MSB710-RT1

Preferred Device

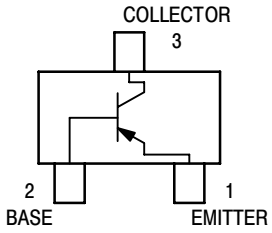
PNP General Purpose Amplifier Transistor Surface Mount

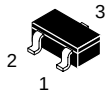
ON Semiconductor®

http://onsemi.com

Features

- Pb−Free Package is Available





SC−59
CASE 318D

MAXIMUM RATINGS (T_A = 25°C)

Rating	Symbol	Value	Unit
Collector−Base Voltage	$V_{(BR)CBO}$	−60	Vdc
Collector−Emitter Voltage	$V_{(BR)CEO}$	−50	Vdc
Emitter−Base Voltage	$V_{(BR)EBO}$	−7.0	Vdc
Collector Current − Continuous	I_C	−500	mAdc
Collector Current − Peak	$I_{C(P)}$	−1.0	Adc

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

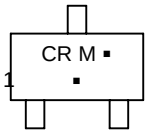
Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur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

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

Characteristic	Symbol	Min	Max	Unit
Collector−Emitter Breakdown Voltage (I_C = −10 mAdc, I_B = 0)	$V_{(BR)CEO}$	−50	−	Vdc
Collector−Base Breakdown Voltage (I_C = −10 μAdc, I_E = 0)	$V_{(BR)CBO}$	−60	−	Vdc
Emitter−Base Breakdown Voltage (I_E = −10 μAdc, I_C = 0)	$V_{(BR)EBO}$	−7.0	−	Vdc
Collector−Base Cutoff Current (V_{CB} = −20 Vdc, I_E = 0)	I_{CBO}	−	−0.1	μAdc
DC Current Gain (Note 1) (V_{CE} = −10 Vdc, I_C = −150 mAdc) (V_{CE} = −10 Vdc, I_C = 500 mAdc)	h_{FE1} h_{FE2}	120 40	240 −	−
Collector−Emitter Saturation Voltage (I_C = −300 mAdc, I_B = −30 mAdc)	$V_{CE(sat)}$	−	−0.6	Vdc
Collector−Base Saturation Voltage (I_C = −300 mAdc, I_B = −30 mAdc)	$V_{BE(sat)}$	−	−1.5	Vdc
Output Capacitance (V_{CB} = −10 Vdc, I_E = 0, f = 1.0 MHz)	C_{ob}	−	15	pF

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

MARKING DIAGRAM



CR = Device Code
M = Date Code*
▪ = Pb−Free Package

(Note: Microdot may be in either location)

*Date Code orientation may vary depending upon manufacturing location.

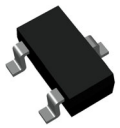
ORDERING INFORMATION

Device	Package	Shipping†
MSB710−RT1	SC−59	3000 / Tape & Reel
MSB710−RT1G	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.

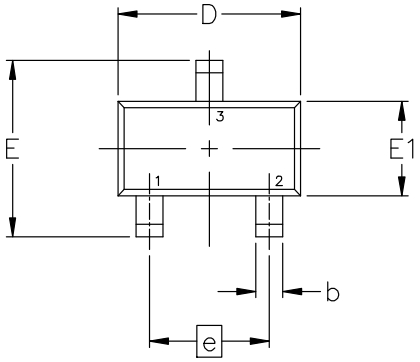
Preferred devices are recommended choices for future use and best overall value.

MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS

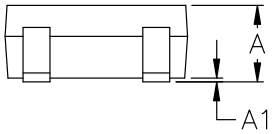


SC−59−3 2.90x1.50x1.15, 1.90P
CASE 318D
ISSUE J

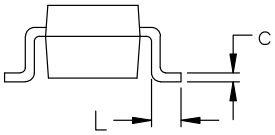
DATE 15 FEB 2024



TOP VIEW



SIDE VIEW

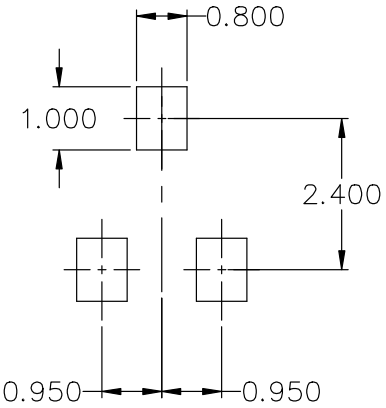


END VIEW

NOTES:

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

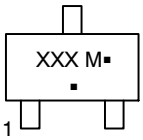
	MILLIMETERS		
DIM	MIN.	NOM.	MAX.
A	1.00	1.15	1.30
A1	0.01	0.06	0.10
b	0.35	0.43	0.50
c	0.09	0.14	0.18
D	2.70	2.90	3.10
E	2.50	2.80	3.00
E1	1.30	1.50	1.70
e	1.90 BSC		
L	0.20	0.40	0.60



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**

ADDITIONAL INFORMATION

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onsemi Website: www.onsemi.com

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