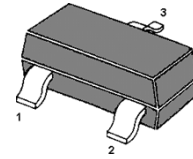


MMBTSC5345 NPN Silicon Epitaxial Planar Transistor

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

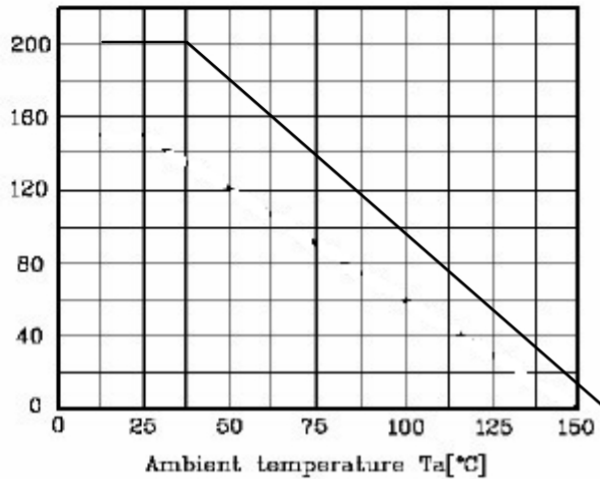
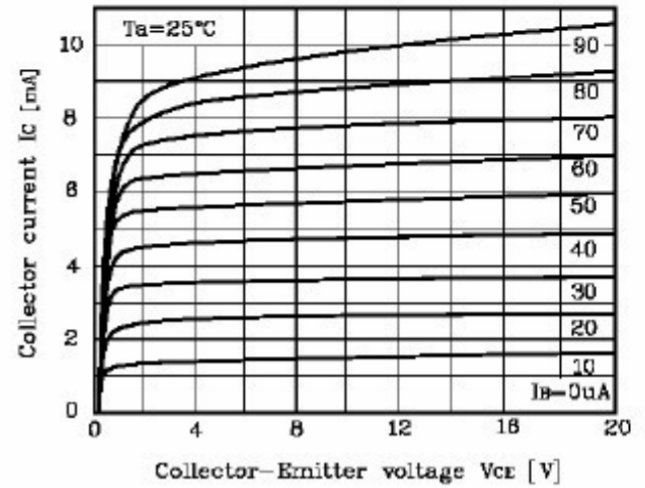
