

NPN Silicon General Purpose Amplifier Transistor

2SC4617G, S2SC4617G

This NPN transistor is designed for general purpose amplifier applications. This device is housed in the SC-75/SOT-416 package which is designed for low power surface mount applications, where board space is at a premium.

Features

- Reduces Board Space
- High h_{FE}, 210-460 (typical)
- Low $V_{CE(sat)}$, < 0.5 V
- Available in 8 mm, 7 inch/3000 Unit Tape and Reel
- S Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable
- These Devices are Pb–Free, Halogen Free/BFR Free and are RoHS Compliant*

MAXIMUM RATINGS (T_{.1} = 25°C)

| Rating | Symbol | Value | Unit |
|--------------------------------|----------------------|-------|------|
| Collector-Base Voltage | V _{(BR)CBO} | 50 | Vdc |
| Collector-Emitter Voltage | V _{(BR)CEO} | 50 | Vdc |
| Emitter-Base Voltage | V _{(BR)EBO} | 5.0 | Vdc |
| Collector Current - Continuous | Ic | 100 | mAdc |

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

THERMAL CHARACTERISTICS

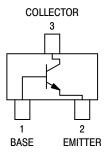
| Characteristic | Symbol | Max | Unit |
|----------------------------|------------------|------------|------|
| Power Dissipation (Note 1) | P_{D} | 125 | mW |
| Junction Temperature | TJ | 150 | °C |
| Storage Temperature Range | T _{stg} | −55 ~ +150 | °C |

 Device mounted on a FR-4 glass epoxy printed circuit board using the minimum recommended footprint.

NPN GENERAL PURPOSE AMPLIFIER TRANSISTORS SURFACE MOUNT



SC-75 CASE 463-01 STYLE 1



MARKING DIAGRAM



B9 = Device Code
M = Date Code*

= Pb-Free Package

(Note: Microdot may be in either location)

*Date Code orientation may vary depending upon manufacturing location.

ORDERING INFORMATION

| Device | Package | Shipping [†] |
|------------|--------------------|-----------------------|
| 2SC4617G | SC-75 (Pb-Free) | 3,000/Tape & Reel |
| S2SC4617G | SC-75 (Pb-Free) | 3,000/Tape & Reel |
| 2SC4617T1G | SC-75 (Pb-Free) | 3,000/Tape & Reel |

[†]For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

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^{*}For additional information on our Pb-Free strategy and soldering details, please download the **onsemi** Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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ELECTRICAL CHARACTERISTICS (T_A = 25°C)

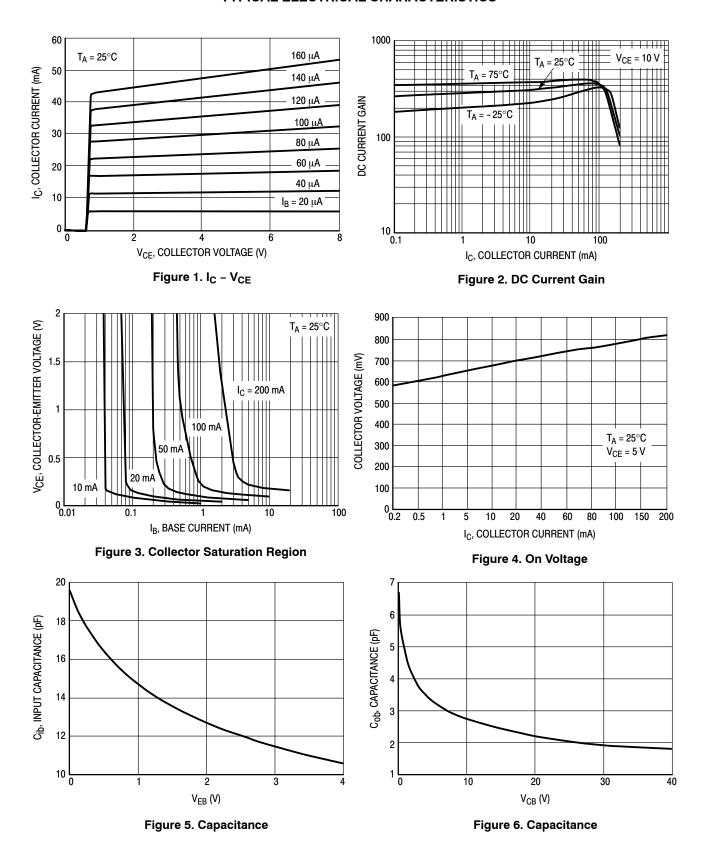
| Characteristic | Symbol | Min | Тур | Max | Unit |
|---|----------------------|-----|-----|-----|------|
| Collector-Base Breakdown Voltage (I _C = 50 μAdc, I _E = 0) | V _{(BR)CBO} | 50 | - | - | Vdc |
| Collector-Emitter Breakdown Voltage (I _C = 1.0 mAdc, I _B = 0) | V _{(BR)CEO} | 50 | _ | - | Vdc |
| Emitter-Base Breakdown Voltage (I _E = 50 μAdc, I _E = 0) | V _{(BR)EBO} | 5.0 | _ | - | Vdc |
| Collector-Base Cutoff Current (V _{CB} = 30 Vdc, I _E = 0) | I _{CBO} | - | - | 0.5 | μΑ |
| Emitter-Base Cutoff Current (V _{EB} = 4.0 Vdc, I _B = 0) | I _{EBO} | - | - | 0.5 | μΑ |
| Collector-Emitter Saturation Voltage (Note 2) (I _C = 60 mAdc, I _B = 5.0 mAdc) | V _{CE(sat)} | - | - | 0.4 | Vdc |
| DC Current Gain (Note 2) (V _{CE} = 6.0 Vdc, I _C = 1.0 mAdc) | h _{FE} | 120 | - | 560 | - |
| Transition Frequency (V _{CE} = 12 Vdc, I _C = 2.0 mAdc, f = 30 MHz) | f _T | - | 180 | - | MHz |
| Output Capacitance (V _{CB} = 12 Vdc, I _C = 0 Adc, f = 1 MHz) | C _{OB} | - | 2.0 | - | pF |

