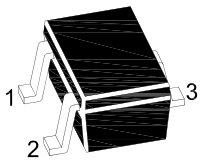
MMBTSC5345E

NPN Silicon Epitaxial Planar Transistor

for RF amplifier

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



1.Base 2.Emitter 3.Collector
SOT-523 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	4	V
Collector Current	I_C	20	mA
Power Dissipation	P_{tot}	150	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 + 150	°C

Characteristics at T_{amb} = 25 °C

Parameter		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V_{CE} = 6 V, I_C = 1 mA	Current Gain Group R	h_{FE}	40	-	80	-
	O	h_{FE}	70	-	140	-
	Y	h_{FE}	120	-	240	-
Collector Base Cutoff Current at V_{CB} = 30 V		I_{CBO}	-	-	0.5	µA
Emitter Base Cutoff Current at V_{EB} = 4 V		I_{EBO}	-	-	0.5	µA
Collector Base Breakdown Voltage at I_C = 10 µA		$V_{(BR)CBO}$	30	-	-	V
Collector Emitter Breakdown Voltage at I_C = 5 mA		$V_{(BR)CEO}$	20	-	-	V
Emitter Base Breakdown Voltage at I_E = 10 µA		$V_{(BR)EBO}$	4	-	-	V
Collector Emitter Saturation Voltage at I_C = 10 mA, I_B = 1 mA		$V_{CE(sat)}$	-	-	0.3	V
Transition Frequency at V_{CE} = 6 V, $-I_E$ = 1 mA		f_T	-	550	-	MHz
Collector Output Capacitance at V_{CB} = 6 V, f = 1 MHz		C_{ob}	-	1.4	-	pF

Fig.1 Ptot - Ta

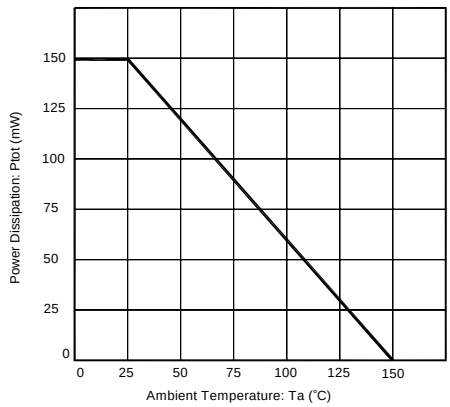


Fig. 2 I_C–V_{CE}

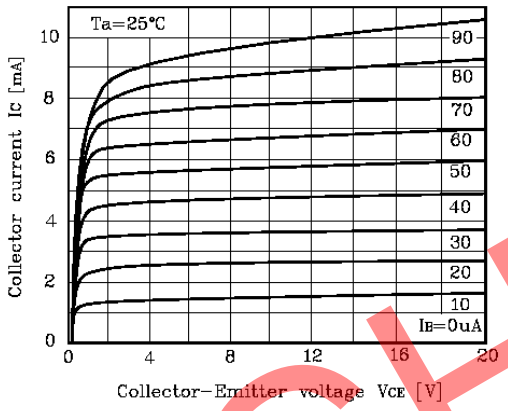


Fig. 3 h_{FE}–I_C

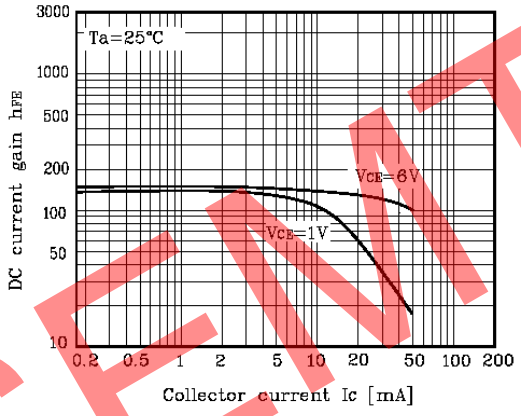


Fig. 4 f_T–I_E