

MSA1162GT1G

General Purpose Amplifier Transistors

PNP Surface Mount

Features

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

MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$)

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	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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 ($T_A = 25^\circ\text{C}$ unless otherwise noted)

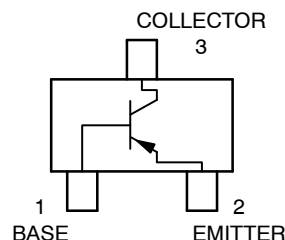
Characteristic	Symbol	Min	Max	Unit
Collector-Emitter Breakdown Voltage ($I_C = 2.0$ mAdc, $I_B = 0$)	$V_{(BR)CEO}$	50	-	Vdc
Collector-Base Breakdown Voltage ($I_C = 10$ μ Adc, $I_E = 0$)	$V_{(BR)CBO}$	60	-	Vdc
Emitter-Base Breakdown Voltage ($I_E = 10$ μ Adc, $I_C = 0$)	$V_{(BR)EBO}$	7.0	-	Vdc
Collector-Base Cutoff Current ($V_{CB} = 45$ Vdc, $I_E = 0$)	I_{CBO}	-	0.1	μ Adc
Collector-Emitter Cutoff Current ($V_{CE} = 10$ Vdc, $I_B = 0$)	I_{CEO}	-	0.1	μ Adc
($V_{CE} = 30$ Vdc, $I_B = 0$)		-	2.0	μ Adc
($V_{CE} = 30$ Vdc, $I_B = 0$, $T_A = 80^\circ\text{C}$)		-	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 μ s, D.C. $\leq 2\%$.



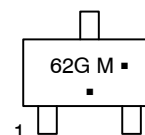
ON Semiconductor®

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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

