**Surface-Mount Device** **SMD0603-005C-24V** RoHS

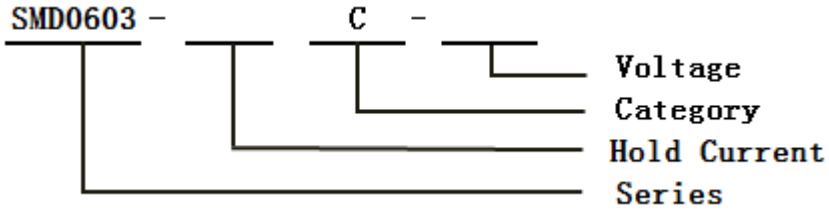
## Feature

- Resettable over current and over temperature protection
- Small size of 0603
- Small footprint
- Low resistance
- Fast time-to-trip
- RoHS complaint

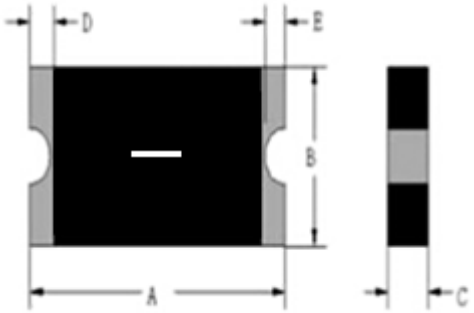
## Application

- Computer
- Battery
- Mobile phones
- Industrial controls
- Automotive
- Portable electronics
- Multimedia
- Game machines
- Telephony and broadband

## Part Numbering




## Product Dimensions in Millimeter




| Part Number | A | | B | | C | | D | E |
|---|---|---|---|---|---|---|---|---|
| | Min | Max | Min | Max | Min | Max | Min | Min |
| SMD0603-005C-24V | 1.45 | 1.85 | 0.65 | 1.05 | 0.40 | 1.00 | 0.15 | 0.10 |

## Electrical Characteristics

| Part Number | I(A) | | $V_{max}$ | $I_{max}$ | $Pd_{typ}$ | $T_{trip}$ | | $R_{min}$ | $R_{1max}$ |
|---|---|---|---|---|---|---|---|---|---|
| | 25℃ | | -- | -- | -- | 25℃ | | 25℃ | |
| | Hold | Trip | (V) | (A) | (W) | Current(A) | Time(S) | (Ω) | (Ω) |
| SMD0603-005C-24V | 0.05 | 0.15 | 24.0 | 20 | 0.5 | 0.25 | 1.00 | 3.80 | 30.0 |

**Surface-Mount Device** **SMD0603-005C-24V** RoHS

$I_H$=Hold current: maximum current at which the device will not trip at 25℃ still air reflow soldering of 260℃ for 20 sec.
$I_T$=Trip current: minimum current at which the device will always trip at 25℃ still air reflow soldering of 260℃ for 20 sec.
**$V_{max}$=**Maximum continuous voltage device can withstand without damage at rated current
$I_{max}$=Maximum fault current device can withstand without damage at rated voltage.
$T_{trip}$=Maximum time to trip(s) at assigned current reflow soldering of 260℃ for 20 sec.
$Pd_{typ}$=Typical power dissipation: typical amount of power dissipated by the device when in state air environment.
$R_{min}$= Minimum resistance of device in initial (un-soldered) state.
$R_{1max}$=Maximum resistance of device at 25℃ measured one hour after reflow soldering of 260℃ for 20 sec.
**Value specified is determined by using the PWB with 0.030"*1.5oz copper traces.**

