MSC2295-BT1, MSC2295-CT1

Preferred Device

NPN RF Amplifier Transistors Surface Mount

ON Semiconductor®

http://onsemi.com

Features

- Pb−Free Packages are Available

MAXIMUM RATINGS (T_A = 25°C)

Rating	Symbol	Value	Unit
Collector−Base Voltage	$V_{(BR)CBO}$	30	Vdc
Collector−Emitter Voltage	$V_{(BR)CEO}$	20	Vdc
Emitter−Base Voltage	$V_{(BR)EBO}$	5.0	Vdc
Collector Current − Continuous	I_C	30	mAdc

THERMAL CHARACTERISTICS

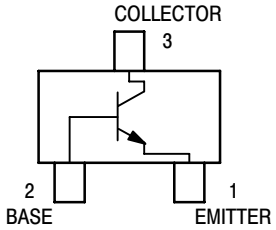
Characteristic	Symbol	Max	Unit
Power Dissipation	P_D	200	mW
Junction Temperature	T_J	150	°C
Storage Temperature	T_{stg}	−55 to +150	°C

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

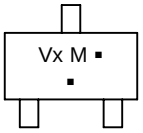
Characteristic	Symbol	Min	Max	Unit
Collector−Base Cutoff Current (V_{CB} = 10 Vdc, I_E = 0)	I_{CBO}	−	0.1	μAdc
DC Current Gain (Note 1) (V_{CB} = 10 Vdc, I_C = −1.0 mAdc) MSC2295−BT1 MSC2295−CT1	h_{FE}	 70 110	 140 220	−
Collector−Gain — Bandwidth Product (V_{CB} = 10 Vdc, I_E = −1.0 mAdc)	f_T	150	−	MHz
Reverse Transistor Capacitance (V_{CE} = 10 Vdc, I_C = 1.0 mAdc, f = 10.7 MHz)	C_{re}	−	1.5	pF

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



SC−59
CASE 318D

MARKING DIAGRAM



Vx = Device Code
x= B or C
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†
MSC2295−BT1	SC−59	3000/Tape & Reel
MSC2295−BT1G	SC−59 (Pb−Free)	3000/Tape & Reel
MSC2295−CT1	SC−59	3000/Tape & Reel
MSC2295−CT1G	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.

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

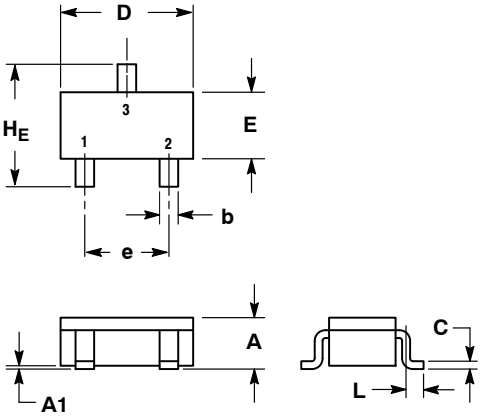
MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS

ON Semiconductor®

SCALE 2:1

SC−59
CASE 318D−04
ISSUE H

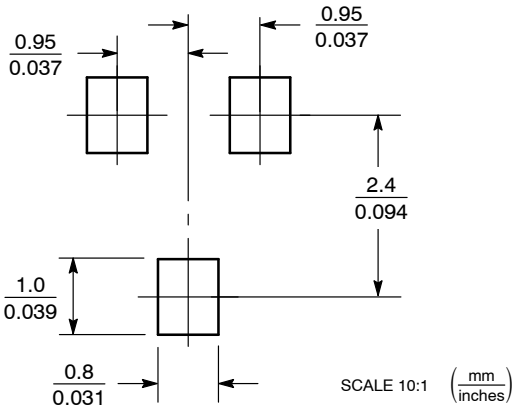
DATE 28 JUN 2012



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

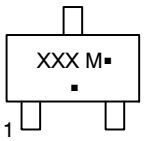
	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	1.00	1.15	1.30	0.039	0.045	0.051
A1	0.01	0.06	0.10	0.001	0.002	0.004
b	0.35	0.43	0.50	0.014	0.017	0.020
c	0.09	0.14	0.18	0.003	0.005	0.007
D	2.70	2.90	3.10	0.106	0.114	0.122
E	1.30	1.50	1.70	0.051	0.059	0.067
e	1.70	1.90	2.10	0.067	0.075	0.083
L	0.20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

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.

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.

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

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

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

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

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

STYLE 6:
PIN 1. ANODE
2. CATHODE
3. ANODE/CATHODE

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DESCRIPTION:	**SC−59**	**PAGE 1 OF 1**

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