MSB710-RT1

Preferred Device

PNP General Purpose Amplifier Transistor Surface Mount

Features

• Pb-Free Package is Available

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

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	Ic	-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)

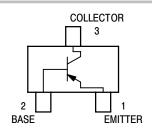
Characteristic	Symbol	Min	Max	Unit
Collector–Emitter Breakdown Voltage (I _C = -10 mAdc, I _B = 0)	V _{(BR)CEO}	-50	ı	Vdc
Collector–Base Breakdown Voltage ($I_C = -10 \mu Adc, I_E = 0$)	V _{(BR)CBO}	-60	ı	Vdc
Emitter–Base Breakdown Voltage ($I_E = -10 \mu Adc, I_C = 0$)	V _{(BR)EBO}	-7.0	ı	Vdc
Collector–Base Cutoff Current $(V_{CB} = -20 \text{ Vdc}, I_E = 0)$	I _{CBO}	1	-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)}	ı	-0.6	Vdc
Collector–Base Saturation Voltage (I _C = -300 mAdc, I _B = -30 mAdc)	V _{BE(sat)}	ı	-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 \leq 300 μ s, D.C. \leq 2%.



ON Semiconductor®

http://onsemi.com





SC-59 **CASE 318D**

MARKING DIAGRAM



CR = Device Code = 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



SCALE 2:1

SC-59 CASE 318D-04 **ISSUE H**

DATE 28 JUN 2012

NOTES:

- DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 CONTROLLING DIMENSION: MILLIMETER.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	MOM	MAX
Α	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
С	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
е	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
HE	2.50	2.80	3.00	0.099	0.110	0.118

GENERIC MARKING DIAGRAM

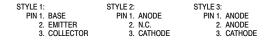


XXX = Specific Device Code

Μ = Date Code = Pb-Free Package*

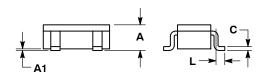
(*Note: Microdot may be in either location)

*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.

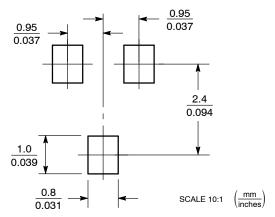


STYLE 4: STYLE 5: STYLE 6: PIN 1. CATHODE 2. N.C. 3. ANODE PIN 1. CATHODE 2. CATHODE 3. ANODE PIN 1. ANODE 2. CATHODE 3. ANODE/CATHODE

Ε H_{E}



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.

DOCUMENT NUMBER:	98ASB42664B	Electronic versions are uncontrolled except when accessed directly from the Document Repository Printed versions are uncontrolled except when stamped "CONTROLLED COPY" in red.		
DESCRIPTION:	SC-59	•	PAGE 1 OF 1	

ON Semiconductor and (III) are trademarks of Semiconductor Components Industries, LLC dba ON Semiconductor or its subsidiaries in the United States and/or other countries. ON Semiconductor reserves the right to make changes without further notice to any products herein. ON Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does ON Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. ON Semiconductor does not convey any license under its patent rights nor the rights of others.

onsemi, Onsemi, and other names, marks, and brands are registered and/or common law trademarks of Semiconductor Components Industries, LLC dba "onsemi" or its affiliates and/or subsidiaries in the United States and/or other countries. onsemi owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of onsemi's product/patent coverage may be accessed at www.onsemi.com/site/pdf/Patent-Marking.pdf. Onsemi reserves the right to make changes at any time to any products or information herein, without notice. The information herein is provided "as-is" and onsemi makes no warranty, representation or guarantee regarding the accuracy of the information, product features, availability, functionality, or suitability of its products for any particular purpose, nor does onsemi assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using onsemi products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by onsemi. "Typical" parameters which may be provided in onsemi data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. onsemi does not convey any license under any of its intellectual property rights nor the rights of others. onsemi products are not designed, intended, or authorized for use as a critical component in life support systems or any FDA class 3 medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase

ADDITIONAL INFORMATION

TECHNICAL PUBLICATIONS:

 $\textbf{Technical Library:} \ \underline{www.onsemi.com/design/resources/technical-documentation}$

onsemi Website: www.onsemi.com

ONLINE SUPPORT: www.onsemi.com/support

For additional information, please contact your local Sales Representative at

www.onsemi.com/support/sales