



Description

R12.100 Series are the fuses set the industry standard for performance, reliability and quality. The solder-free design provides excellent on-off and temperature cycling characteristics during use and also makes our SMD fuses more heat and shock tolerant than typical subminiature fuses.

Features

- Rapid interruption of excessive current
- Compatible with reflow and wave solder
- Ceramic and glass construction
- One time positive disconnect
- Lead free and Halogen free material

Applications

- Secondary circuit protection
- Laptop, notebook, netbook
- Flat panel displays
- High definition television(HDTV)
- LCD/LED backlighting
- Computers and peripherals
- Gaming console systems
- Handheld/portable equipment
- Mobile device charges
- Automotive
- Central body control module
- Heating ventilation and air conditioning
- Doors,window lift and seat control
- Digital instrument cluster
- In-vehicle infotainment and navigation
- Electric pumps,motor control and
- Powertrain control module(PCU)/Engine
- Transimission Control Unit(TCU)

Electrical Characteristics

| Rated Current | % of Amp Rating | Opening Time |
|---------------|-----------------|-----------------|
| 250mA~30A | 100% | 4hours, min |
| 1A~3A | 200% | 1.0s - 60 s |
| 1A~5A | 250% | 5.0s max |
| 1A~5A | 300% | 0.1s - 3.0 s |
| 250mA~750mA | 350% | 5.0s max |
| 6A~30A | 350% | 5.0s max |
| 250mA~30A | 1000% | 0.2ms - 20.0 ms |

Agency information

File Number:E340427, Guide JDYX2/JDYX8

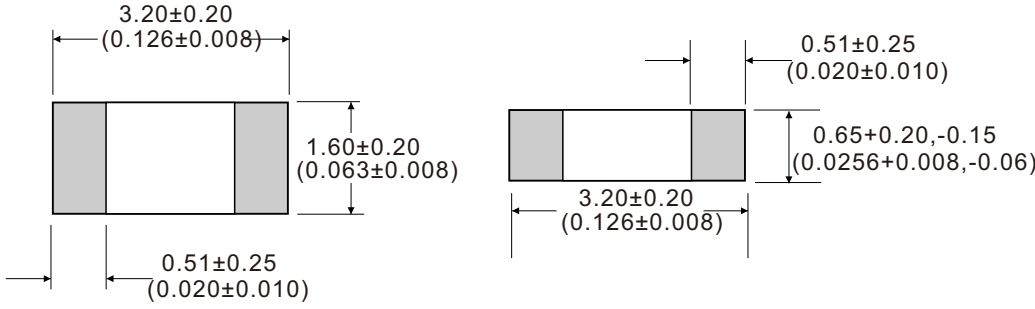
Specifications

| Part No. | Rated Voltage (V) | | | Rated Current (A) | Breaking Capacity (A) | Typical Cold Resistance (mOhms) | Typical Voltage Drop (mV) | Typical Pre-Arcing I ² t (A ² Sec) | Marking | |
|---------------|-------------------|-------|-------|-------------------|-----------------------|---------------------------------|---------------------------|--|---------|-----|
| R12.100.0.25 | 125Vdc | 72Vdc | 63Vdc | 250mA | 100A@72Vdc | 100A@32Vdc | 3700 | 1350 | 0.00038 | .25 |
| R12.100.0.375 | | | | 375mA | | | 1850 | 720 | 0.00077 | E |
| R12.100.0.5 | | | | 500mA | | | 1050 | 690 | 0.0019 | B |
| R12.100.0.75 | | | | 750mA | | | 775 | 680 | 0.15 | G |
| R12.100.1 | | | | 1A | | | 485 | 550 | 0.2 | H |
| R12.100.1.5 | | | | 1.5A | | | 218 | 355 | 0.45 | K |
| R12.100.2 | | | | 2A | | | 133 | 310 | 1.2 | N |
| R12.100.2.5 | | | | 2.5A | | | 79 | 230 | 1.9 | O |
| R12.100.3 | | | | 3A | | | 49 | 185 | 2.4 | P |
| R12.100.3.5 | | | | 3.5A | | | 37 | 175 | 2.8 | R |
| R12.100.4 | | | | 4A | | | 33 | 160 | 3.3 | S |
| R12.100.4.5 | | | | 4.5A | | | 28 | 150 | 4.5 | X |
| R12.100.5 | | | | 5A | | | 22 | 135 | 7 | T |
| R12.100.6 | | | | 6A | | | 15.5 | 140 | 14 | F |
| R12.100.7 | | | | 7A | | | 11.5 | 120 | 19 | J |
| R12.100.8 | 8A | 8.0 | 100 | 20 | V | | | | | |
| R12.100.10 | 10A | 7.0 | 90 | 32 | U | | | | | |
| R12.100.12 | 12A | 5.9 | 85 | 47 | W | | | | | |
| R12.100.15 | 15A | 3.8 | 75 | 63 | Y | | | | | |
| R12.100.20 | 20A | 2.9 | 70 | 82 | Q | | | | | |
| R12.100.25 | 25A | 1.6 | 60 | 90 | 25 | | | | | |
| R12.100.30 | 30A | 1.3 | 60 | 100 | 30 | | | | | |

