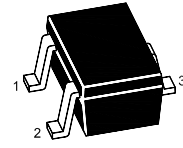


MMBTSC4102W

NPN Silicon Epitaxial Planar Transistor



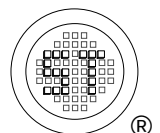
1.Base 2.Emitter 3.Collector
SOT-323 Plastic Package

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

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	120	V
Collector Emitter Voltage	V_{CEO}	120	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	100	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 $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 6\text{ V}$, $I_C = 2\text{ mA}$ Current Gain Group R	h_{FE}	180	-	390	-
Collector Base Cutoff Current at $V_{CB} = 100\text{ V}$	I_{CBO}	-	-	500	nA
Emitter Base Cutoff Current at $V_{EB} = 4\text{ V}$	I_{EBO}	-	-	500	nA
Collector Base Breakdown Voltage at $I_C = 50\text{ }\mu\text{A}$	$V_{(BR)CBO}$	120	-	-	V
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CEO}$	120	-	-	V
Emitter Base Breakdown Voltage at $I_E = 50\text{ }\mu\text{A}$	$V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at $I_C = 10\text{ mA}$, $I_B = 1\text{ mA}$	$V_{CE(sat)}$	-	-	0.5	V
Gain Bandwidth Product at $V_{CE} = 12\text{ V}$, $-I_E = 2\text{ mA}$, $f_T = 100\text{ MHz}$	f_T	-	140	-	MHz
Output Capacitance at $V_{CB} = 12\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	2.5	-	pF



Electrical Characteristics Curves

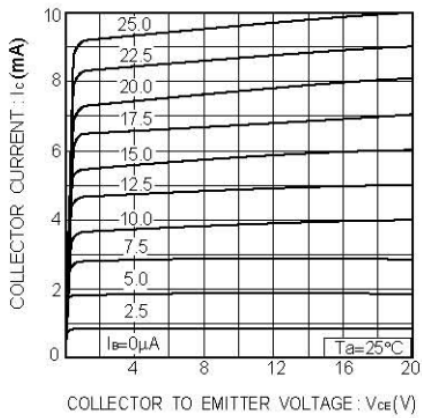


Fig.1 Ground emitter output characteristics

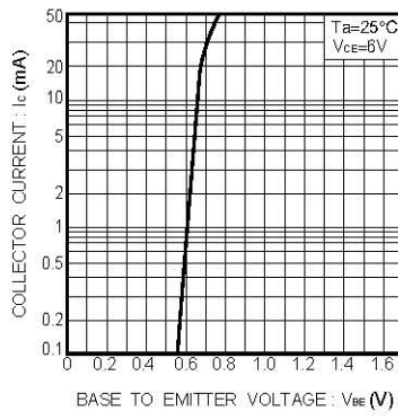


Fig.2 Ground emitter propagation characteristics

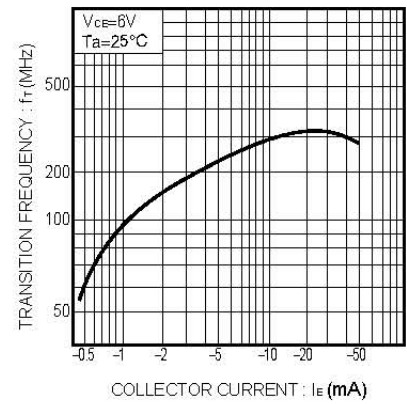


Fig.3 Gain bandwidth product vs. emitter current

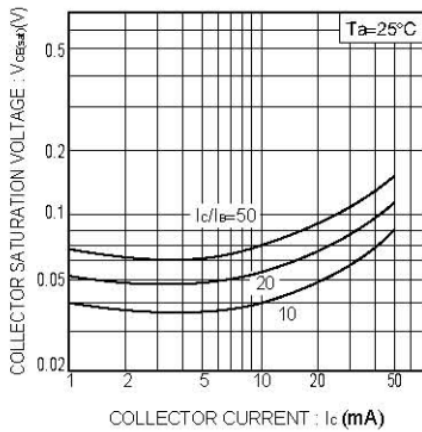


Fig.4 Collector-emitter saturation voltage vs. collector current (I)

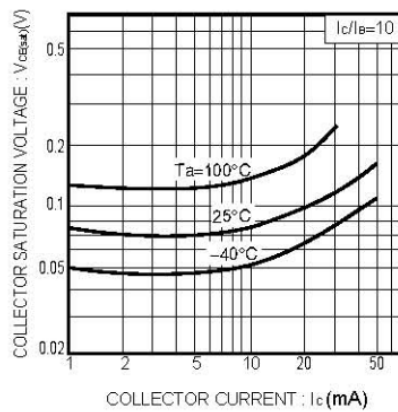
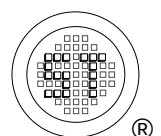
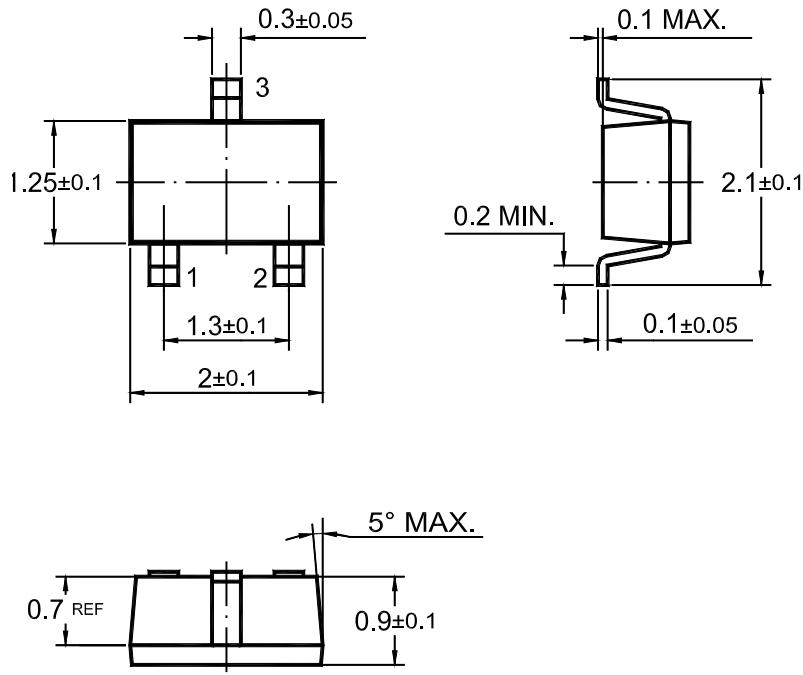


Fig.5 Collector-emitter saturation voltage vs. collector current (II)

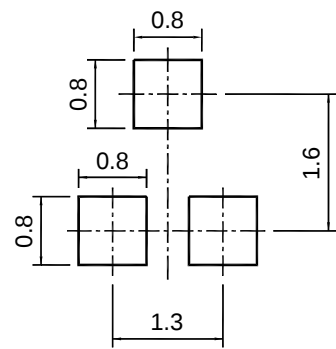


PACKAGE OUTLINE(Dimensions in mm)

SOT-323



Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOT-323	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

Marking information

" G1 " = Part No.
" YM " = Date Code Marking
" Y " = Year
" M " = Month
Font type: Arial

