

PNP Silicon General Purpose Amplifier Transistor

MSB1218A-RT1G

This PNP Silicon Epitaxial Planar Transistor is designed for general purpose amplifier applications. This device is housed in the SC-70/SOT-323 package which is designed for low power surface mount applications.

Features

- High h_{FE} , 210–460
- Low $V_{CE(sat)}$, < 0.5 V
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

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

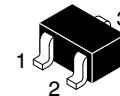
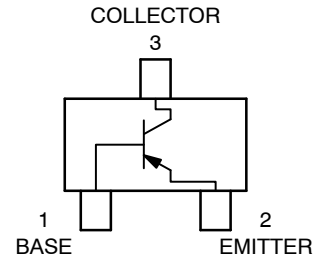
Rating	Symbol	Value	Unit
Collector-Base Voltage	$V_{(BR)CBO}$	45	Vdc
Collector-Emitter Voltage	$V_{(BR)CEO}$	45	Vdc
Emitter-Base Voltage	$V_{(BR)EBO}$	7.0	Vdc
Collector Current – Continuous	I_C	100	mAdc
Collector Current – Peak	$I_{C(P)}$	200	mAdc

THERMAL CHARACTERISTICS

Rating	Symbol	Max	Unit
Power Dissipation (Note 1)	P_D	150	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	–55 to +150	$^\circ\text{C}$

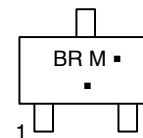
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. Device mounted on a FR-4 glass epoxy printed circuit board using the minimum recommended footprint.
2. Pulse Test: Pulse Width $\leq 300 \mu\text{s}$, D.C. $\leq 2\%$.



SC-70 (SOT-323)
CASE 419
STYLE 4

MARKING DIAGRAM



BR = 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 [†]
MSB1218A-RT1G	SC-70 (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 Specification Brochure, [BRD8011/D](#).

MSB1218A-RT1G

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min	Max	Unit
Collector-Emitter Breakdown Voltage ($I_C = 2.0 \text{ mAdc}$, $I_E = 0$)	$V_{(BR)CEO}$	45	–	Vdc
Collector-Base Breakdown Voltage ($I_C = 10 \text{ } \mu\text{Adc}$, $I_E = 0$)	$V_{(BR)CBO}$	45	–	Vdc
Emitter-Base Breakdown Voltage ($I_E = 10 \text{ } \mu\text{Adc}$, $I_C = 0$)	$V_{(BR)EBO}$	7.0	–	Vdc
Collector-Base Cutoff Current ($V_{CB} = 20 \text{ Vdc}$, $I_E = 0$)	I_{CBO}	–	0.1	μA
Collector-Emitter Cutoff Current ($V_{CE} = 10 \text{ Vdc}$, $I_B = 0$)	I_{CEO}	–	100	μA
DC Current Gain (Note 2) ($V_{CE} = 10 \text{ Vdc}$, $I_C = 2.0 \text{ mAdc}$)	h_{FE1}	210	340	–
Collector-Emitter Saturation Voltage (Note 2) ($I_C = 100 \text{ mAdc}$, $I_B = 10 \text{ mAdc}$)	$V_{CE(sat)}$	–	0.5	Vdc

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.



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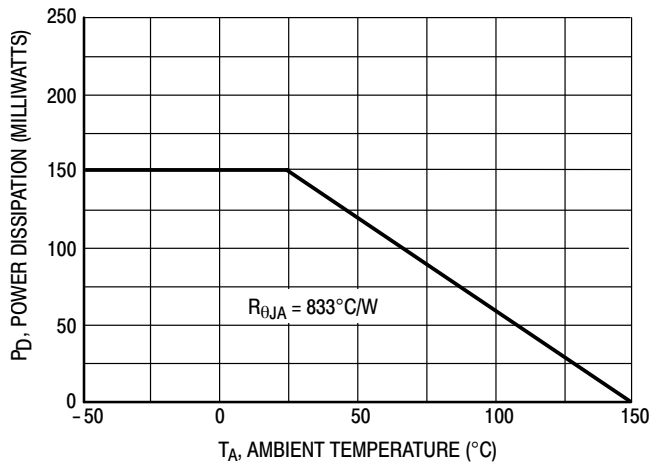


