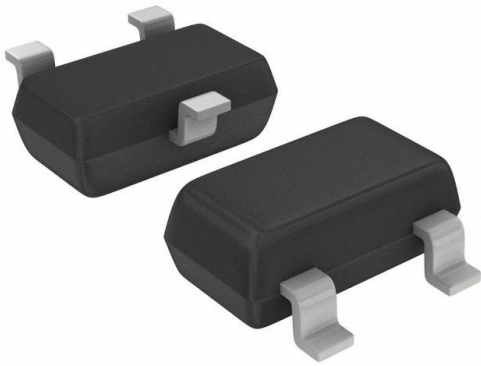


MSA1162YT1G Datasheet

www.digi-electronics.com



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

DiGi Electronics Part Number	MSA1162YT1G-DG
Manufacturer	onsemi
Manufacturer Product Number	MSA1162YT1G
Description	TRANS PNP 50V 0.1A SC59
Detailed Description	Bipolar (BJT) Transistor PNP 50 V 100 mA 80MHz 200 mW Surface 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:

MSA1162YT1G

Series:

-

Transistor Type:

PNP

Voltage - Collector Emitter Breakdown (Max):

50 V

Current - Collector Cutoff (Max):

100nA

Power - Max:

200 mW

Operating Temperature:

150°C (TJ)

Package / Case:

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

Base Product Number:

MSA11

Manufacturer:

onsemi

Product Status:

Obsolete

Current - Collector (Ic) (Max):

100 mA

Vce Saturation (Max) @ Ib, Ic:

500mV @ 10mA, 100mA

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

120 @ 2mA, 6V

Frequency - Transition:

80MHz

Mounting Type:

Surface Mount

Supplier Device Package:

SC-59

Environmental & Export classification

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

REACH Status:

REACH Unaffected

HTSUS:

8541.21.0095

General Purpose Amplifier Transistors

MSA1162GT1G

PNP Surface Mount

Features

- Moisture Sensitivity Level: 1
- This is a Pb-Free Device

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

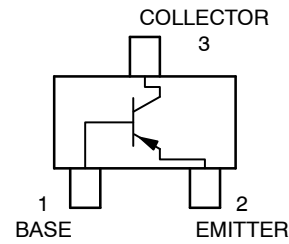
Characteristic	Symbol	Max	Unit
Power Dissipation	P_D	200	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

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

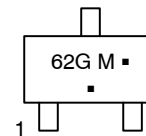
Characteristic	Symbol	Min	Max	Unit
Collector-Emitter Breakdown Voltage ($I_C = 2.0\text{ mAdc}$, $I_B = 0$)	$V_{(BR)CEO}$	50	-	Vdc
Collector-Base Breakdown Voltage ($I_C = 10\ \mu\text{Adc}$, $I_E = 0$)	$V_{(BR)CBO}$	60	-	Vdc
Emitter-Base Breakdown Voltage ($I_E = 10\ \mu\text{Adc}$, $I_C = 0$)	$V_{(BR)EBO}$	7.0	-	Vdc
Collector-Base Cutoff Current ($V_{CB} = 45\text{ Vdc}$, $I_E = 0$)	I_{CBO}	-	0.1	μAdc
Collector-Emitter Cutoff Current ($V_{CE} = 10\text{ Vdc}$, $I_B = 0$) ($V_{CE} = 30\text{ Vdc}$, $I_B = 0$) ($V_{CE} = 30\text{ Vdc}$, $I_B = 0$, $T_A = 80^\circ\text{C}$)	I_{CEO}	-	0.1 2.0 1.0	μAdc μAdc mAdc
DC Current Gain (Note 1) ($V_{CE} = 6.0\text{ Vdc}$, $I_C = 2.0\text{ mAdc}$)	h_{FE}	200	400	-
Collector-Emitter Saturation Voltage ($I_C = 100\text{ mAdc}$, $I_B = 10\text{ mAdc}$)	$V_{CE(sat)}$	-	0.5	Vdc
Current-Gain-Bandwidth Product ($I_C = 1\text{ mA}$, $V_{CE} = 10.0\text{ V}$, $f = 10\text{ MHz}$)	f_T	80	-	MHz

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



SC-59
CASE 318D
STYLE 1

MARKING DIAGRAM



62G = 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 [†]
MSA1162GT1G	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.

