

MMBTSC2412-AH

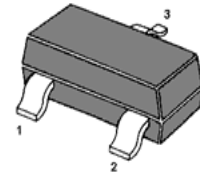
NPN Silicon Epitaxial Planar Transistor

for general purpose applications.

The transistor is subdivided into three groups Q, R and S. according to its DC current gain.

Features

- AEC-Q101 Qualified and PPAP Capable
- Halogen and Antimony Free(HAF), RoHS compliant



1.Base 2.Emitter 3.Collector
TO-236 Plastic Package

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	60	V
Collector Emitter Voltage	V_{CEO}	50	V
Emitter Base Voltage	V_{EBO}	7	V
Collector Current	I_C	150	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Characteristics at $T_{amb}=25^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 6\text{ V}$, $I_C = 1\text{ mA}$	Q h_{FE}	120	-	270	-
	R h_{FE}	180	-	390	-
	S h_{FE}	270	-	560	-
Collector Base Cutoff Current at $V_{CB} = 60\text{ V}$	I_{CBO}	-	-	100	nA
Emitter Base Cutoff Current at $V_{EB} = 7\text{ V}$	I_{EBO}	-	-	100	nA
Collector Base Breakdown Voltage at $I_C = 50\text{ }\mu\text{A}$	$V_{(BR)CBO}$	60	-	-	V
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CEO}$	50	-	-	V
Emitter Base Breakdown Voltage at $I_E = 50\text{ }\mu\text{A}$	$V_{(BR)EBO}$	7	-	-	V
Collector Emitter Saturation Voltage at $I_C = 50\text{ mA}$, $I_B = 5\text{ mA}$	$V_{CE(sat)}$	-	-	0.4	V
Gain Bandwidth Product at $V_{CE} = 12\text{ V}$, $-I_E = 2\text{ mA}$, $f = 100\text{ MHz}$	f_T	-	180	-	MHz
Output Capacitance at $V_{CE} = 12\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	-	3.5	pF

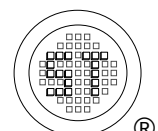


Fig. 1 Grounded emitter propagation characteristics

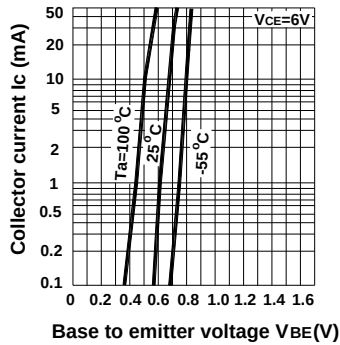


Fig.2 Grounded emitter output characteristics(I)

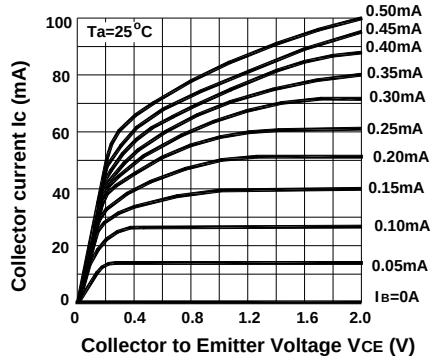


Fig.3 Grounded emitter output characteristics(II)

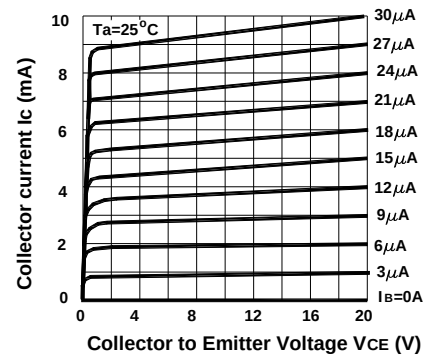


Fig.4 DC current gain vs. collector current (I)

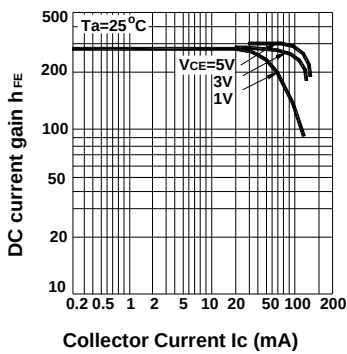


Fig.5 DC current gain vs. collector current (II)

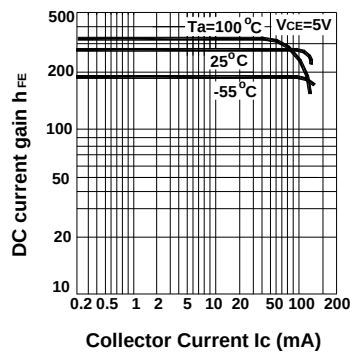


Fig.6 Collector-emitter saturation voltage vs. collector current

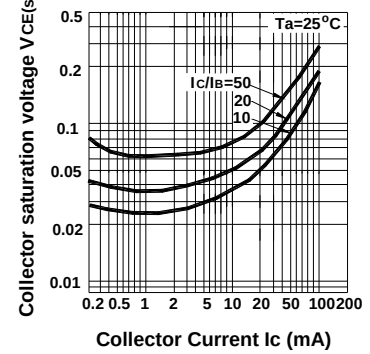


Fig.7 Collector-emitter saturation voltage vs. collector current(I)