Figure 1. Derating Curve

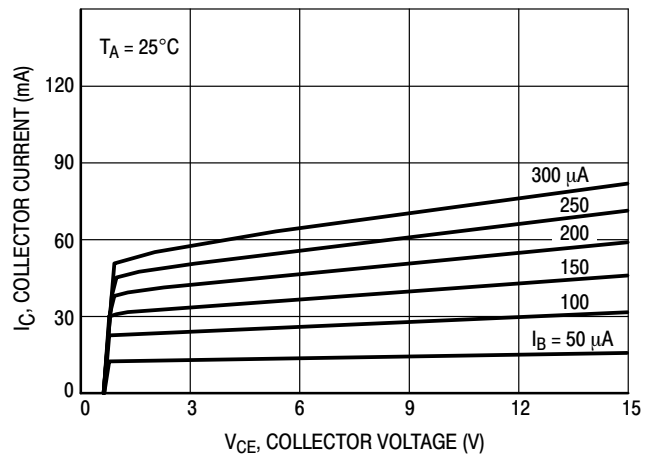


Figure 2. $I_C - V_{CE}$

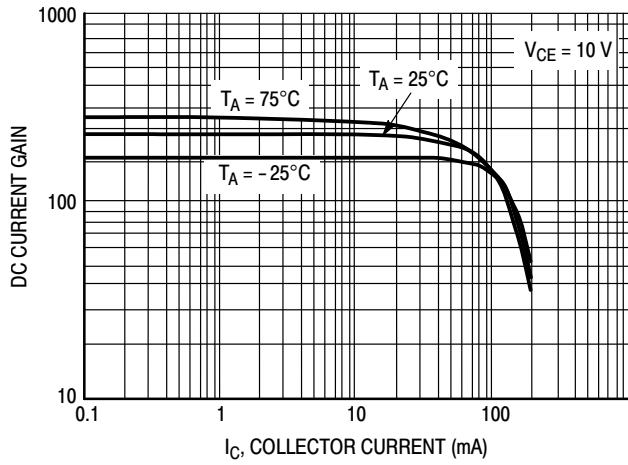


Figure 3. DC Current Gain

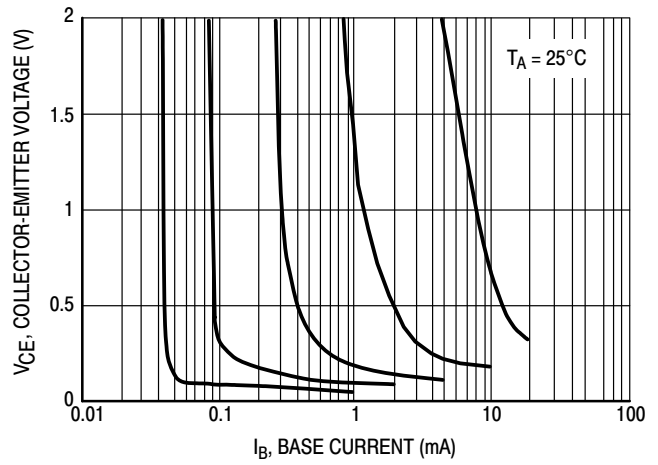


Figure 4. Collector Saturation Region

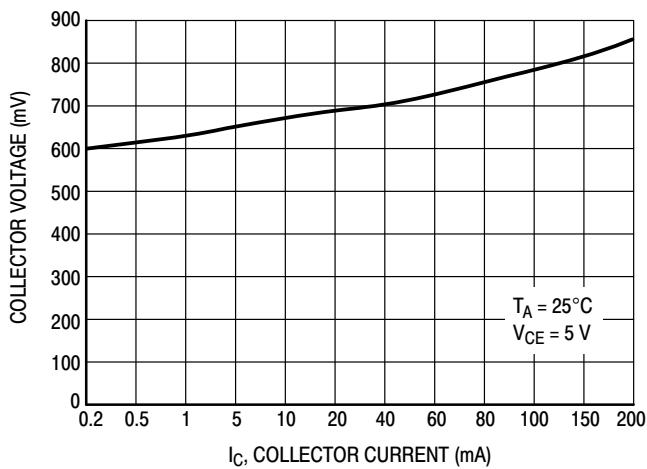


Figure 5. On Voltage

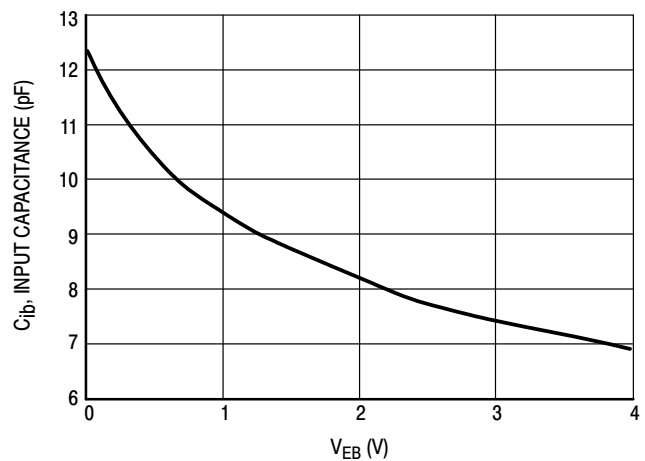


Figure 6. Capacitance

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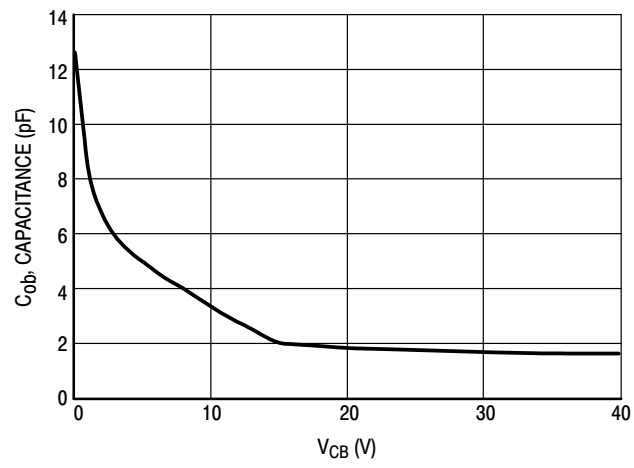


Figure 7. Capacitance



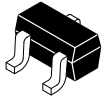
MSB1218A-RT1G

REVISION HISTORY

Revision	Description of Changes	Date
8	Rebranded the Data Sheet to onsemi format.	2/25/2026

This document has undergone updates prior to the inclusion of this revision history table. The changes tracked here only reflect updates made on the noted approval dates.

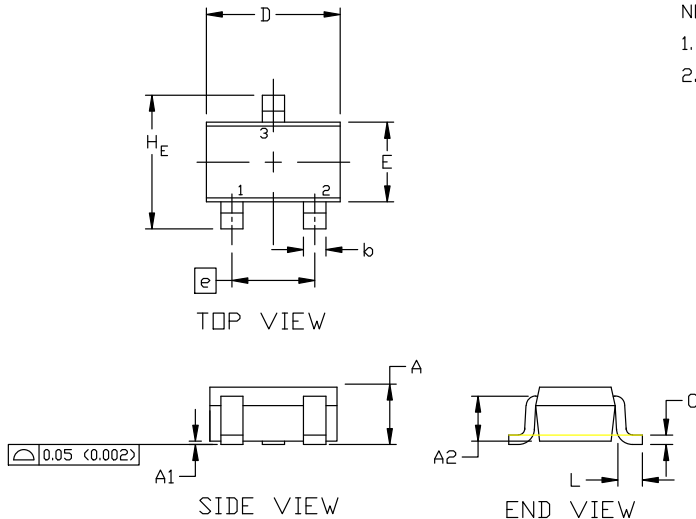




SCALE 4:1

SC-70 (SOT-323)
CASE 419
ISSUE R

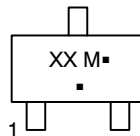
DATE 11 OCT 2022



NOTES:

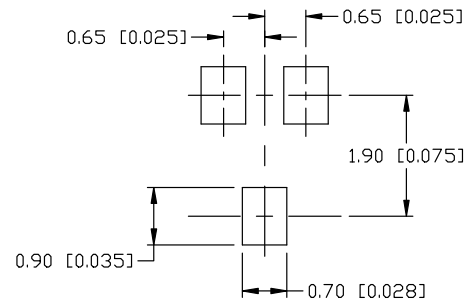
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH

DIM	MILLIMETERS			INCHES		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	0.80	0.90	1.00	0.032	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A2	0.70 REF			0.028 BSC		