MSA1162GT1G

TYPICAL ELECTRICAL CHARACTERISTICS

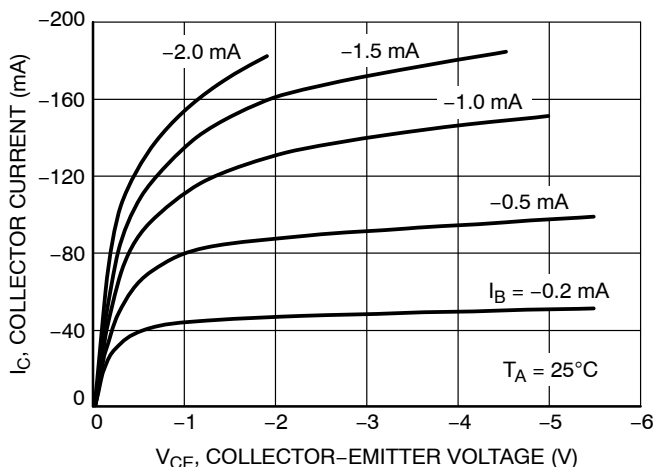


Figure 1. Collector Saturation Region

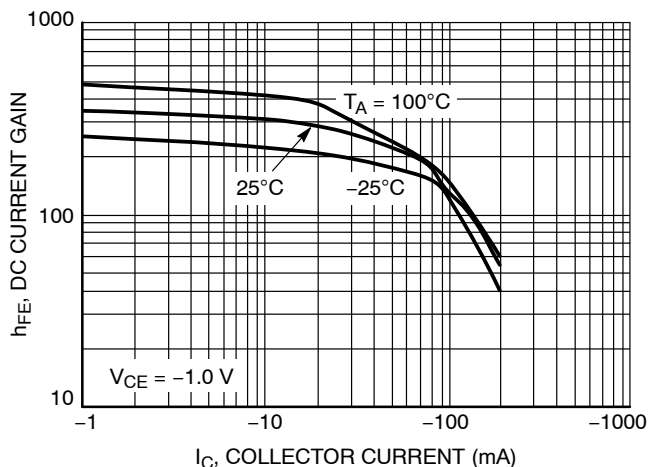


Figure 2. DC Current Gain

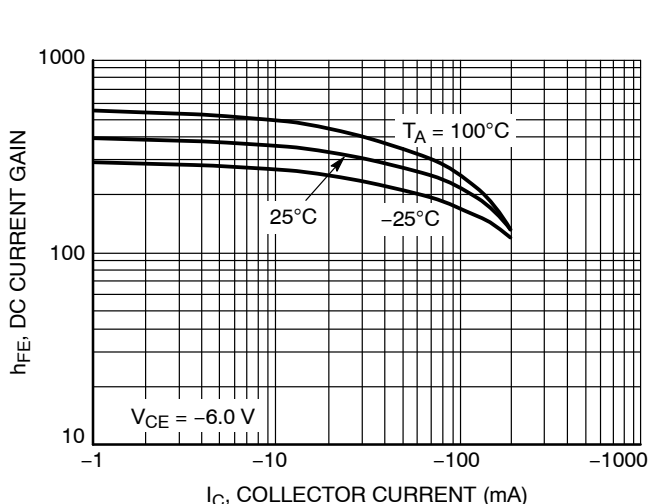


Figure 3. DC Current Gain

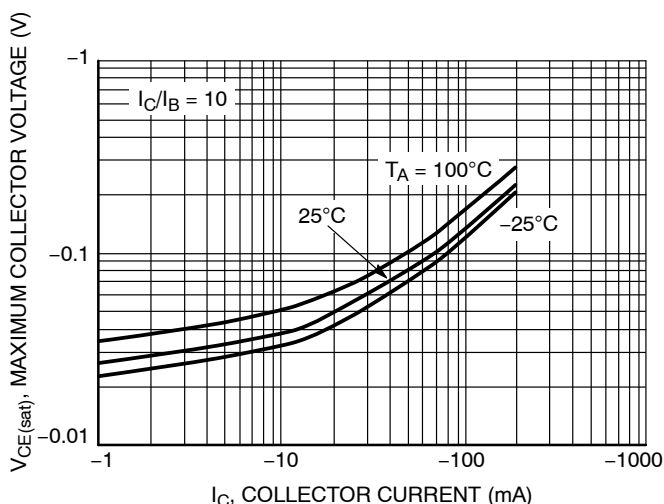


Figure 4. $V_{CE(sat)}$ versus I_C

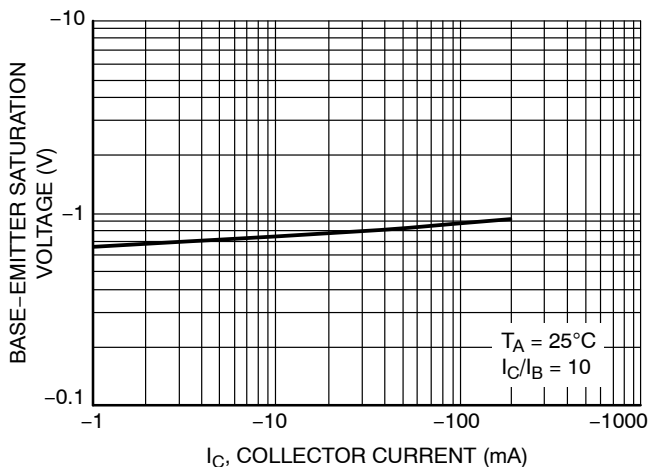


Figure 5. $V_{BE(sat)}$ versus I_C

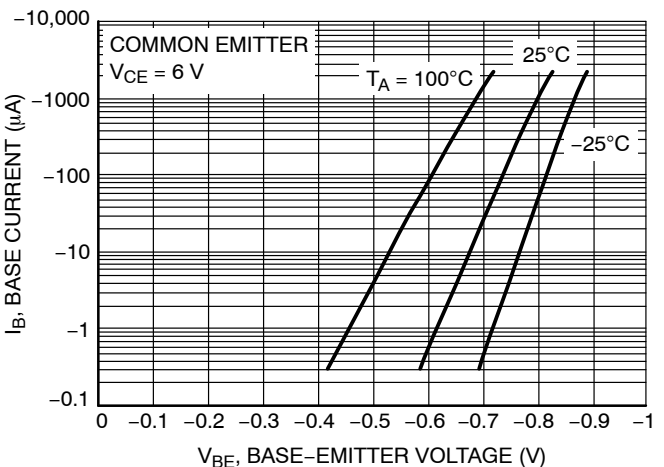
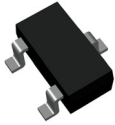
