MSB92T1G

PNP Silicon General Purpose High Voltage Transistor

ON Semiconductor®

http://onsemi.com

This PNP Silicon Planar Transistor is designed for general purpose amplifier applications. This device is housed in the SC−59 package which is designed for low power surface mount applications.

Features

- This is a Pb−Free Device

MAXIMUM RATINGS (T_A = 25°C)

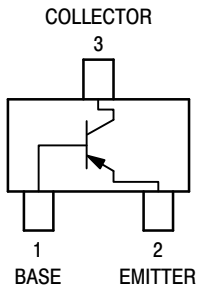
Rating	Symbol	Value	Unit
Collector-Base Voltage	$V_{(BR)CBO}$	−300	Vdc
Collector-Emitter Voltage	$V_{(BR)CEO}$	−300	Vdc
Emitter-Base Voltage	$V_{(BR)EBO}$	−5.0	Vdc
Collector Current − Continuous	I_C	150	mAdc

THERMAL CHARACTERISTICS

Rating	Symbol	Max	Unit
Power Dissipation (Note 1)	P_D	150	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{stg}	−55 ~ +150	°C

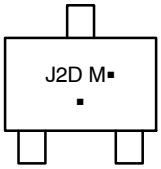
Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

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



MARKING DIAGRAM

SC−59
CASE 318D
STYLE 1



J2D = Device Marking Code
M = Date Code
▪ = Pb−Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping†
MSB92T1G	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.

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min	Max	Unit
Collector-Emitter Breakdown Voltage (I_C = −1.0 mAdc, I_B = 0)	$V_{(BR)CEO}$	−300	–	Vdc
Collector-Base Breakdown Voltage (I_C = −100 μAdc, I_E = 0)	$V_{(BR)CBO}$	−300	–	Vdc
Emitter-Base Breakdown Voltage (I_E = −100 μAdc, I_E = 0)	$V_{(BR)EBO}$	−5.0	–	Vdc
Collector-Base Cutoff Current (V_{CB} = −200 Vdc, I_E = 0)	I_{CBO}	–	−0.25	μA
Emitter−Base Cutoff Current (V_{EB} = −3.0 Vdc, I_B = 0)	I_{EBO}	–	−0.1	μA
DC Current Gain (Note 2) (V_{CE} = −10 Vdc, I_C = −1.0 mAdc) (V_{CE} = −10 Vdc, I_C = −10 mAdc) (V_{CE} = −10 Vdc, I_C = −30 mAdc)	 h_{FE1} h_{FE2} h_{FE3}	 25 40 25	 – – –	–
Collector-Emitter Saturation Voltage (I_C = −20 mAdc, I_B = −2.0 mAdc)	$V_{CE(sat)}$	–	−0.5	Vdc
Base−Emitter Saturation Voltage (I_C = −20 mAdc, I_B = −2.0 mAdc)	$V_{BE(sat)}$	–	−0.9	Vdc

SMALL SIGNAL CHARACTERISTICS

Current−Gain − Bandwidth Product (I_C = −10 mAdc, V_{CE} = −20 Vdc, f = 20 MHz)	f_T	50	–	MHz
Collector−Base Capacitance (V_{CB} = −20 Vdc, I_E = 0, f = 1.0 MHz)	C_{cb}	–	6.0	pF