b	0.30	0.35	0.40	0.012	0.014	0.016
c	0.10	0.18	0.25	0.004	0.007	0.010
D	1.80	2.00	2.20	0.071	0.080	0.087
E	1.15	1.24	1.35	0.045	0.049	0.053
e	1.20	1.30	1.40	0.047	0.051	0.055
e1	0.65 BSC			0.026 BSC		
L	0.20	0.38	0.56	0.008	0.015	0.022
H _E	2.00	2.10	2.40	0.079	0.083	0.095

**GENERIC
MARKING DIAGRAM**


XX = Specific Device Code
M = 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.



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

SOLDERING FOOTPRINT

STYLE 1:
CANCELLED

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

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

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

STYLE 5:
PIN 1. ANODE
2. ANODE
3. CATHODE

STYLE 6:
PIN 1. EMITTER
2. BASE
3. COLLECTOR

STYLE 7:
PIN 1. BASE
2. EMITTER
3. COLLECTOR

STYLE 8:
PIN 1. GATE
2. SOURCE
3. DRAIN

STYLE 9:
PIN 1. ANODE
2. CATHODE
3. CATHODE-ANODE

STYLE 10:
PIN 1. CATHODE
2. ANODE
3. ANODE-CATHODE

STYLE 11:
PIN 1. CATHODE
2. CATHODE
3. CATHODE

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DESCRIPTION:	SC-70 (SOT-323)	PAGE 1 OF 1

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