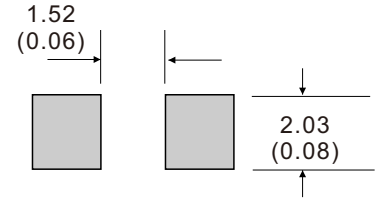


Dimensions

(Unit: mm/inch)



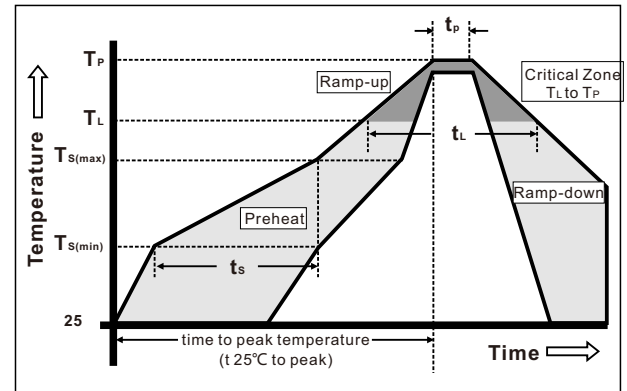
Pad layout



Installation Recommendations

1 Wave Soldering Parameters

| Reflow Condition | | Pb-free assembly |
|--|------------------------------------|------------------|
| Pre Heat | - Temperature Min ($T_{s(min)}$) | 150°C |
| | - Temperature Max ($T_{s(max)}$) | 200°C |
| | - Time (Min to Max) (t_s) | 60 – 120 seconds |
| Average Ramp-up Rate (Liquidus Temp (T_L) to peak) | | 3°C/second max. |
| TS(max) to T_L - Ramp-up Rate | | 5°C/second max. |
| Reflow | - Temperature (T_L) (Liquidus) | 217°C |
| | - Temperature (t_L) | 60 – 150 seconds |
| Peak Temperature (T_P) | | 260+0/-5°C |
| Time within 5°C of actual peak Temperature (t_p) | | 30 seconds |
| Ramp-down Rate | | 6°C/second max |
| Time 25°C to peak Temperature (T_P) | | 8 minutes max. |
| Do not exceed | | 260°C |

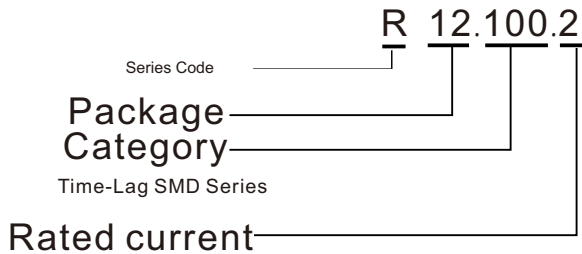


Solder Pot Temperature: 260°C max
 Solder Dwell Time: 10 Seconds max

2 Hand-Solder Parameters

Solder Iron Temperature: 280±5°C
 Heating Time: 5 Seconds min
 Generally, hand-soldering is not recommended