**Caution: Operation beyond the specified rating may result in damage and possible arcing and flame.**

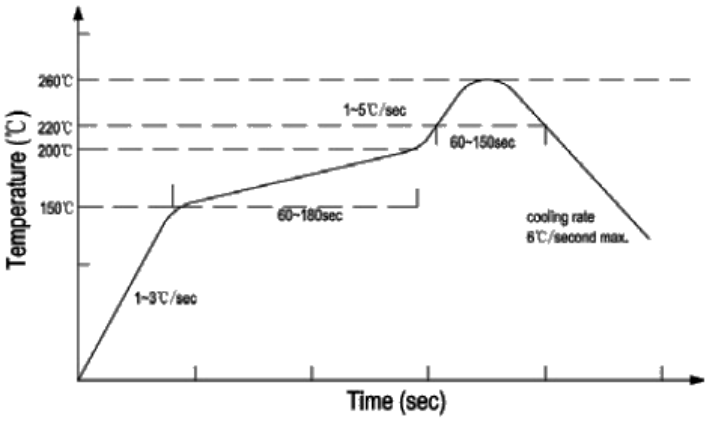
## Environmental Specifications

| Test | Test Conditions | Accept /Reject Criteria |
|---|---|---|
| Recommended storage conditions | 40°C max, 70% R.H. max | No change |
| Passive aging: | 85°C, 1000 hours | ≤ $R_{1max}$ |
| Moisture Resistance | 85% RH,85℃,1000hrs | ≤ $R_{1max}$ |
| Thermal Shock | MIL-STD-202 Method 107G<br>+85ºC /-40ºC 20 times | ≤ $R_{1max}$ |
| Vibration | MIL-STD-883C, Method 2007.1,<br>Condition A | No change |
| Solvent Resistance | MIL-STD-202, Method 215 | No change |
| Moisture Level Sensitivity | Level 2, J-STD-020C | No change |

## Thermal Derating [ Hold Current (A) at Ambient Temperature (℃)]

| Part Number | Maximum Ambient Operating Temperature (℃) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | -40 | -20 | 0 | 25 | 40 | 50 | 60 | 70 | 85 |
| SMD0603-005C-24V | 0.065 | 0.060 | 0.055 | 0.050 | 0.040 | 0.035 | 0.031 | 0.025 | 0.015 |

## Solder Reflow Recommendation




Reflow –curve

Recommended reflow methods:IR,hot air oven ,nitrogen oven
Devices can be cleaned using standard industry methods and solvents.

**NOTE:**

If reflow temperatures exceed the recommended profile,devices may not meet the performance requirements.

**Caution**: Operation beyond the rated voltage or current may result in rupture electrical arcing or flame

## Packaging Quantity and Marking

| **Device** | **Marking** | **Standard Quantity** (pcs) |
|---|---|---|
| SMD0603-005C-24V | - | 4000 |

**NOTE:**

BNstar Co.,Ltd. makes no representations or warranties with respect to the accuracy or completeness of the contents of this publication and reserves the right to make changes to specifications and product descriptions at any time without notice. The products described in this document are not designed, intended, authorized or warranted for use as components in systems intended for surgical implant into the body, or in other applications intended to support or sustain life, or where malfunction of BNstar's product may result in direct physical harm, injury, or death to a person or severe property or environmental damage. BNstar Co.,Ltd., reserves the right to discontinue or make changes to its products at any time without notice.

**Website: http://www.bnstar.net**

For additional information, please contact your local Sales Representative.

©Copyright 2006, BNstar Co.,Ltd.

⚠ CAUTION:

Operation beyond the maximum ratings or improper use may result in device damage and possible electrical arcing and flame. The devices are intended for protection against occasional over-current or over temperature fault conditions and should not be used when repeated fault conditions or prolonged trip events are anticipated. Device performance can be impacted negatively if devices are handled in a manner inconsistent with recommended electronic, thermal, and mechanical procedures for electronic components.

## Contact information

BNSTAR NEW MATERIALS CO., LTD.
130Meilong Road Shanghai, P.R.China
Tel:86-021-64251576 Fax: 86-021-64250020
EMAIL：info@bnstar.net

| Rev. letter | | Date | |
|---|---|---|---|
| Design | Check | Audit | Approve |
| | | | |

# Unikeyic Electronics

Global Electronic Components Distributor

Click to view pricing, inventory, delivery, and lifecycle information:

## BNSTAR:

SMD0805-005C-24V SMD1210-010C-60V SMD0603-020C-12V SMD0805-110C-12V SMD0805-150-6V
SMD1206-050C-6V SMD1206-110C-30V SMD1812-050C-33V SMD1206-075C-30V SMD1206-300C-8V
SMD0805-100C-12V SMD1206-020C-24V SMD1206-200C-12V SMD1210-600-6V SMD1812-200C-30V
SMD2920-300C-16V SMD1206-400-6V SMD1812-260C-24V SMD0603-010C-33V SMD0805-050C-6V
SMD1812-150C-16V SMD2920-050C-60V SMD0805-050C-16V SMD1206-010C-60V SMD1206-450-6V
SMD1812-010C-15V SMD1812-050C-60V SMD0603-050C-6V SMD0805-035C-30V SMD1206-050C-30V