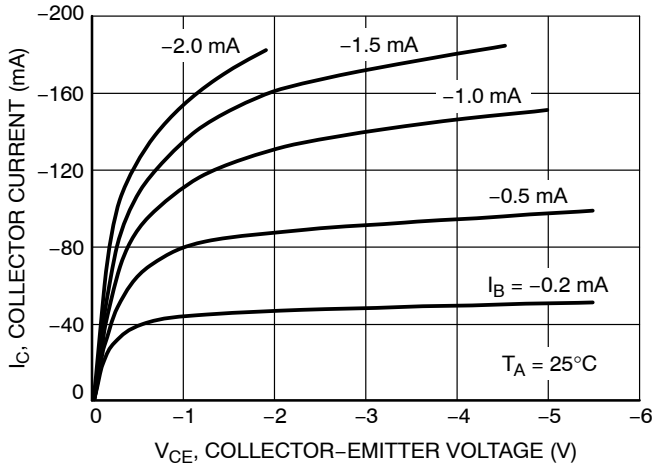


Figure 1. Collector Saturation Region

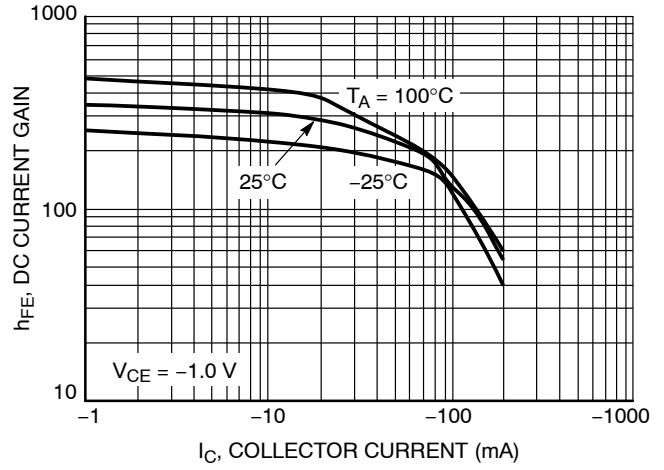


Figure 2. DC Current Gain

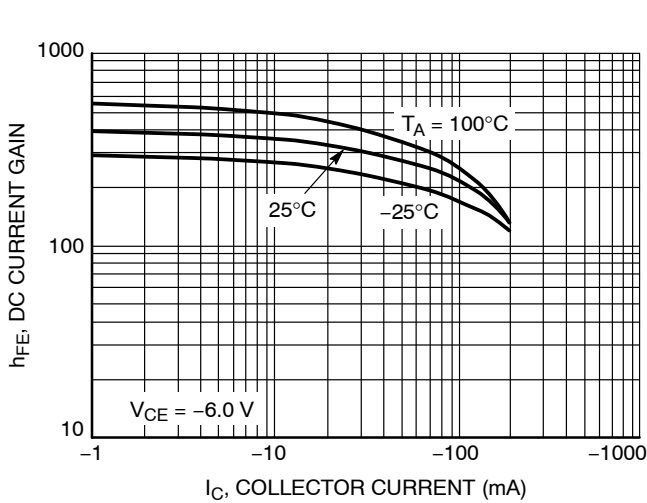


Figure 3. DC Current Gain

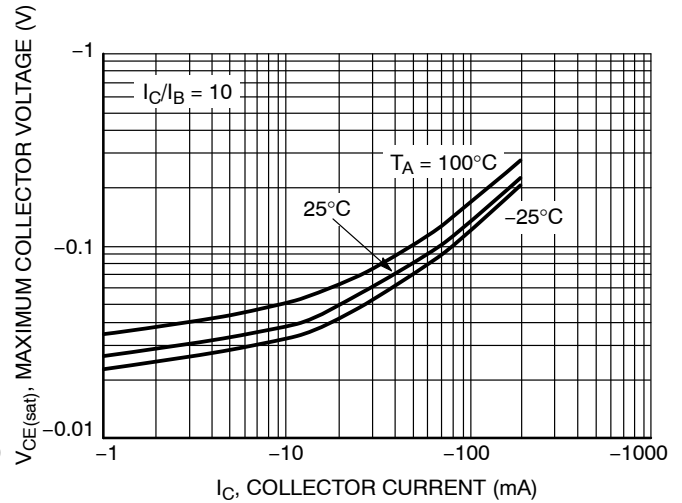


Figure 4. $V_{CE(sat)}$ versus I_C

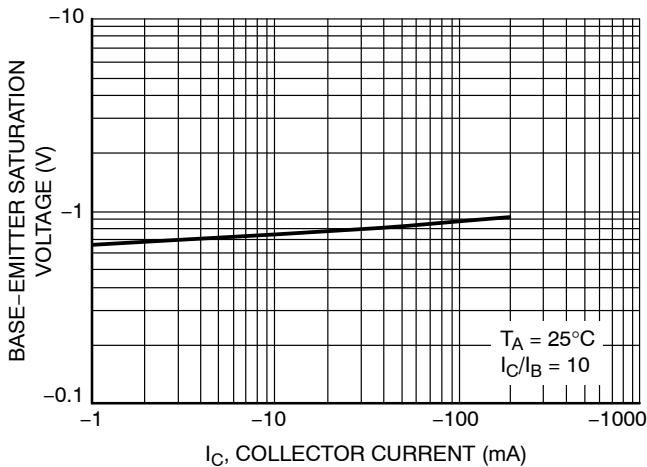


Figure 5. $V_{BE(sat)}$ versus I_C

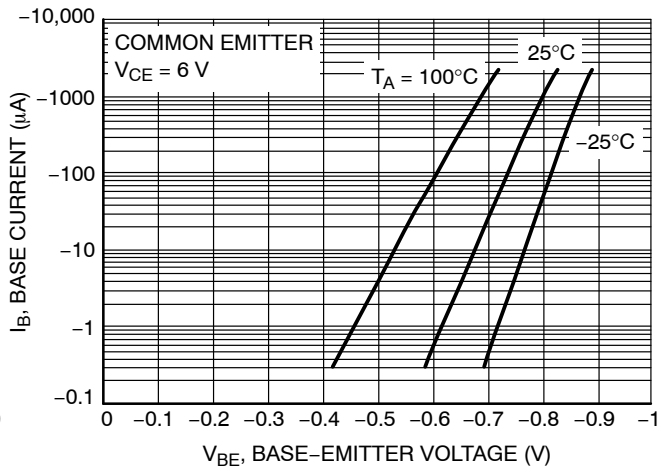


Figure 6. Base-Emitter Voltage

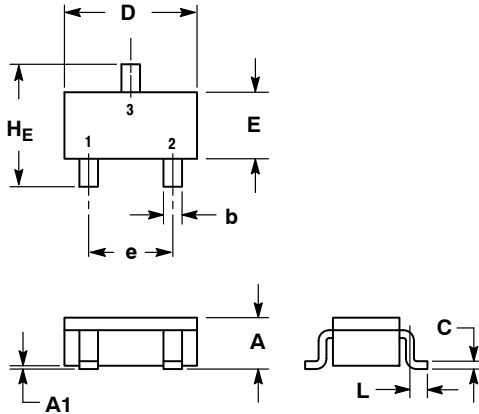
MECHANICAL CASE OUTLINE PACKAGE DIMENSIONS



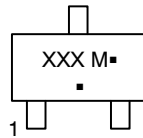
SCALE 2:1

SC-59
CASE 318D-04
ISSUE H

DATE 28 JUN 2012



GENERIC MARKING DIAGRAM*



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

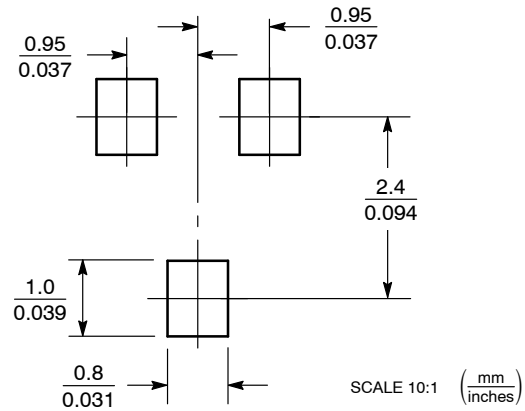
(*Note: Microdot may be in either location)

*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.

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|---|--|--|
| <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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