

# MSC2712GT1, MSC2712YT1

## General Purpose Amplifier Transistor

### NPN Surface Mount

#### Features

- Moisture Sensitivity Level: 1
- Pb-Free Packages are Available

#### MAXIMUM RATINGS (T<sub>A</sub> = 25°C)

Rating	Symbol	Value	Unit
Collector-Base Voltage	V <sub>(BR)CBO</sub>	60	Vdc
Collector-Emitter Voltage	V <sub>(BR)CEO</sub>	50	Vdc
Emitter-Base Voltage	V <sub>(BR)EBO</sub>	7.0	Vdc
Collector Current – Continuous	I <sub>C</sub>	100	mAdc
Collector Current – Peak	I <sub>C(P)</sub>	200	mAdc

#### THERMAL CHARACTERISTICS

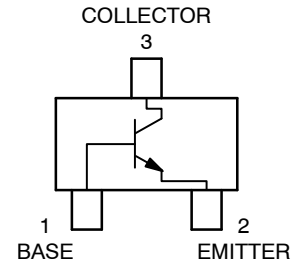
Characteristic	Symbol	Max	Unit
Power Dissipation	P <sub>D</sub>	200	mW
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 to +150	°C

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.



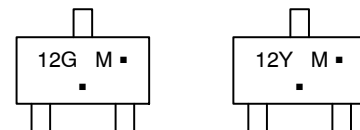
ON Semiconductor®

<http://onsemi.com>



SC-59  
CASE 318D  
STYLE 1

#### MARKING DIAGRAMS



12M, 12Y = Specific Device Code  
M = Date Code  
▪ = Pb-Free Package  
(Note: Microdot may be in either location)

#### ORDERING INFORMATION

Device	Package	Shipping†
MSC2712GT1	SC-59	3000/Tape & Reel
MSC2712GT1G	SC-59 (Pb-Free)	3000/Tape & Reel
MSC2712YT1	SC-59	3000/Tape & Reel
MSC2712YT1G	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.

# MSC2712GT1, MSC2712YT1

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise noted)

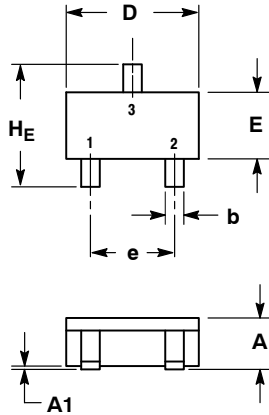
Characteristic	Symbol	Min	Max	Unit
Collector-Emitter Breakdown Voltage (I <sub>C</sub> = 2.0 mA, I <sub>B</sub> = 0)	V <sub>(BR)CEO</sub>	50	-	Vdc
Collector-Base Breakdown Voltage (I <sub>C</sub> = 10 μA, I <sub>E</sub> = 0)	V <sub>(BR)CBO</sub>	60	-	Vdc
Emitter-Base Breakdown Voltage (I <sub>E</sub> = 10 μA, I <sub>C</sub> = 0)	V <sub>(BR)EBO</sub>	7.0	-	Vdc
Collector-Base Cutoff Current (V <sub>CB</sub> = 45 Vdc, I <sub>E</sub> = 0)	I <sub>CBO</sub>	-	0.1	μA
Collector-Emitter Cutoff Current (V <sub>CE</sub> = 10 Vdc, I <sub>B</sub> = 0) (V <sub>CE</sub> = 30 Vdc, I <sub>B</sub> = 0) (V <sub>CE</sub> = 30 Vdc, I <sub>B</sub> = 0, T <sub>A</sub> = 80°C)	I <sub>CEO</sub>	- - -	0.1 2.0 1.0	μA μA mA
DC Current Gain (Note 1) (V <sub>CE</sub> = 6.0 Vdc, I <sub>C</sub> = 2.0 mA)	h <sub>FE</sub>			-
		200 120	400 240	
Collector-Emitter Saturation Voltage (I <sub>C</sub> = 100 mA, I <sub>B</sub> = 10 mA)	V <sub>CE(sat)</sub>	-	0.5	Vdc
Current - Gain - Bandwidth Product (I <sub>C</sub> = 1 mA, V <sub>CE</sub> = 10.0 V, f = 10 MHz)	f <sub>T</sub>	50	-	MHz

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

# MSC2712GT1, MSC2712YT1

## PACKAGE DIMENSIONS

SC-59  
CASE 318D-04  
ISSUE H

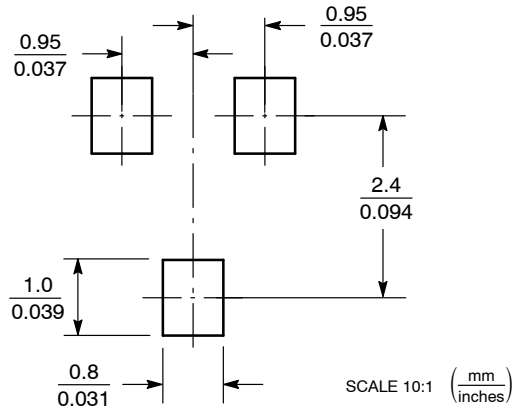


- NOTES:  
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.  
2. CONTROLLING DIMENSION: MILLIMETER.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	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
c	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
e	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

- STYLE 1:  
PIN 1. BASE  
2. EMITTER  
3. COLLECTOR

### 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.

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