Part Numbering System

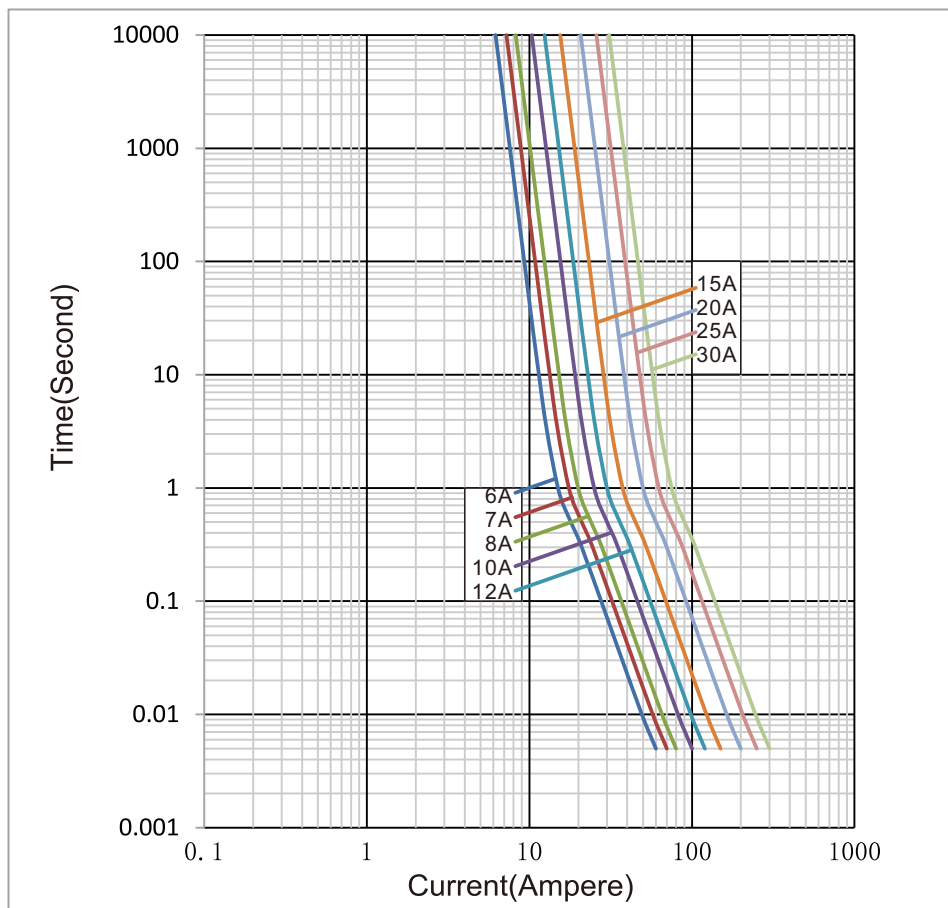
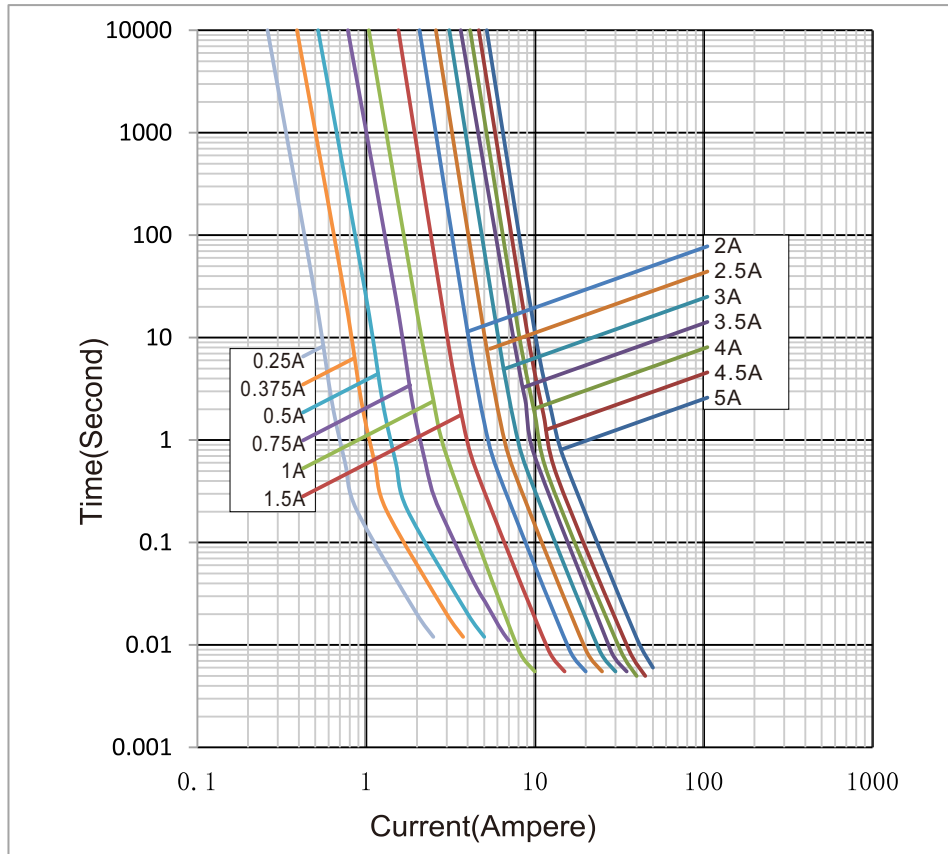


