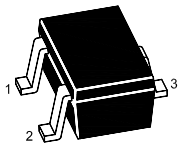
MMBTSC4102W

NPN Silicon Epitaxial Planar Transistor



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

Absolute Maximum Ratings (T_a = 25 °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	50	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

Characteristics at T_a = 25 °C

Parameter			Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V_{CE} = 6 V, I_C = 2 mA	Current Gain Group	R	h_{FE}	180	-	390	-
		S	h_{FE}	270	-	560	-
Collector Base Cutoff Current at V_{CB} = 100 V			I_{CBO}	-	-	500	nA
Emitter Base Cutoff Current at V_{EB} = 4V			I_{EBO}	-	-	500	nA
Collector Base Breakdown Voltage at I_C = 50 µA			$V_{(BR)CBO}$	120	-	-	V
Collector Emitter Breakdown Voltage at I_C = 1 mA			$V_{(BR)CEO}$	120	-	-	V
Emitter Base Breakdown Voltage at I_E = 50 µA			$V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at I_C = 10 mA, I_B = 1 mA			$V_{CE(sat)}$	-	-	0.5	V
Gain Bandwidth Product at V_{CE} = 12 V, $-I_E$ = 2 mA, f_T = 100 MHz			f_T	-	140	-	MHz
Output Capacitance at V_{CB} = 12 V, f = 1 MHz			C_{ob}	-	2.5	-	pF

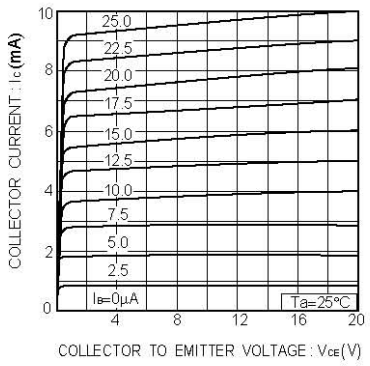


Fig.1 Ground emitter output characteristics

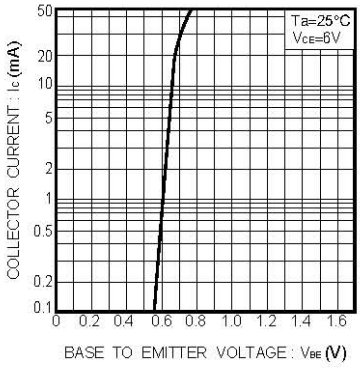


Fig.2 Ground emitter propagation characteristics

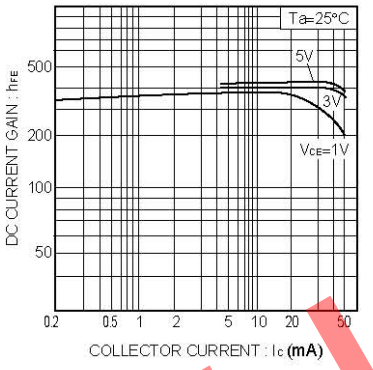


Fig.3 DC current gain vs. collector current

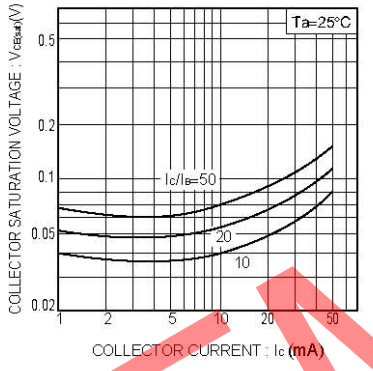


Fig.4 Collector-emitter saturation voltage vs. collector current (Ⅰ)

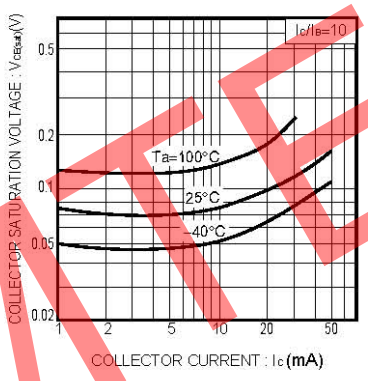


Fig.5 Collector-emitter saturation voltage vs. collector current (Ⅱ)

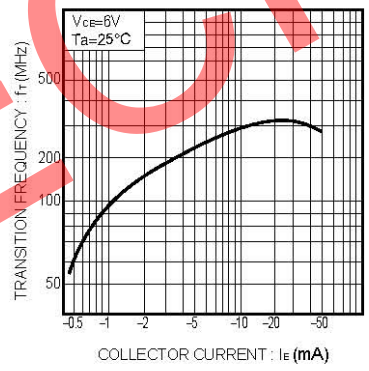


Fig.6 Gain bandwidth product vs. emitter current