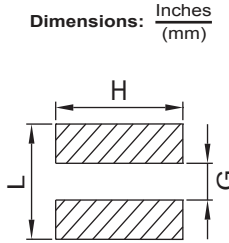
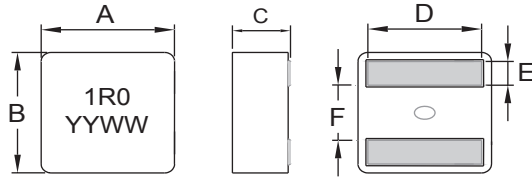




# Shielded High Current Power Choke

# PCXA603



Dimensions:  $\frac{\text{Inches}}{\text{(mm)}}$

| A                      | B                      | C                  | D                  | E                      | F                       |
|------------------------|------------------------|--------------------|--------------------|------------------------|-------------------------|
| .260±.008<br>(6.6±0.2) | .252±.008<br>(6.4±0.2) | See Table<br>Below | See Table<br>Below | .055±.008<br>(1.4±0.2) | .102±.010<br>(2.6±0.25) |

Recommend PCB Layout

| L                 | G                 | H                 |
|-------------------|-------------------|-------------------|
| .220<br>(5.6) Ref | .010<br>(2.5) Ref | .220<br>(5.6) Ref |



| Allied Part Number | Inductance (μH) ±20% @ 0A | DCR (mΩ) Typ.@25°C | DCR (mΩ) Max@25°C | I <sub>rms</sub> (A) Typ |           | I <sub>sat</sub> (A) |      | Dim C Inch/mm (±.008/.2) | Dim D Inch/mm (±.012/.3) |
|--------------------|---------------------------|--------------------|-------------------|--------------------------|-----------|----------------------|------|--------------------------|--------------------------|
|                    |                           |                    |                   | 20°C Rise                | 40°C Rise | Typ                  | Max  |                          |                          |
| PCXA603-R18M       | 0.18                      | 1.60               | 1.75              | 24                       | 32        | 40.0                 | 36.0 | .11/2.8                  | .209/5.30                |
| PCXA603-R33M       | 0.33                      | 2.25               | 2.50              | 20                       | 25        | 32.0                 | 28.0 | .11/2.8                  | .219/5.55                |
| PCXA603-R56M       | 0.56                      | 3.00               | 3.31              | 17                       | 22        | 29.0                 | 25.0 | .11/2.8                  | .209/5.30                |
| PCXA603-1R0M       | 1.00                      | 5.50               | 6.05              | 13                       | 18        | 23.0                 | 18.0 | .11/2.8                  | .205/5.20                |
| PCXA603-1R2M       | 1.20                      | 6.70               | 7.40              | 12                       | 16        | 22.0                 | 16.0 | .11/2.8                  | .203/5.15                |
| PCXA603-1R8M       | 1.80                      | 9.20               | 10.2              | 10                       | 14        | 18.2                 | 13.0 | .114/2.9                 | .201/5.10                |
| PCXA603-2R2M       | 2.20                      | 11.0               | 12.2              | 7.0                      | 10        | 15.9                 | 11.0 | .114/2.9                 | .199/5.05                |
| PCXA603-3R3M       | 3.30                      | 18.8               | 20.8              | 6.0                      | 8.0       | 12.2                 | 9.00 | .114/2.9                 | .197/5.00                |
| PCXA603-4R5M       | 4.50                      | 23.0               | 25.3              | 5.0                      | 7.0       | 10.0                 | 8.00 | .114/2.9                 | .197/5.00                |

### Features

- High Operating Temperature Range
- High Efficiency
- High Current with Soft Saturation
- Low DCR
- Suitable for pick and place
- Very low acoustic noise and very low leakage flux noise.

### Electrical

**Inductance Range:** 0.18μH to 4.5μH  
**Tolerance:** ±20% Across entire series  
**Test Frequency:** 100KHz, 0.1V  
**Operating Temp:** -40°C to +125°C  
**MSL:** Level 1  
**I<sub>rms</sub>:** Current at which ΔT=20°C and ΔT=40°C temp rise without core loss.  
**I<sub>sat</sub>:** Current at which Inductance drop is approximately 30%. The part temperature (ambient + temp rise) should not exceed 125°C under worst case operating conditions.

All specifications subject to change without notice.

