

# MSC2295-BT1, MSC2295-CT1

Preferred Device

## NPN RF Amplifier Transistors Surface Mount

### Features

- Pb-Free Packages are Available

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

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

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

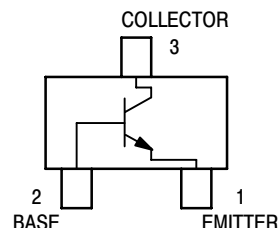
Characteristic	Symbol	Min	Max	Unit
Collector-Base Cutoff Current ( $V_{CB} = 10\text{ Vdc}$ , $I_E = 0$ )	$I_{CBO}$	–	0.1	$\mu\text{Adc}$
DC Current Gain (Note 1) ( $V_{CB} = 10\text{ Vdc}$ , $I_C = -1.0\text{ mAdc}$ ) MSC2295-BT1 MSC2295-CT1	$h_{FE}$	70 110	140 220	–
Collector-Gain — Bandwidth Product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

1. Pulse Test: Pulse Width  $\leq 300\text{ }\mu\text{s}$ , D.C.  $\leq 2\%$ .



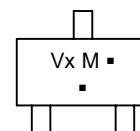
ON Semiconductor®

<http://onsemi.com>



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)

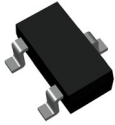
\*Date Code orientation may vary depending upon manufacturing location.

### 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

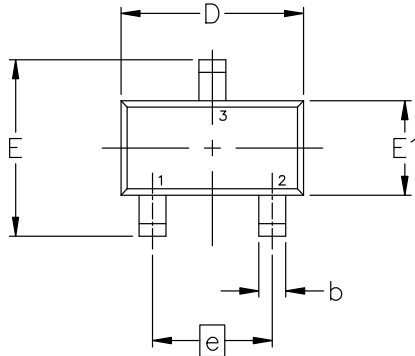
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

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

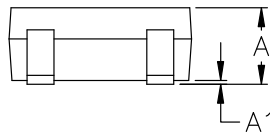


SC-59-3 2.90x1.50x1.15, 1.90P  
CASE 318D  
ISSUE J

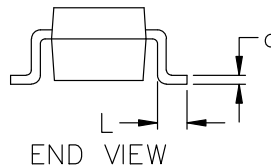
DATE 15 FEB 2024



TOP VIEW



SIDE VIEW

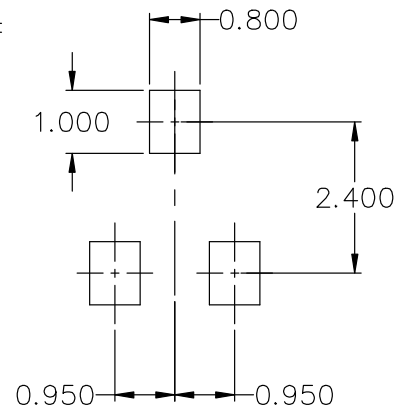


END VIEW

NOTES:

1. DIMENSIONING AND TOLERANCING CONFORM TO ASME Y14.5-2018.
2. ALL DIMENSION ARE IN MILLIMETERS.

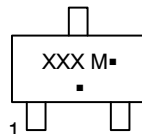
DIM	MILLIMETERS		
	MIN.	NOM.	MAX.
A	1.00	1.15	1.30
A1	0.01	0.06	0.10
b	0.35	0.43	0.50
c	0.09	0.14	0.18
D	2.70	2.90	3.10
E	2.50	2.80	3.00
E1	1.30	1.50	1.70
e	1.90 BSC		
L	0.20	0.40	0.60



RECOMMENDED MOUNTING 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. Some products may not follow the Generic Marking.

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-59-3 2.90x1.50x1.15, 1.90P	PAGE 1 OF 1

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