

MSA1162GT1G

General Purpose Amplifier Transistors

PNP Surface Mount

Features

- Moisture Sensitivity Level: 1
- This is a Pb-Free Device

MAXIMUM RATINGS (T_A = 25°C)

| Rating | Symbol | Value | Unit |
|--------------------------------|----------------------|-------|------|
| Collector-Base Voltage | V _{(BR)CBO} | 60 | Vdc |
| Collector-Emitter Voltage | V _{(BR)CEO} | 50 | Vdc |
| Emitter-Base Voltage | V _{(BR)EBO} | 7.0 | Vdc |
| Collector Current - Continuous | I _C | 100 | mAdc |
| Collector Current - Peak | I _{C(P)} | 200 | mAdc |

THERMAL CHARACTERISTICS

| Characteristic | Symbol | Max | Unit |
|----------------------|------------------|-------------|------|
| Power Dissipation | P _D | 200 | mW |
| Junction Temperature | T _J | 150 | °C |
| Storage Temperature | T _{stg} | -55 to +150 | °C |

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

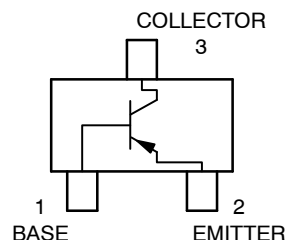
| Characteristic | Symbol | Min | Max | Unit |
|--|----------------------|-----|-----|------|
| Collector-Emitter Breakdown Voltage (I _C = 2.0 mAdc, I _B = 0) | V _{(BR)CEO} | 50 | - | Vdc |
| Collector-Base Breakdown Voltage (I _C = 10 μAdc, I _E = 0) | V _{(BR)CBO} | 60 | - | Vdc |
| Emitter-Base Breakdown Voltage (I _E = 10 μAdc, I _C = 0) | V _{(BR)EBO} | 7.0 | - | Vdc |
| Collector-Base Cutoff Current (V _{CB} = 45 Vdc, I _E = 0) | I _{CBO} | - | 0.1 | μAdc |
| Collector-Emitter Cutoff Current (V _{CE} = 10 Vdc, I _B = 0) | I _{CEO} | - | 0.1 | μAdc |
| (V _{CE} = 30 Vdc, I _B = 0) | | - | 2.0 | μAdc |
| (V _{CE} = 30 Vdc, I _B = 0, T _A = 80°C) | | - | 1.0 | mAdc |
| DC Current Gain (Note 1) (V _{CE} = 6.0 Vdc, I _C = 2.0 mAdc) | h _{FE} | 200 | 400 | - |
| Collector-Emitter Saturation Voltage (I _C = 100 mAdc, I _B = 10 mAdc) | V _{CE(sat)} | - | 0.5 | Vdc |
| Current-Gain-Bandwidth Product (I _C = 1 mA, V _{CE} = 10.0 V, f = 10 MHz) | f _T | 80 | - | MHz |

1. Pulse Test: Pulse Width ≤ 300 μs, D.C. ≤ 2%.



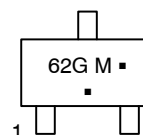
ON Semiconductor®

<http://onsemi.com>



SC-59
CASE 318D
STYLE 1

MARKING DIAGRAM



62G = 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† |
|-------------|--------------------|------------------|
| MSA1162GT1G | SC-59 (Pb-Free) | 3000/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.