Product Characteristics

| | |
|---------------------------------------|---|
| Materials | Body: Ceramic Terminations: Silver over-plated with tin Element: Alloy(Ag,Cu,Zn) Cover Coat: Glass |
| Operating Temperature | -55°C to 125°C Consult temperature derating curve chart. |
| Thermal Shock | 300 cycles -55°C to 125°C |
| Humidity | MIL-STD-202F, Method 103B, Condition D |
| Vibration | Per MIL-STD-202F, Method 201A |
| Insulation Resistance (After Opening) | Greater than 10,000 ohms |
| Resistance to Soldering Heat | MIL-STD-202G, Method 210F, Condition D |



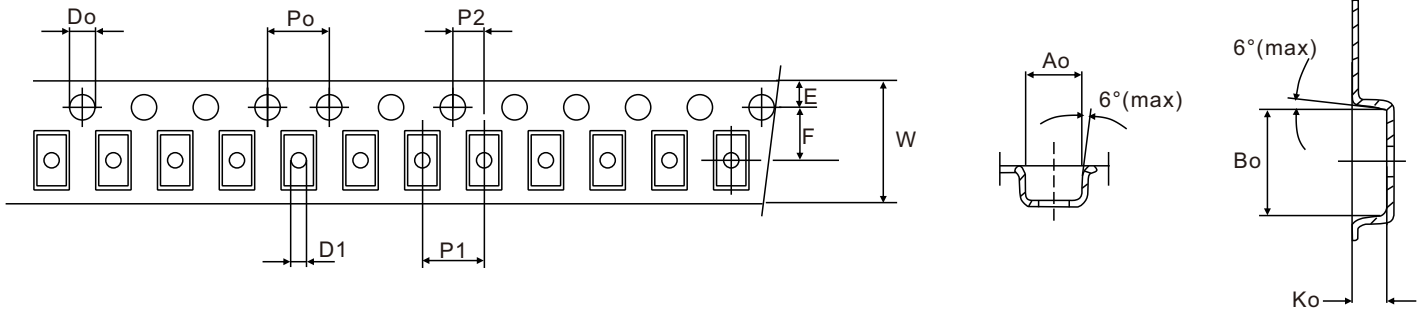
Time Current Curve





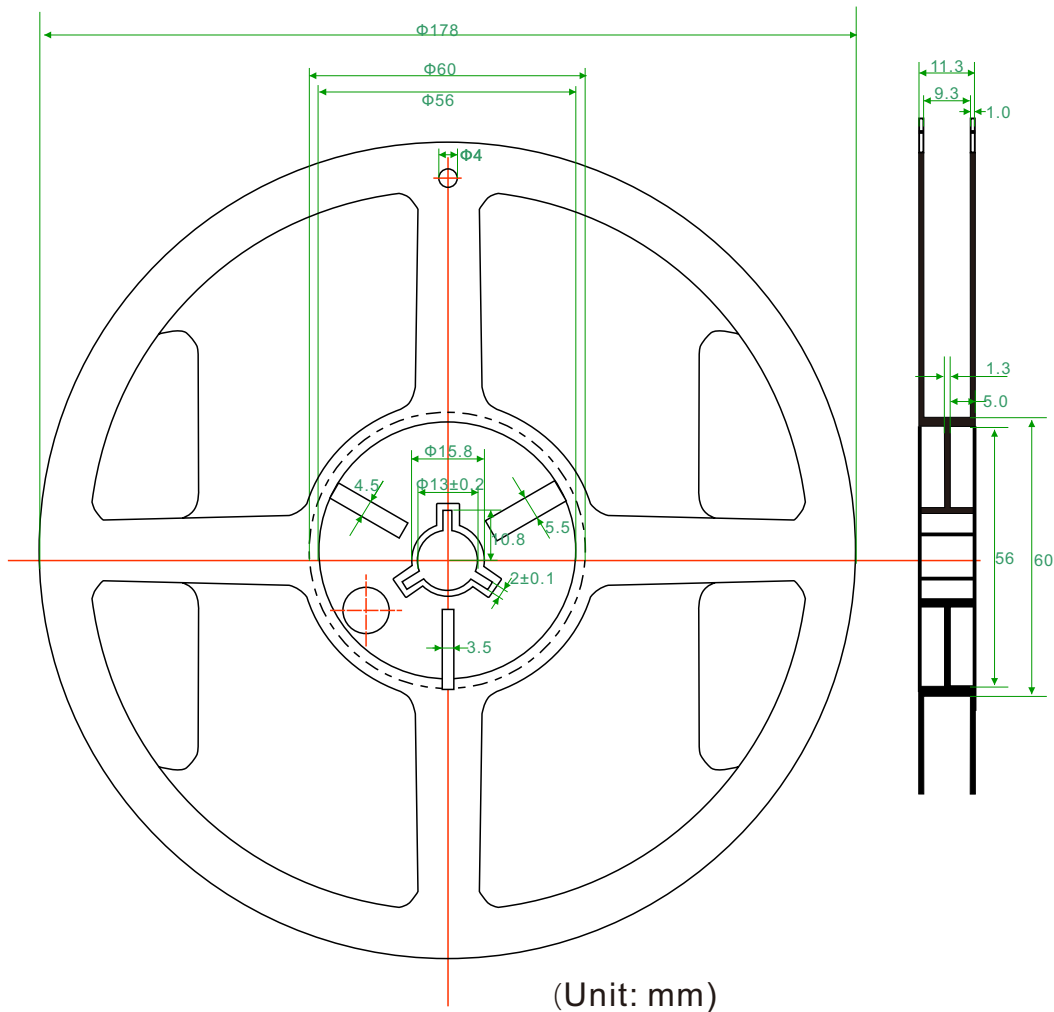
24Vdc Packaging

3,000 pieces of fuses in plastic or paper taper (3000pcs)



| Symbol | A_o | B_o | K_o | P_o | P_1 | P_2 |
|--------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Spec | 1.80 ± 0.10 | 3.50 ± 0.10 | 1.27 ± 0.10 | 4.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.10 |
| Symbol | E | F | D_o | D_1 | W | T |
| Spec | 1.75 ± 0.10 | 3.50 ± 0.10 | 1.50 ± 0.10 | 1.00(Max) | 8.00 ± 0.10 | 0.25 ± 0.05 |

(Unit: mm)



(Unit: mm)