

MSB1218A-RT1

Preferred Device

PNP Silicon General Purpose Amplifier Transistor

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.

- High h_{FE} , 210–460
- Low $V_{CE(sat)}$, < 0.5 V
- Available in 8 mm, 7-inch/3000 Unit Tape and Reel

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	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS

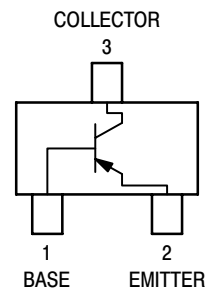
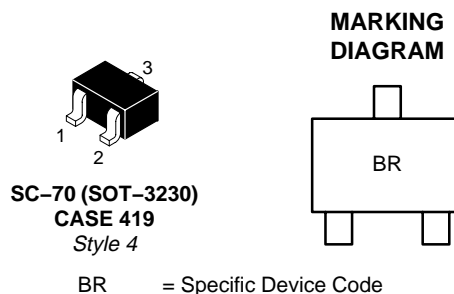
Characteristic	Symbol	Min	Max	Unit
Collector–Emitter Breakdown Voltage ($I_C = 2.0 \text{ mAdc}$, $I_B = 0$)	$V_{(BR)CEO}$	45	–	Vdc
Collector–Base Breakdown Voltage ($I_C = 10 \text{ }\mu\text{Adc}$, $I_E = 0$)	$V_{(BR)CBO}$	45	–	Vdc
Emitter–Base Breakdown Voltage ($I_E = 10 \text{ }\mu\text{Adc}$, $I_C = 0$)	$V_{(BR)EBO}$	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

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



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ORDERING INFORMATION

Device	Package	Shipping†
MSB1218A-RT1	SC-70	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.

Preferred devices are recommended choices for future use and best overall value.

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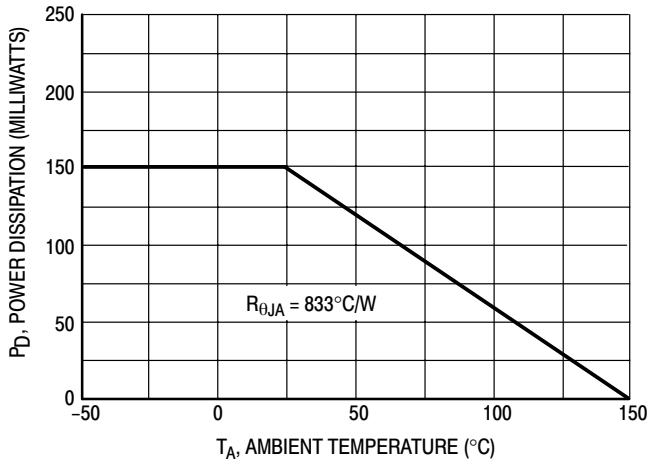