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

^{2.} Pulse Test: Pulse Width \leq 300 μ s, D.C. \leq 2%.

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TYPICAL ELECTRICAL CHARACTERISTICS





SC75-3 1.60x0.80x0.80, 1.00P

CASE 463 ISSUE H

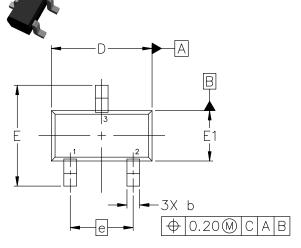
DATE 01 FEB 2024

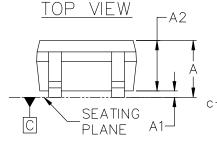
NOTES:

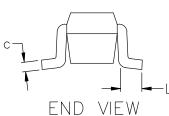
- DIMENSIONING AND TOLERANCING CONFORM TO ASME Y14.5-2018.
- ALL DIMENSION ARE IN MILLIMETERS.

| DIM | MILLIMETERS | | | |
|-----|-------------|------|------|--|
| DIM | MIN. | NOM. | MAX. | |
| А | 0.70 | 0.80 | 0.90 | |
| A1 | 0.00 | 0.05 | 0.10 | |
| A2 | 0.80 REF. | | | |
| b | 0.15 | 0.20 | 0.30 | |
| С | 0.10 | 0.15 | 0.25 | |
| D | 1.55 | 1.60 | 1.65 | |
| Е | 1.50 | 1.60 | 1.70 | |
| E1 | 0.70 | 0.80 | 0.90 | |
| е | 1.00 BSC | | | |
| L | 0.10 | 0.15 | 0.20 | |

-0.356







SIDE VIEW

GENERIC MARKING DIAGRAM*



XX = Specific Device Code

Μ = Date Code

= Pb-Free Package

*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "=", may or may not be present. Some products may not follow the Generic Marking.

| STYLE 1: | |
|-------------|--|
| PIN 1. BASE | |
| O EMITTED | |

STYLE 4: PIN 1. CATHODE 2. CATHODE 3. ANODE

3. COLLECTOR

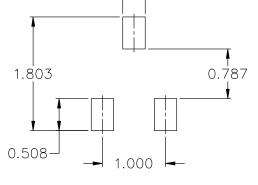
STYLE 2: PIN 1. ANODE 2. N/C 3. CATHODE

STYLE 5: PIN 1. GATE 2. SOURCE 3. DRAIN

STYLE 3: PIN 1. ANODE 2. ANODE 3 CATHODE

RECOMMENDED MOUNTING FOOTPRINT* FOR ADDITIONAL INFORMATION ON OUR Pb-FREE STRATEGY

AND SOLDERING DETAILS, PLEASE DOWNLOAD THE ON SEMICONDUCTOR SOLDERING AND MOUNTING TECHNIQUES REFERENCE MANUAL, SOLDERRM/D.



DOCUMENT NUMBER:

98ASB15184C

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DESCRIPTION:

SC75-3 1.60x0.80x0.80, 1.00P

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