TYPICAL ELECTRICAL CHARACTERISTICS

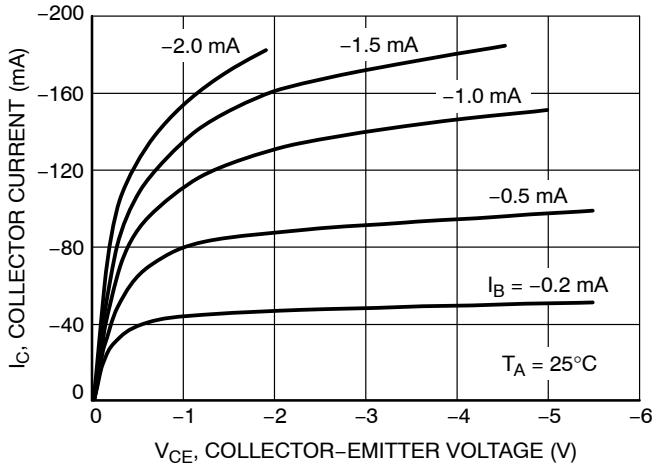


Figure 1. Collector Saturation Region

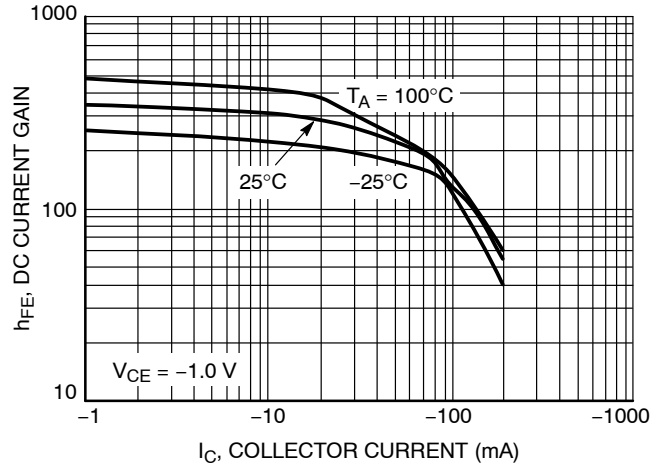


Figure 2. DC Current Gain

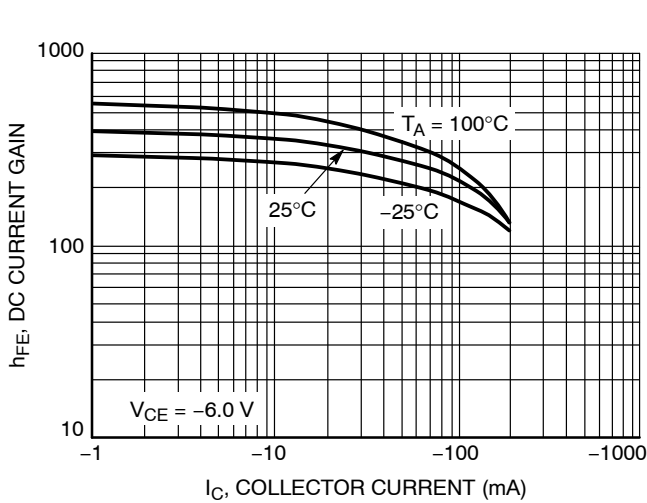


Figure 3. DC Current Gain

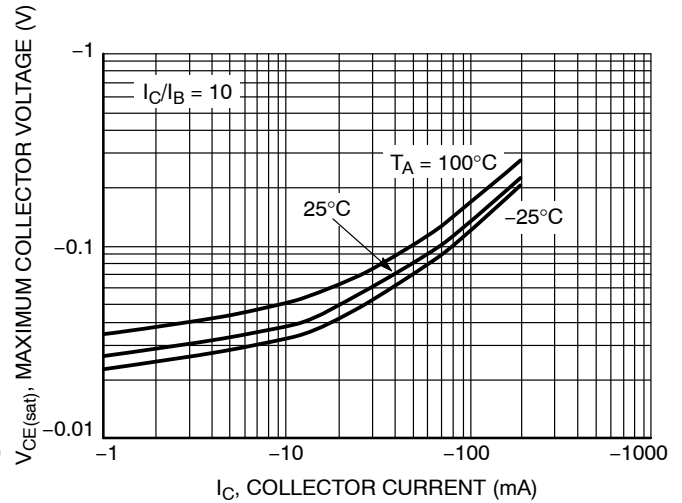


Figure 4. $V_{CE(sat)}$ versus I_C

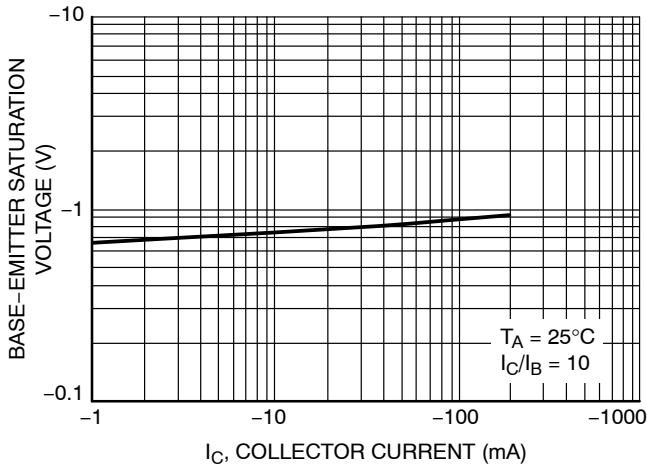


Figure 5. $V_{BE(sat)}$ versus I_C

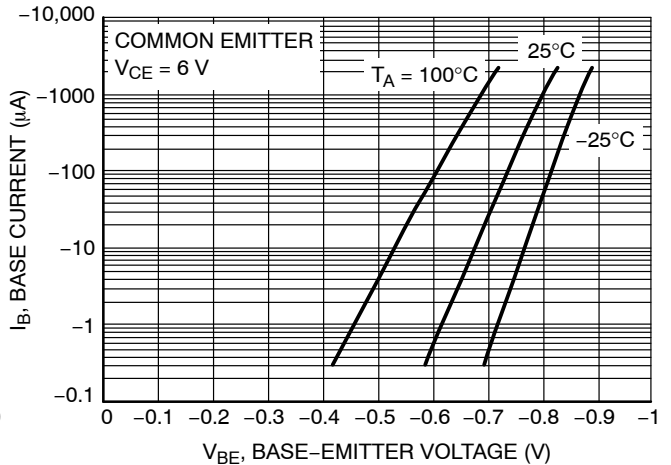


Figure 6. Base-Emitter Voltage

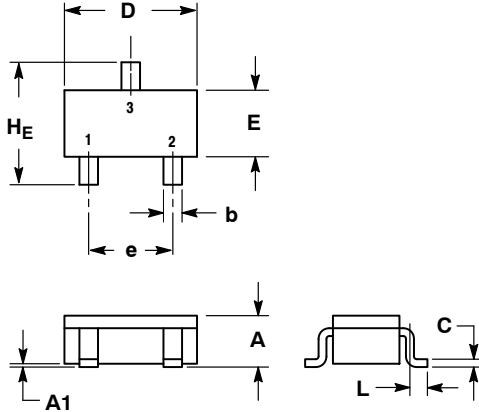
MECHANICAL CASE OUTLINE PACKAGE DIMENSIONS



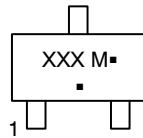
SCALE 2:1

SC-59
CASE 318D-04
ISSUE H

DATE 28 JUN 2012



GENERIC MARKING DIAGRAM*



- XXX = Specific Device Code
- M = Date Code
- = Pb-Free Package*

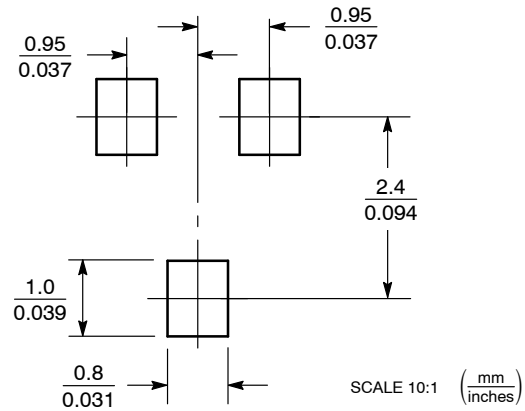
(*Note: Microdot may be in either location)

*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.

- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.

| DIM | MILLIMETERS | | | INCHES | | |
|-----|-------------|------|------|--------|-------|-------|
| | MIN | NOM | MAX | MIN | NOM | MAX |