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

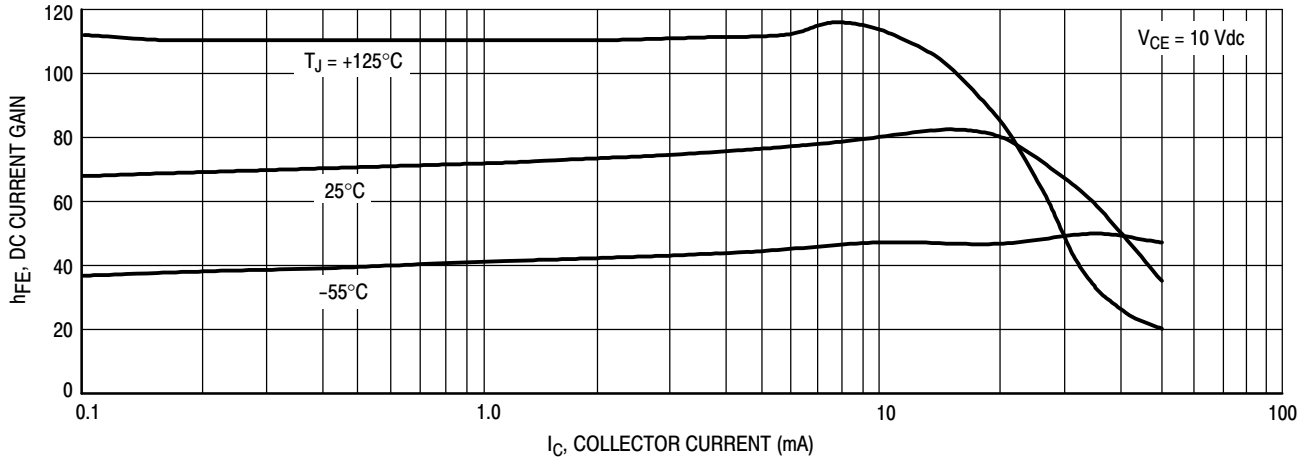


Figure 1. DC Current Gain

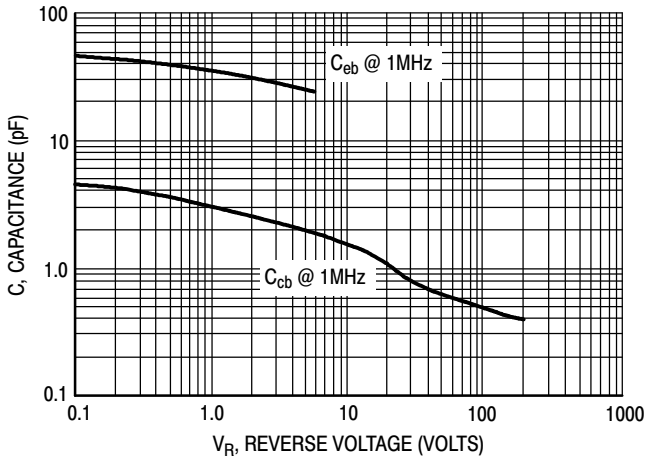


Figure 2. Capacitance

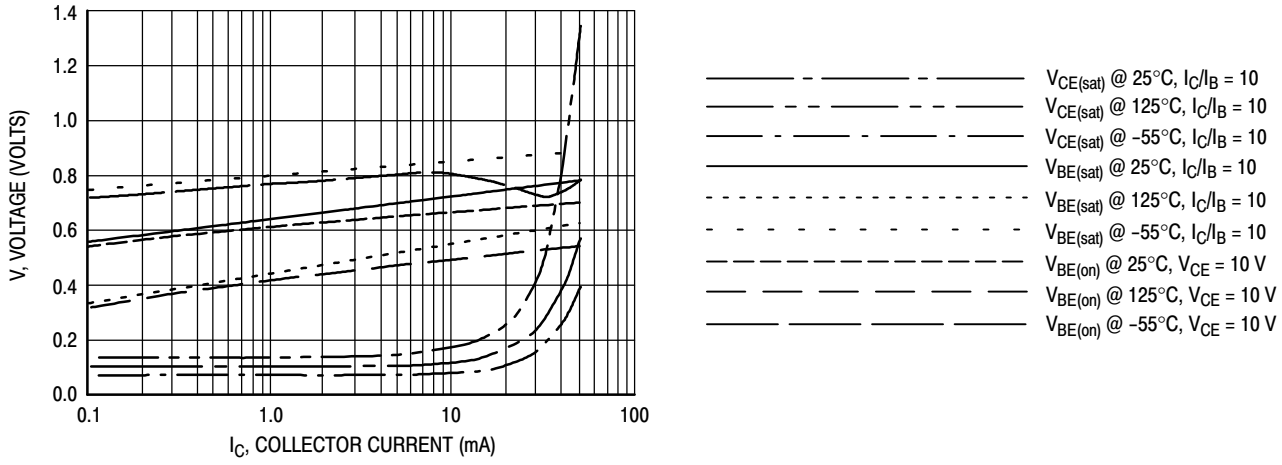
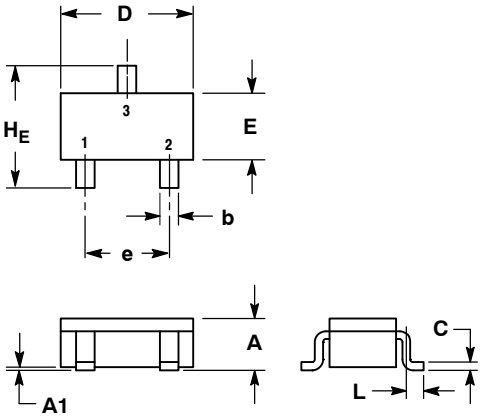


Figure 3. “ON” Voltages

MSB92T1G

PACKAGE DIMENSIONS

SC−59
CASE 318D−04
ISSUE H

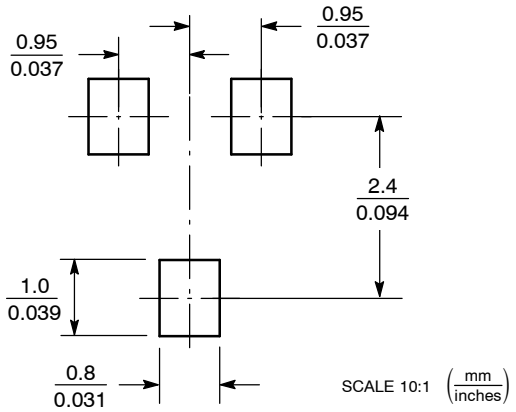


NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.

	MILLIMETERS			INCHES		
DIM	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
H_E	2.50	2.80	3.00	0.099	0.110	0.118

STYLE 1:
PIN 1. BASE
2. EMITTER
3. COLLECTOR

SOLDERING 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.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
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