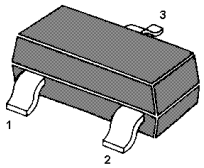
MMBTSC2411

NPN Silicon Epitaxial Planar Transistor

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



1.BASE 2.EMITTER 3.COLLECTOR

SOT-23 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	40	V
Collector Emitter Voltage	V_{CEO}	32	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	500	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} = 3 V, I_C = 100 mA	P Q R	h_{FE} h_{FE} h_{FE}	82 120 180	- - -	180 270 390	- - -
Collector Base Breakdown Voltage at I_C= 100 µA		$V_{(BR)CBO}$	40	-	-	V
Collector Emitter Breakdown Voltage at I_C= 1 mA		$V_{(BR)CEO}$	32	-	-	V
Emitter Base Breakdown Voltage at I_E= 100 µA		$V_{(BR)EBO}$	5	-	-	V
Collector Cutoff Current at V_{CB}= 20 V		I_{CBO}	-	-	1	µA
Emitter Cutoff Current at V_{EB} = 4 V		I_{EBO}	-	-	1	µA
Collector Saturation Voltage at I_C = 500 mA, I_B = 50 mA		$V_{CE(sat)}$	-	-	0.4	V
Transition frequency at V_{CE} = 5 V, -I_E = 20 mA, f = 100 MHz		f_T	-	250	-	MHz
Output Capacitance at V_{CB} = 10 V, I_E = 0 A, f = 1 MHz		C_{ob}	-	6	-	pF

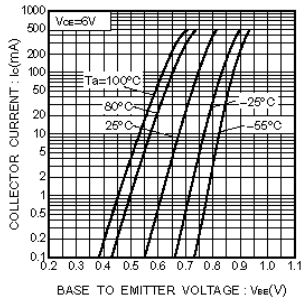


Fig.1 Grounded emitter propagation characteristics

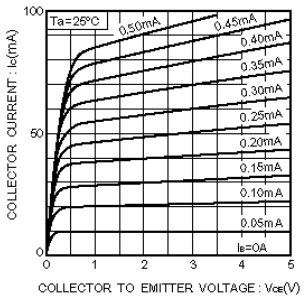


Fig.2 Grounded emitter output characteristics(I)

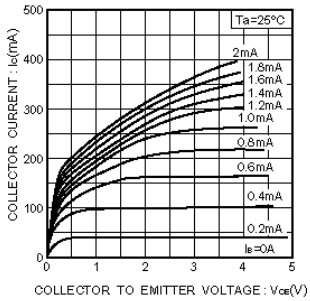


Fig.3 Grounded emitter output characteristics(II)

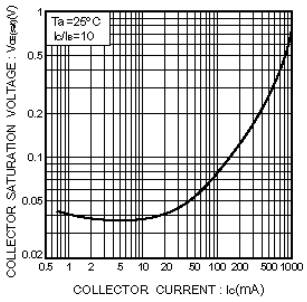


Fig.4 Collector-emitter saturation voltage vs. collector current

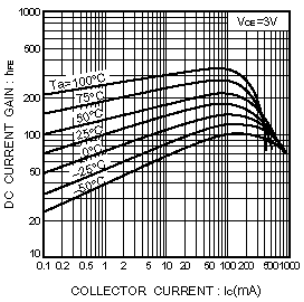


Fig.5 DC current gain vs. collector current

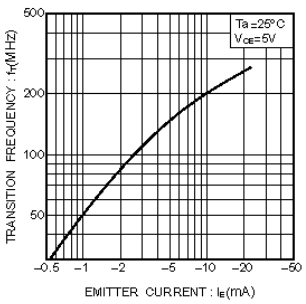


Fig. 6 Gain bandwidth product vs. emitter current

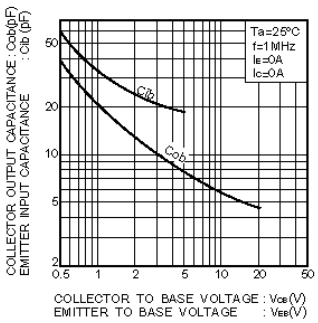


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

Dated : 21/12/2012