| A | 1.00 | 1.15 | 1.30 | 0.039 | 0.045 | 0.051 |
| A1 | 0.01 | 0.06 | 0.10 | 0.001 | 0.002 | 0.004 |
| b | 0.35 | 0.43 | 0.50 | 0.014 | 0.017 | 0.020 |
| c | 0.09 | 0.14 | 0.18 | 0.003 | 0.005 | 0.007 |
| D | 2.70 | 2.90 | 3.10 | 0.106 | 0.114 | 0.122 |
| E | 1.30 | 1.50 | 1.70 | 0.051 | 0.059 | 0.067 |
| e | 1.70 | 1.90 | 2.10 | 0.067 | 0.075 | 0.083 |
| L | 0.20 | 0.40 | 0.60 | 0.008 | 0.016 | 0.024 |
| HE | 2.50 | 2.80 | 3.00 | 0.099 | 0.110 | 0.118 |

RECOMMENDED SOLDERING FOOTPRINT*



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

- | | | |
|---|--|--|
| <p>STYLE 1: PIN 1. BASE 2. EMITTER 3. COLLECTOR</p> | <p>STYLE 2: PIN 1. ANODE 2. N.C. 3. CATHODE</p> | <p>STYLE 3: PIN 1. ANODE 2. ANODE 3. CATHODE</p> |
| <p>STYLE 4: PIN 1. CATHODE 2. N.C. 3. ANODE</p> | <p>STYLE 5: PIN 1. CATHODE 2. CATHODE 3. ANODE</p> | <p>STYLE 6: PIN 1. ANODE 2. CATHODE 3. ANODE/CATHODE</p> |

| | | |
|------------------|-------------|---|
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| DESCRIPTION: | SC-59 | PAGE 1 OF 1 |

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