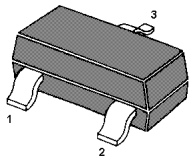
MMBTSC5345 NPN Silicon Epitaxial Planar Transistor

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-23 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}	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_S	-55 +150	°C

Characteristics at T_{amb}=25 °C

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

Typical Characteristics

Fig. 1 P_C-T_a

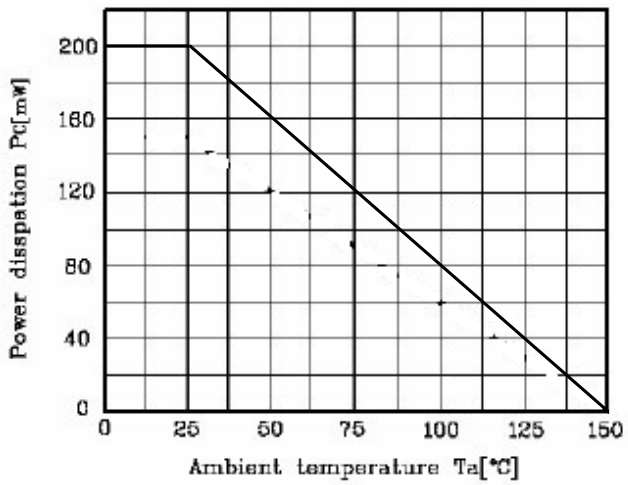


Fig. 2 I_C-V_{CE}

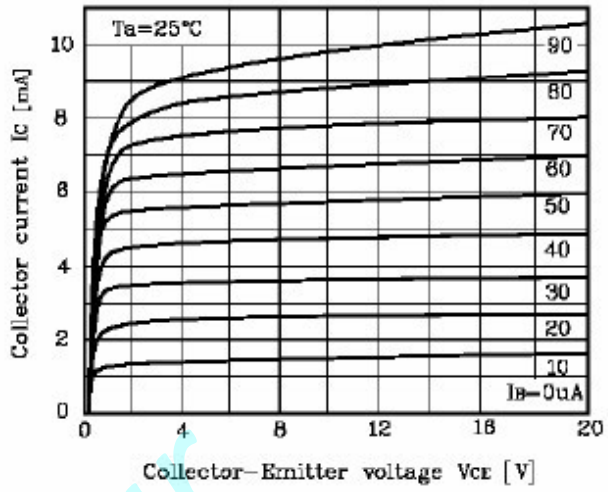


Fig. 3 h_{FE}-I_C

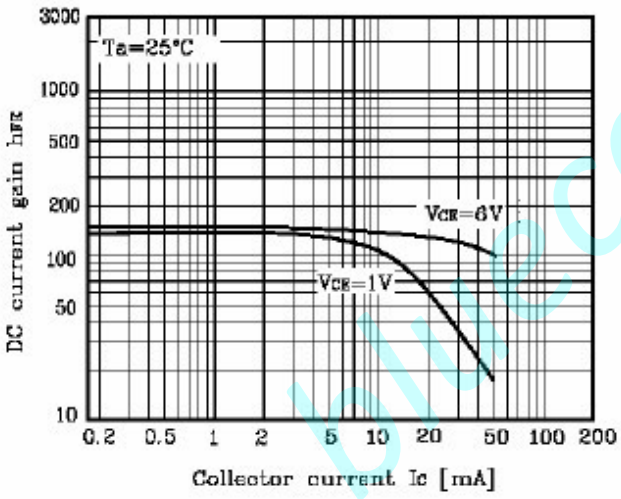


Fig. 4 f_T-I_E

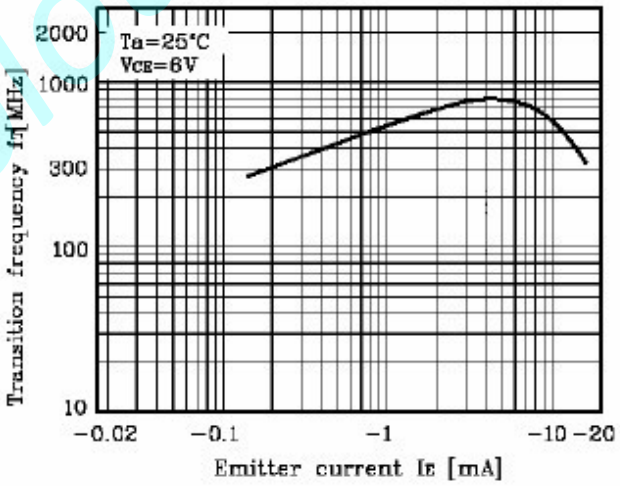


Fig. 5 C_{ob}-V_{CB}, C_{ib}-V_{EB}

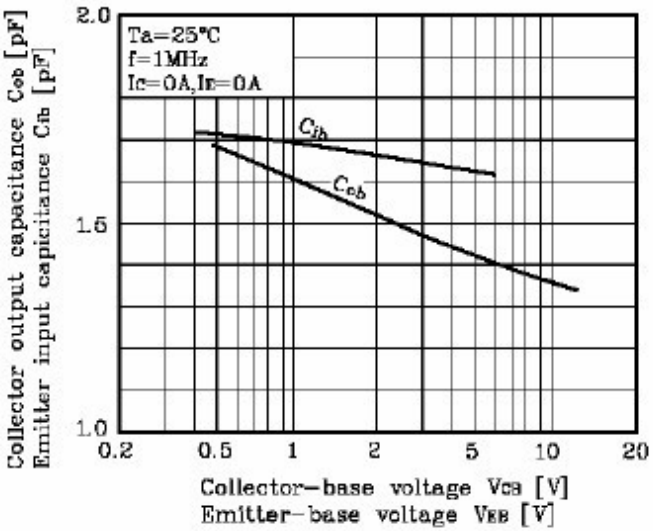
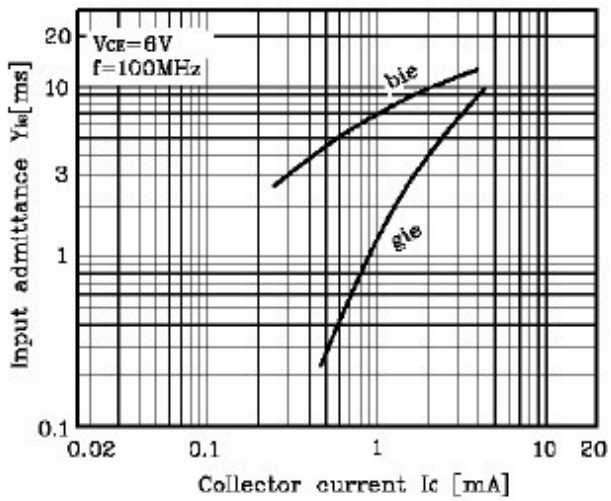