Figure 1. Derating Curve

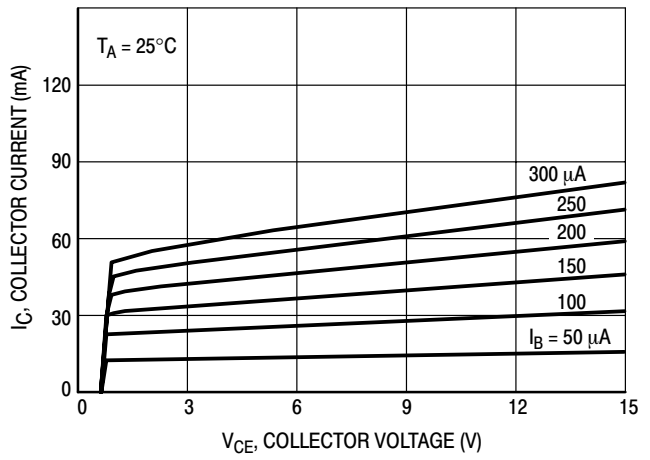


Figure 2. $I_C - V_{CE}$

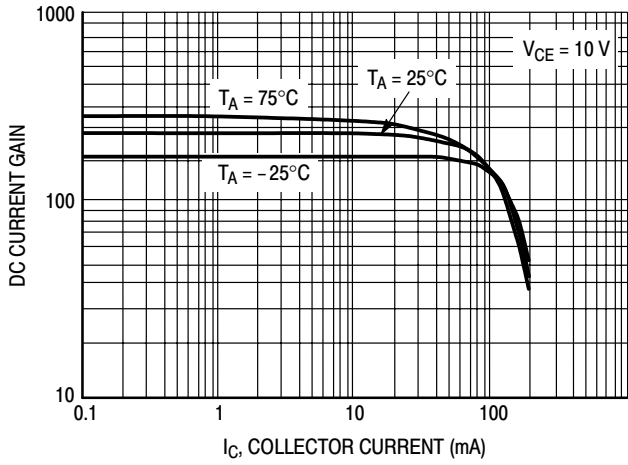


Figure 3. DC Current Gain

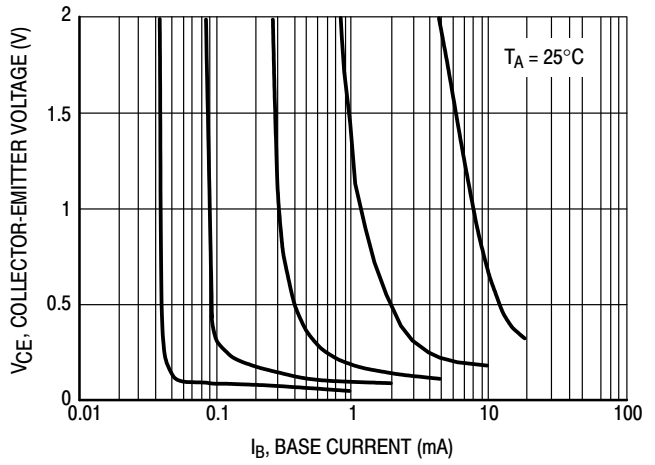


Figure 4. Collector Saturation Region

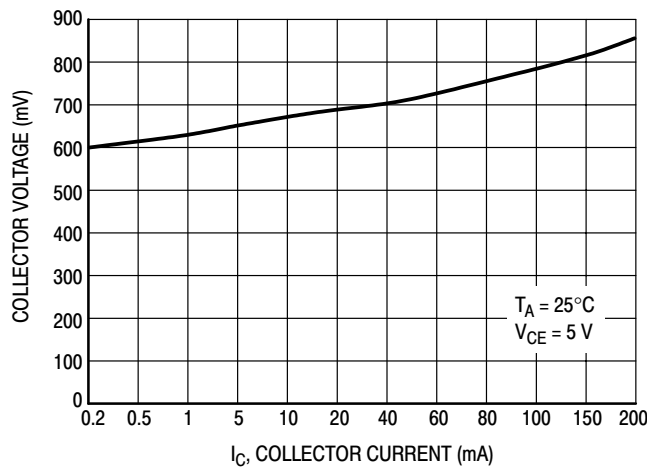


Figure 5. On Voltage

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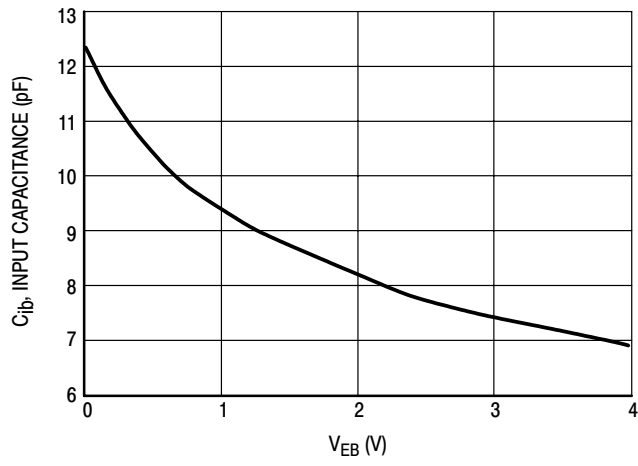


Figure 6. Capacitance

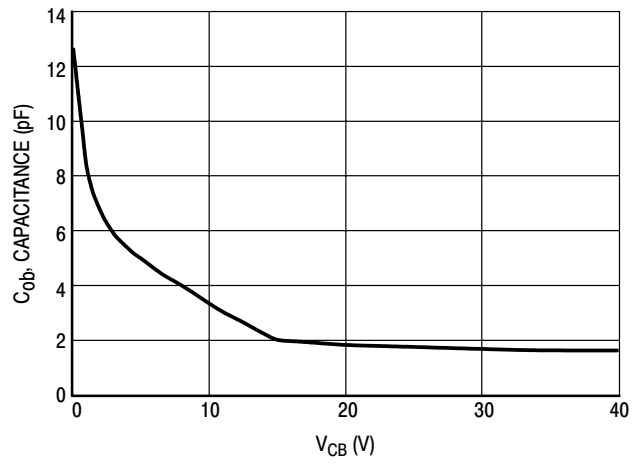
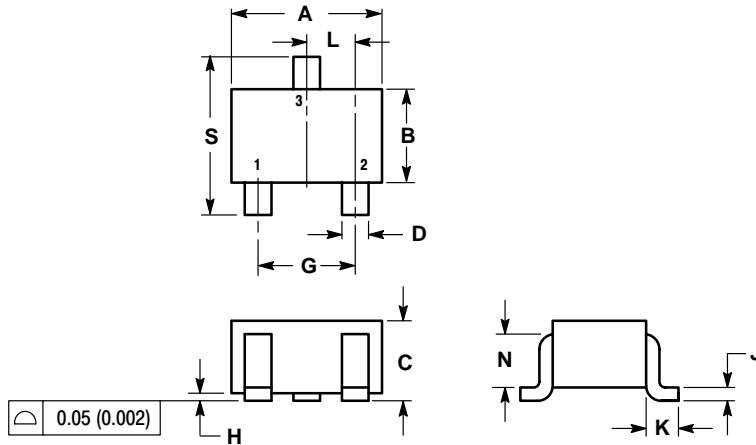


Figure 7. Capacitance

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PACKAGE DIMENSIONS

SC-70 (SOT-323)
CASE 419-04
ISSUE L

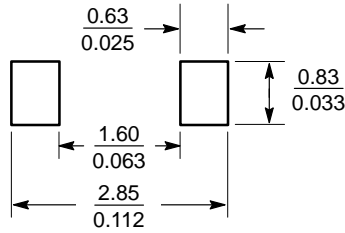


- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.071	0.087	1.80	2.20
B	0.045	0.053	1.15	1.35
C	0.032	0.040	0.80	1.00
D	0.012	0.016	0.30	0.40
G	0.047	0.055	1.20	1.40
H	0.000	0.004	0.00	0.10
J	0.004	0.010	0.10	0.25
K	0.017 REF		0.425 REF	
L	0.026 BSC		0.650 BSC	
N	0.028 REF		0.700 REF	
S	0.079	0.095	2.00	2.40

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

SOLDERING FOOTPRINT



SCALE 10:1 (mm/inches)

SOD-323

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