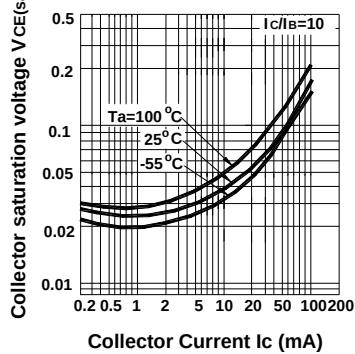


Fig.8 Collector-emitter saturation voltage vs. collector current(II)

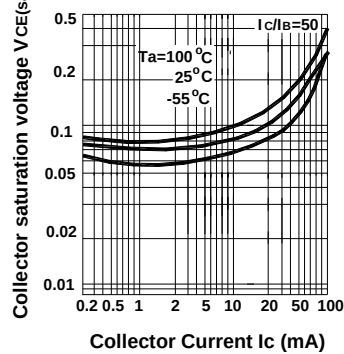
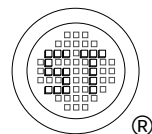
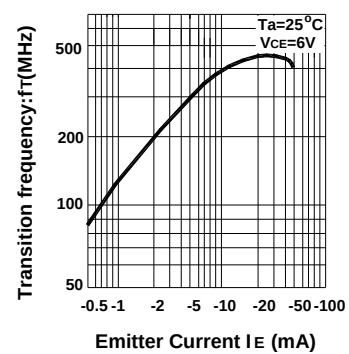


Fig.9 Gain bandwidth product vs. emitter current

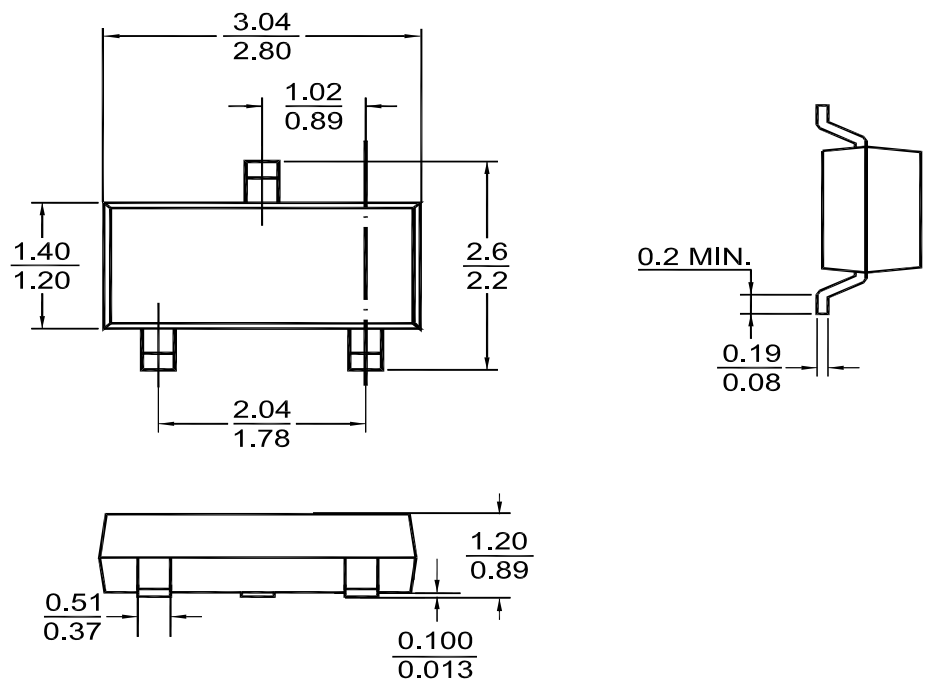


MMBTSC2412-AH

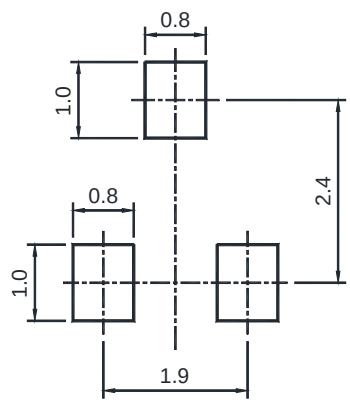
PACKAGE OUTLINE

Plastic surface mounted package (Dimensions in mm)

TO-236



Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
TO-236	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