Fig. 6 Yie-I_C



Typical Characteristics

Fig. 7 I_C-Yoe

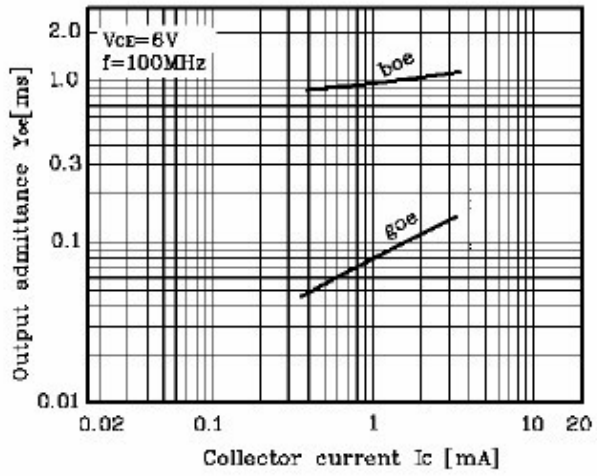


Fig. 8 I_C-Yfe

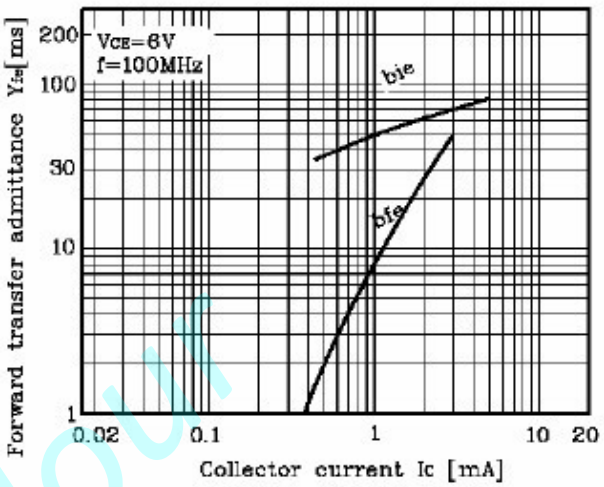
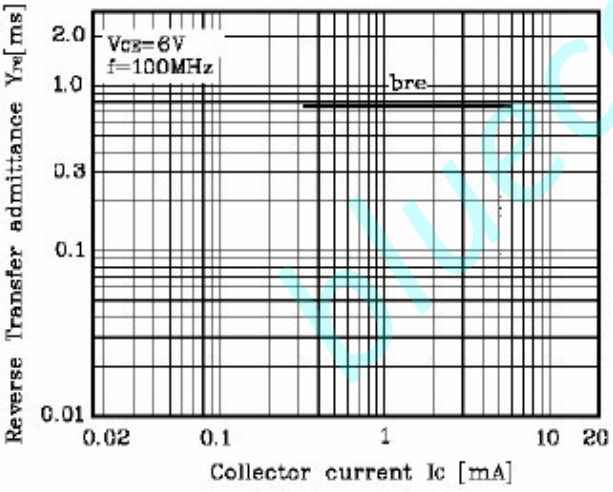
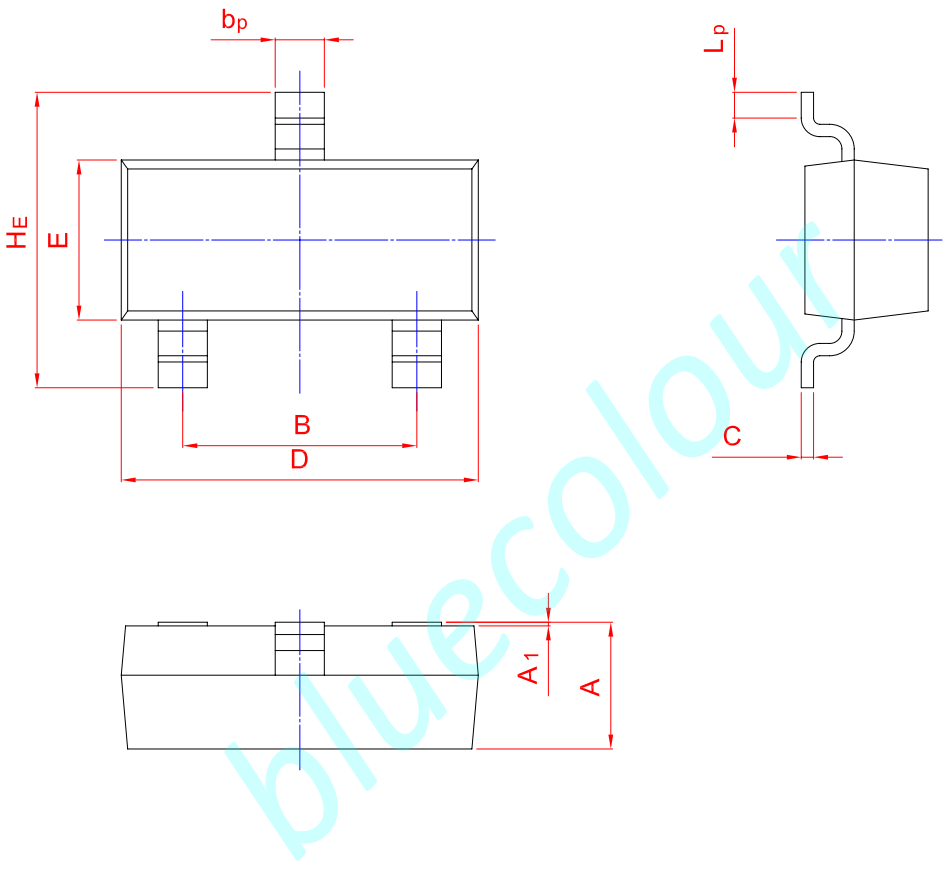


Fig. 9 I_C- Yre



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads **SOT-23**



UNIT	A	B	b_p	C	D	E	H_E	A_1	L_p
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20