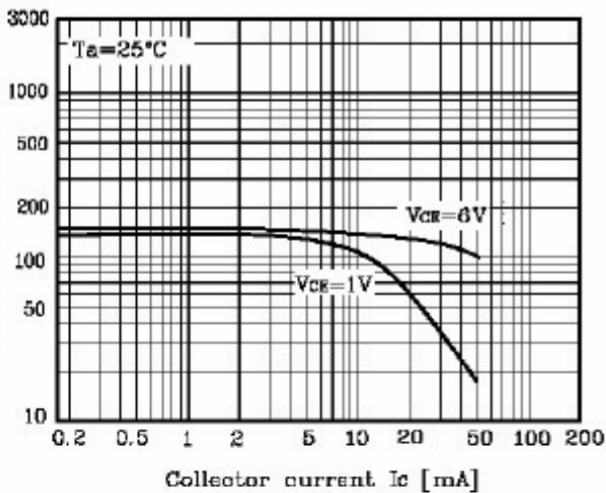
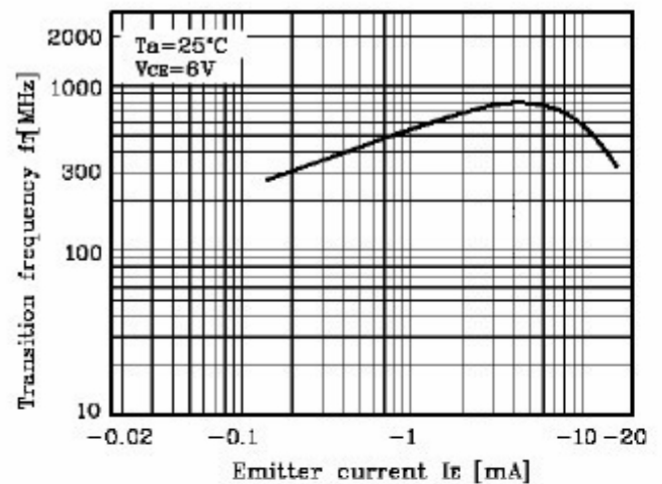
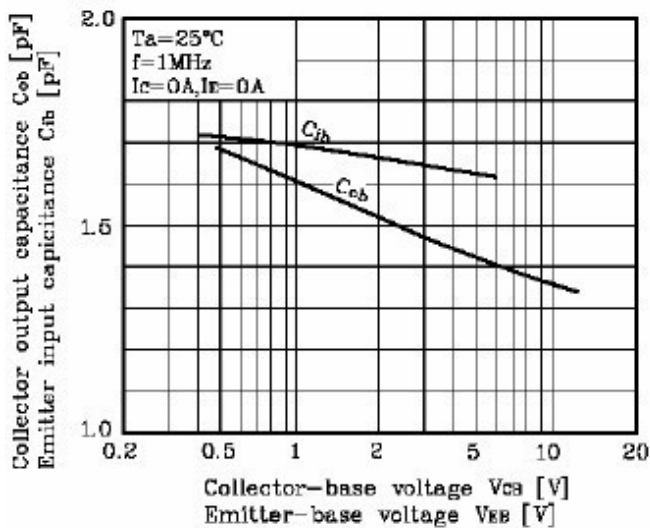
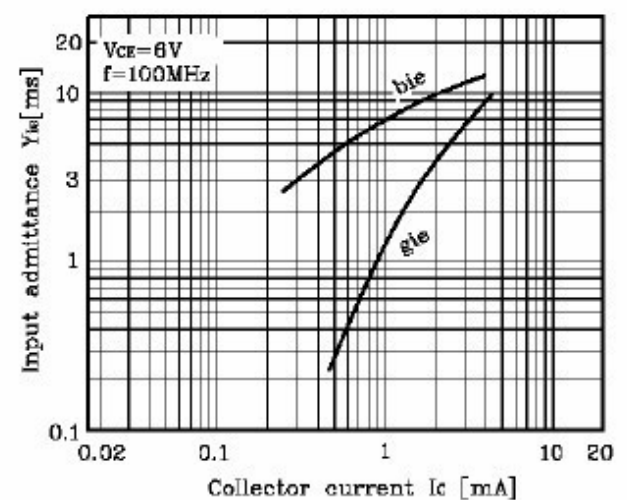
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

