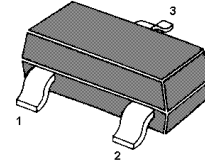


MMBTSC2411

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

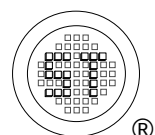
TO-236 Plastic Package

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

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	$^\circ\text{C}$
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 $V_{\text{CE}} = 3\text{ V}$, $I_{\text{C}} = 100\text{ mA}$	P h_{FE}	82	-	180	-
	Q h_{FE}	120	-	270	-
	R h_{FE}	180	-	390	-
Collector Base Breakdown Voltage at $I_{\text{C}} = 100\text{ }\mu\text{A}$	$V_{(\text{BR})\text{CBO}}$	40	-	-	V
Collector Emitter Breakdown Voltage at $I_{\text{C}} = 1\text{ mA}$	$V_{(\text{BR})\text{CEO}}$	32	-	-	V
Emitter Base Breakdown Voltage at $I_{\text{E}} = 100\text{ }\mu\text{A}$	$V_{(\text{BR})\text{EBO}}$	5	-	-	V
Collector Cutoff Current at $V_{\text{CB}} = 20\text{ V}$	I_{CBO}	-	-	1	μA
Emitter Cutoff Current at $V_{\text{EB}} = 4\text{ V}$	I_{EBO}	-	-	1	μA
Collector Saturation Voltage at $I_{\text{C}} = 500\text{ mA}$, $I_{\text{B}} = 50\text{ mA}$	$V_{\text{CE(sat)}}$	-	-	0.4	V
Transition frequency at $V_{\text{CE}} = 5\text{ V}$, $-I_{\text{E}} = 20\text{ mA}$, $f = 100\text{ MHz}$	f_{T}	-	250	-	MHz
Output Capacitance at $V_{\text{CB}} = 10\text{ V}$, $I_{\text{E}} = 0\text{ A}$, $f = 1\text{ MHz}$	C_{ob}	-	6	-	pF



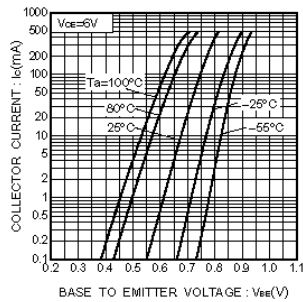


Fig.1 Grounded emitter propagation characteristics

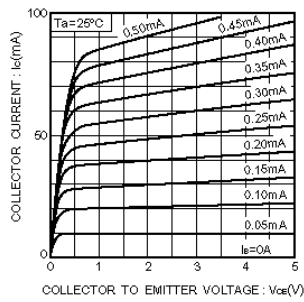


Fig.2 Grounded emitter output characteristics(I)

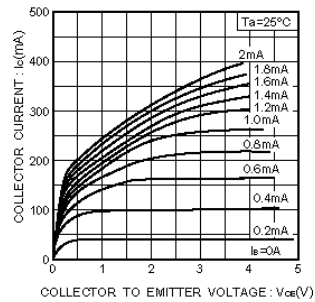


Fig.3 Grounded emitter output characteristics(II)

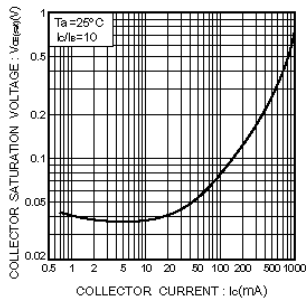


Fig.4 Collector-emitter saturation voltage vs. collector current

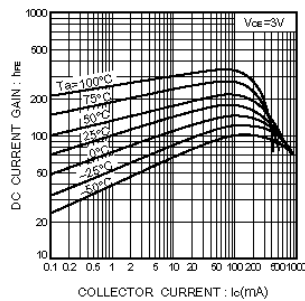


Fig.5 DC current gain vs. collector current

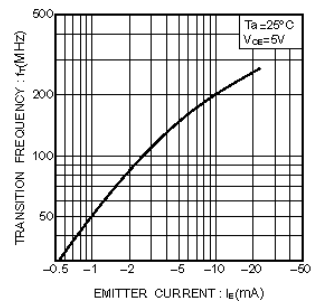


Fig.6 Gain bandwidth product vs. emitter current

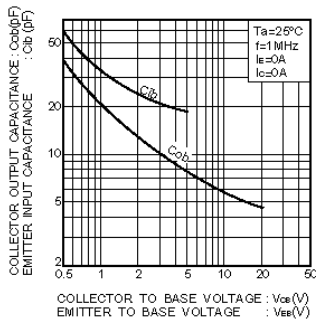


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

