Typ. | 10.81 Max. | 9 Max. | 7.6 Max. | 100K / 0.1V |
| SB0555M-100M (SER1360-103KL) | 10 $\pm 20\%$ | 9.83 Typ. | 10.81 Max. | 7.5 Max. | 7.2 Max. | 100K / 0.1V |

⊕ Electrical Characteristics :

| Part No. (COILCRAFT P/N) | Inductance (μ H) | DCR (m Ω) | | Isat (Amp) | Irms (Amp) | Test Ferquency |
|---------------------------------|--------------------------|----------------------|--------------|---------------|---------------|----------------|
| SB0590M-100M (SER1390-103ML) | 10 $\pm 20\%$ | 13.7 Typ. | 15 Max. | 13.7 Max. | 5.34 Max. | 100K / 0.1V |
| SB0590M-150M (SER1390-153ML) | 15 $\pm 20\%$ | 13.7 Typ. | 15 Max. | 9.6 Max. | 6.08 Max. | 100K / 0.1V |
| SB0590M-220M (SER1390-223ML) | 22 $\pm 20\%$ | 21 Typ. | 23.1 Max. | 8.1 Max. | 7 Max. | 100K / 0.1V |
| SB0590M-330M (SER1390-333ML) | 33 $\pm 20\%$ | 21 Typ. | 23.1 Max. | 5.3 Max. | 5.95 Max. | 100K / 0.1V |
| SB0590M-470M (SER1390-473ML) | 47 $\pm 20\%$ | 21 Typ. | 23.1 Max. | 3.6 Max. | 7.03 Max. | 100K / 0.1V |

1. Irms: DC current(A) that will cause an approximate ΔT of 50°C.
2. Isat: DC current(A) that will cause Lo to drop approximate 30%.
3. Operating temperature: -55°C to 125°C.

⊕ Reflow Soldering Heat Endurance

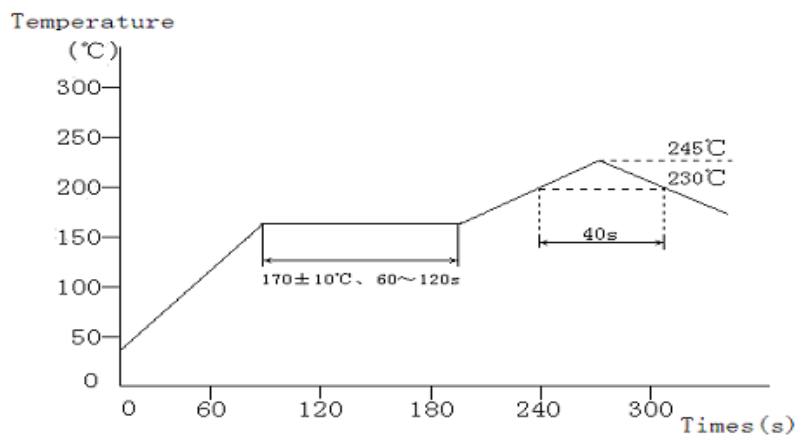


No mechanical and electrical defects are found after testing based on the above profile and keeping under the conditions of room temperature and humidity for 2 hours.

Twice reflow test is acceptable with the test interval remaining 1 hour under the normal conditions.

The reflow test profile may vary with the testing instruments.

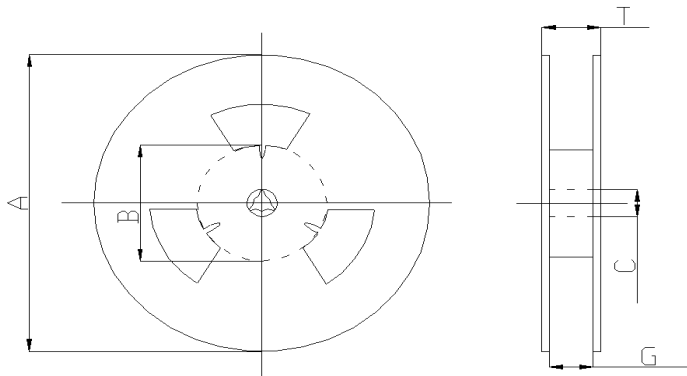
⊕ Recommended Reflow Conditions



The recommended reflow profile is based on the testing instruments used. Solder ability will depend on the testing equipments, reflow conditions, testing method, etc. So it is necessary to make a confirmation of them when the reflow conditions are set up.

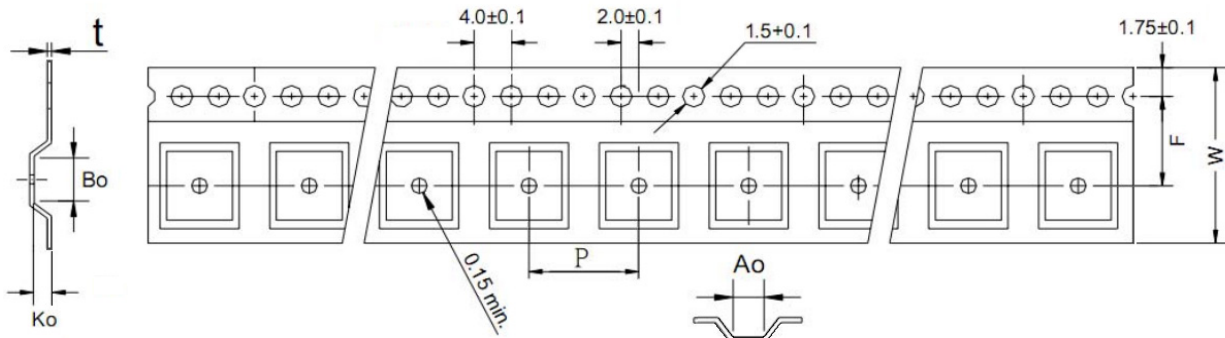
However halogen lamp shall be used, side heat will be beyond range of resistance heat, so we can't recommend it.

⊕Reel Dimension(m/m)

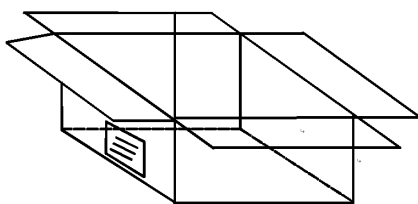


| Item | A(mm) | B(mm) | C(mm) | G(mm) | T(mm) |
|--------|-------|-------|-------|-------|-------|
| 13"x24 | 330 | 100 | 13 | 24 | 29 |

⊕Taping Dimension(m/m)



| Item | Dimension(mm) | | | | | Reel Packing Unit | Carton Packing |
|---------|---------------|----|------|----|-----|-------------------|----------------|
| | W | P | B0 | A0 | K0 | PCS / REEL | REEL / BOX |
| SB0450M | 24 | 20 | | | | 800 | 3 |
| SB0555M | 24 | 20 | 13.5 | 13 | 5.8 | 500 | 3 |
| SB0590M | 24 | 20 | 13.5 | 13 | 9.3 | 250 | 3 |



⊕Tape Peel off Strength

The force to tear off cover tape: 10~130g.f

