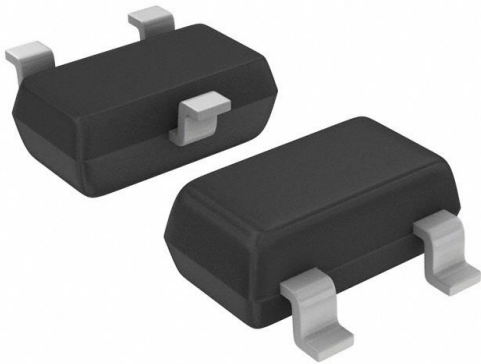


MSB710-RT1 Datasheet

www.digi-electronics.com



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	MSB710-RT1-DG
Manufacturer	onsemi
Manufacturer Product Number	MSB710-RT1
Description	TRANS PNP 50V 0.5A SC59
Detailed Description	Bipolar (BJT) Transistor PNP 50 V 500 mA 200 mW S urface Mount SC-59



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:

MSB710-RT1

Series:

-

Transistor Type:

PNP

Voltage - Collector Emitter Breakdown (Max):

50 V

Current - Collector Cutoff (Max):

100nA (ICBO)

Power - Max:

200 mW

Operating Temperature:

150°C (TJ)

Package / Case:

TO-236-3, SC-59, SOT-23-3

Base Product Number:

MSB71

Manufacturer:

onsemi

Product Status:

Obsolete

Current - Collector (Ic) (Max):

500 mA

Vce Saturation (Max) @ Ib, Ic:

600mV @ 30mA, 300mA

DC Current Gain (hFE) (Min) @ Ic, Vce:

120 @ 150mA, 10V

Frequency - Transition:

-

Mounting Type:

Surface Mount

Supplier Device Package:

SC-59

Environmental & Export classification

RoHS Status:

RoHS non-compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.21.0095

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

MSB710-RT1

Preferred Device

PNP General Purpose Amplifier Transistor Surface Mount

Features

- Pb-Free Package is Available

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

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	$^\circ\text{C}$
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.

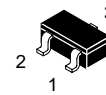
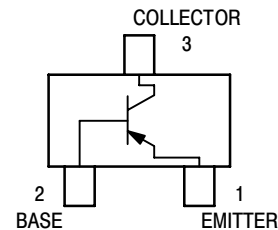
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

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

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

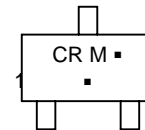


ON Semiconductor®

<http://onsemi.com>


SC-59
CASE 318D

MARKING DIAGRAM



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

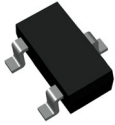
Device	Package	Shipping†
MSB710-RT1	SC-59	3000 / Tape & Reel
MSB710-RT1G	SC-59 (Pb-Free)	3000 / Tape & Reel

†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.

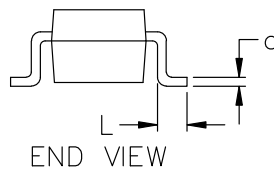
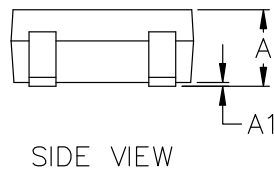
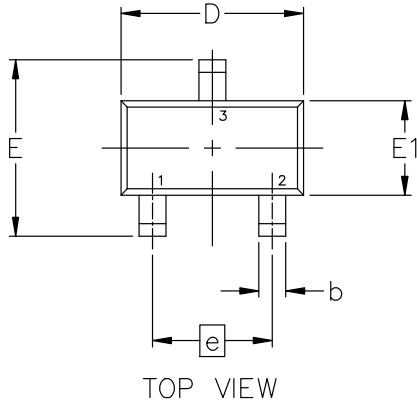


**MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS**



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

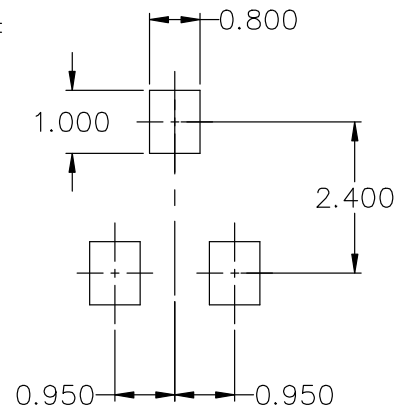
DATE 15 FEB 2024



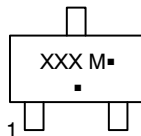
NOTES:

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



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.

* FOR ADDITIONAL INFORMATION ON OUR Pb-FREE STRATEGY AND SOLDERING DETAILS, PLEASE DOWNLOAD THE ON SEMICONDUCTOR SOLDERING AND MOUNTING TECHNIQUES REFERENCE MANUAL, SOLDERRM/D.

- 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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