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	$^\circ\text{C}$
Storage Temperature Range	T_s	-55 +150	$^\circ\text{C}$

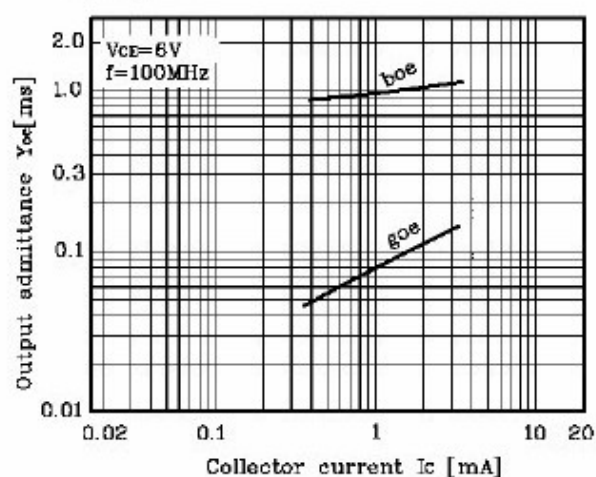
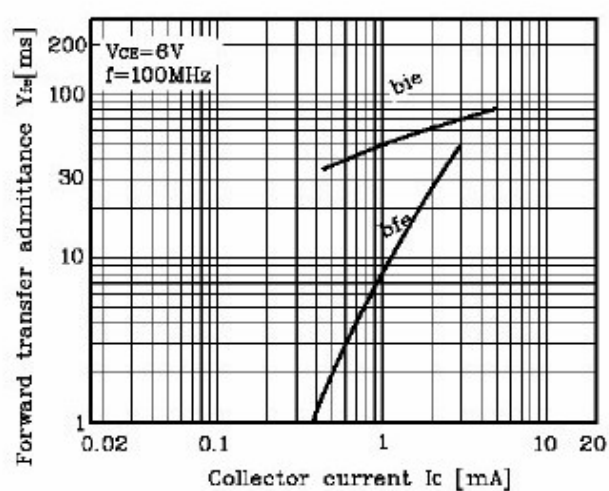
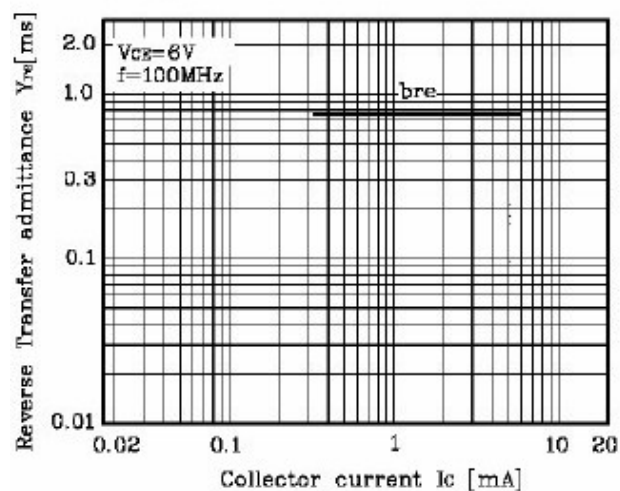
Characteristics at $T_{amb}=25^\circ\text{C}$

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

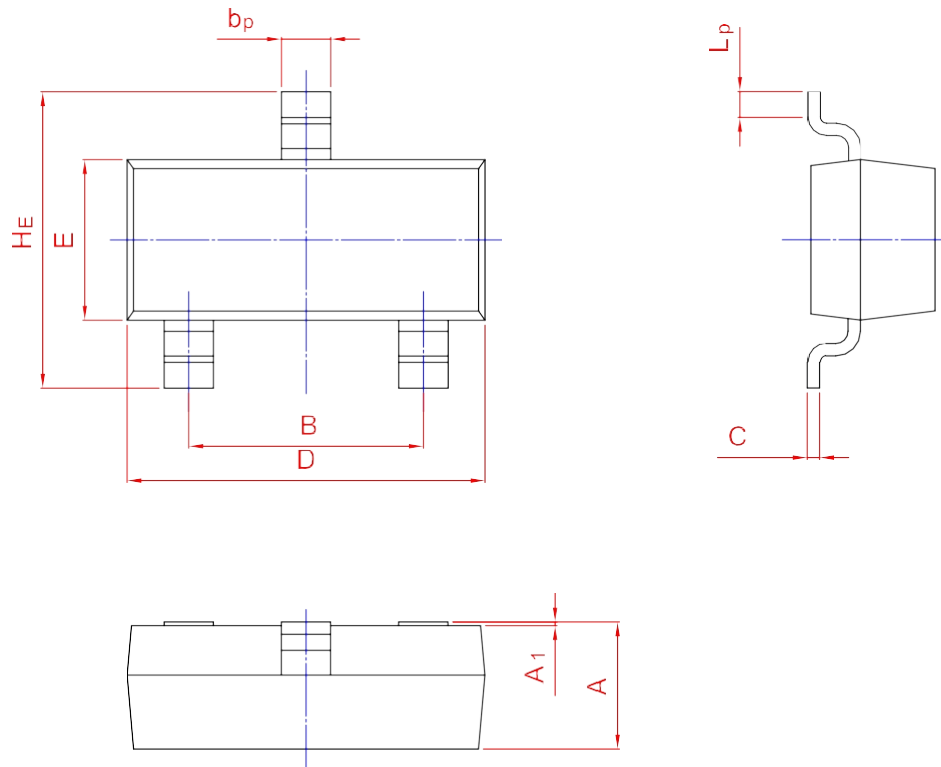
Typical Characteristics

Fig. 7 I_C - Y_{oe} Fig. 8 I_C - Y_{fe} Fig. 9 I_C - Y_{re} 

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