### Resistance to Soldering Heat

**Pre-Heat:** 150°C, 1 minute.  
**Solder Composition:** Sn96.5% / Ag3% / Cu0.5%  
**Solder Temp:** 245°C ± 5°C  
**Immersion Time:** 4 sec. ± 1 sec.  
**Depth:** Completely cover the termination

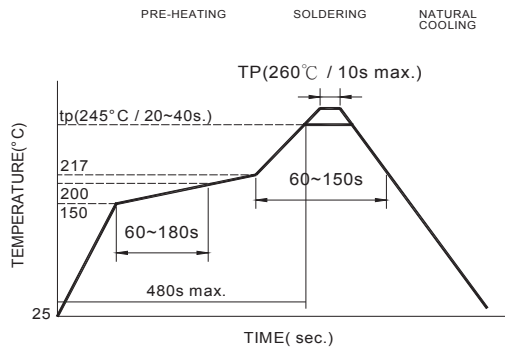
### Test Equipment

**(L):** HP4284A LCR meter or equivalent  
**DCR:** CH16502, Agilent 33420A Micro-Ohmmeter

### Physical

**Packaging:** 1000 pieces per 13 inch reel.  
**Marking:** EIA Inductance Code/ Date Code

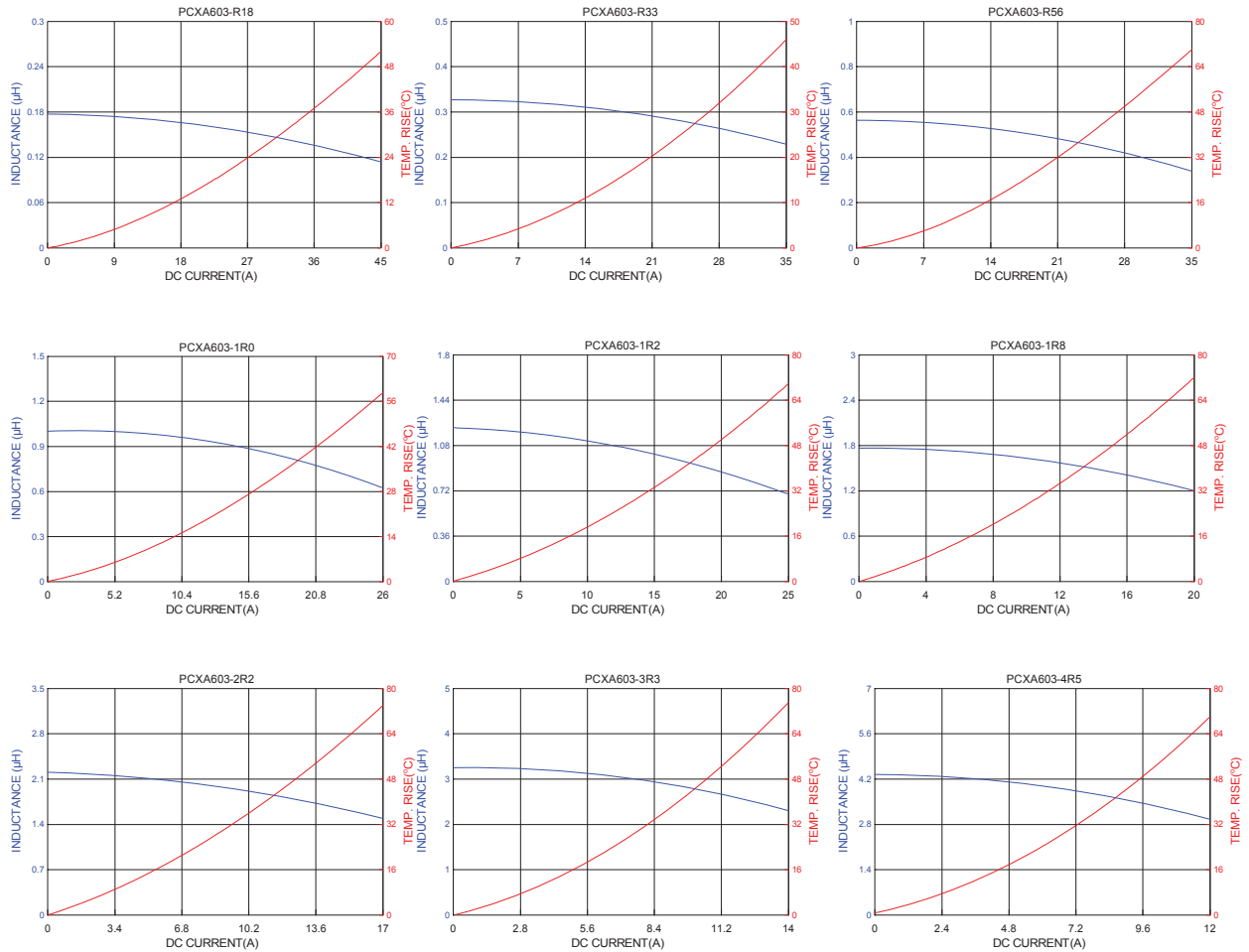
### Reflow Soldering



Reflow times: 3 times max.



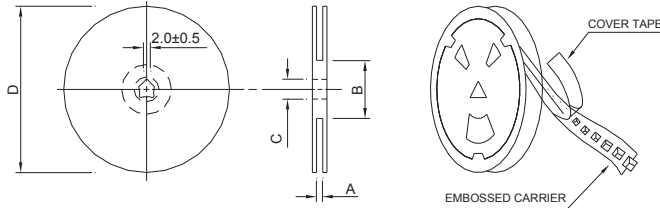
Typical Performance Curves





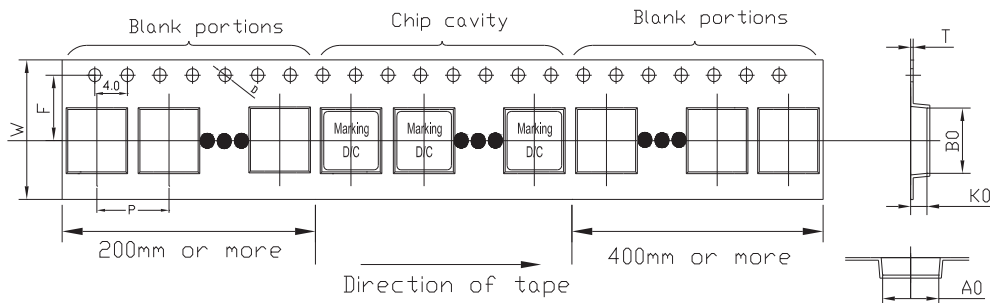
Packaging Information

Reel Dimension



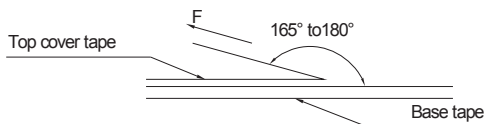
| Type     | A(mm)     | B(mm) | C(mm)       | D(mm) |
|----------|-----------|-------|-------------|-------|
| 330x12mm | 16.4+2/-0 | 100±2 | 13+0.5/-0.2 | 330   |

Tape Dimension



| Bo(mm)  | Ao(mm)  | Ko(mm)  | P(mm)    | W(mm)   | F(mm)   | T(mm)     | D(mm)   |
|---------|---------|---------|----------|---------|---------|-----------|---------|
| 6.8±0.1 | 7.0±0.1 | 3.3±0.1 | 12.0±0.1 | 16.±0.3 | 7.5±0.1 | 0.35±0.05 | 1.5±0.1 |

Tearing Off Force



The force for tearing off cover tape is 10 to 130 grams in the arrow direction under the following conditions(referenced ANSI/EIA-481-D-2008 of 4.11 standard).

| Room Temp. (°C) | Room Humidity (%) | Room atm (hPa) | Tearing Speed mm/min |
|-----------------|-------------------|----------------|----------------------|
| 5~35            | 45~85             | 860~1060       | 300                  |

Application Notice

- Storage Conditions
  - To maintain the solderability of terminal electrodes:
  - 1. PCXA603 Series meets IPC/JEDEC J-STD-020D standard-MSL, level 1.
  - 2. Temperature and humidity conditions: Less than 40°C and 60% RH.
  - 3. Recommended products should be used within 12 months form the time of delivery.
  - 4. The packaging material should be kept where no chlorine or sulfur exists in the air.
- Transportation
  - 1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
  - 2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
  - 3. Bulk handling should ensure that abrasion and mechanical shock are minimized.