

NPN General Purpose Amplifier Transistors Surface Mount

MSD601-RT1G, NSVMSD601-RT1G

Features

- NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

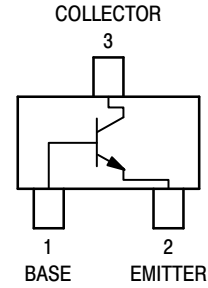
MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$)

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	100	mAdc
Collector Current – Peak	$I_{C(P)}$	200	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 ~ +150	$^\circ\text{C}$

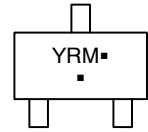
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.



MARKING DIAGRAM



SC-59
 CASE 318D



YR = Specific Device Code
 M = Date Code
 ■ = Pb-Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

See detailed ordering and shipping information in the package dimensions section on page 2 of this data sheet.

MSD601-RT1G, NSVMSD601-RT1G

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

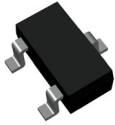
Characteristic	Symbol	Min	Max	Unit
Collector – Emitter Breakdown Voltage (I _C = 2.0 mA _{dc} , I _B = 0)	V _{(BR)CEO}	50	–	V _{dc}
Collector – Base Breakdown Voltage (I _C = 10 μA _{dc} , I _E = 0)	V _{(BR)CBO}	60	–	V _{dc}
Emitter – Base Breakdown Voltage (I _E = 10 μA _{dc} , I _C = 0)	V _{(BR)EBO}	7.0	–	V _{dc}
Collector – Base Cutoff Current (V _{CB} = 45 V _{dc} , I _E = 0)	I _{CBO}	–	0.1	μA _{dc}
Collector – Emitter Cutoff Current (V _{CE} = 10 V _{dc} , I _B = 0)	I _{CEO}	–	100	nA _{dc}
DC Current Gain (Note 1) (V _{CE} = 10 V _{dc} , I _C = 2.0 mA _{dc}) (V _{CE} = 2.0 V _{dc} , I _C = 100 mA _{dc})	h _{FE1} h _{FE2}	210 90	340 –	–
Collector – Emitter Saturation Voltage (I _C = 100 mA _{dc} , I _B = 10 mA _{dc})	V _{CE(sat)}	–	0.5	V _{dc}

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

ORDERING INFORMATION

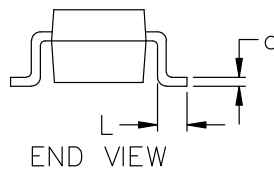
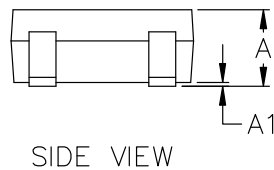
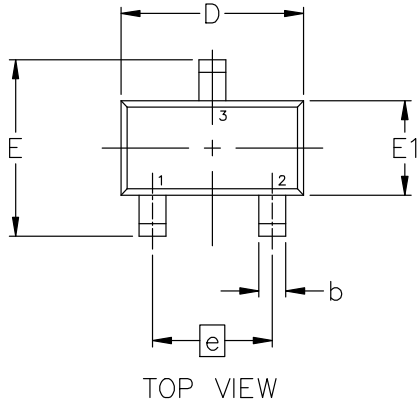
Device	Package	Shipping†
MSD601-RT1G	SC-59 (Pb-Free)	3000 / Tape & Reel
NSVMSD601-RT1G	SC-59 (Pb-Free)	3000 / Tape & Reel

†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.



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

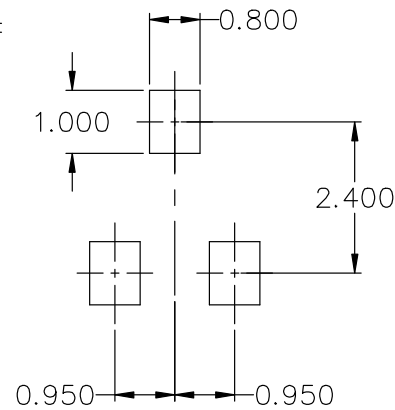
DATE 15 FEB 2024



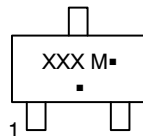
NOTES:

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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