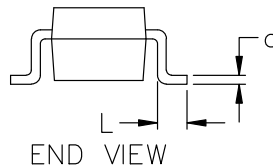
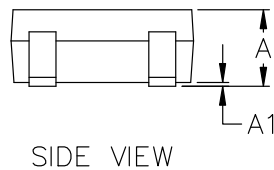
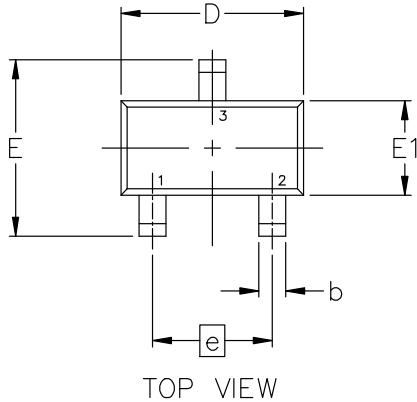


Figure 6. Base-Emitter Voltage


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

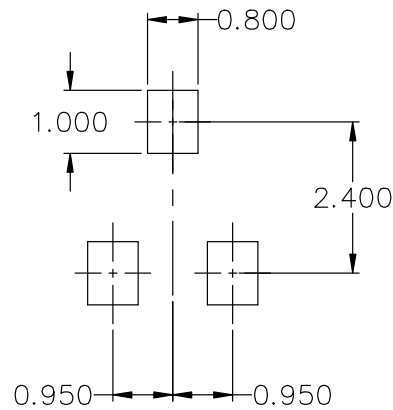
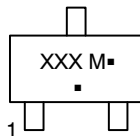
DATE 15 FEB 2024



NOTES:

- DIMENSIONING AND TOLERANCING CONFORM TO ASME Y14.5-2018.
- 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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