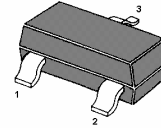


MMBT5551

NPN Silicon Epitaxial Planar Transistors

for high voltage amplifier applications.



1. Base 2. Emitter 3. Collector

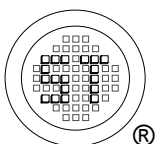
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

SOT-23 Plastic Package

Parameter	Symbol	Value	Unit
Collector Emitter Voltage	V_{CEO}	160	V
Collector Base Voltage	V_{CBO}	180	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current	I_C	600	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_s	-55 to +150	$^\circ\text{C}$

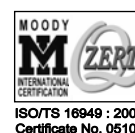
Characteristics at $T_{amb}=25^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE}=5\text{V}$, $I_C=1\text{mA}$ at $V_{CE}=5\text{V}$, $I_C=10\text{mA}$ at $V_{CE}=5\text{V}$, $I_C=50\text{mA}$	h_{FE} h_{FE} h_{FE}	80 80 30	- 250 -	- - -
Collector Emitter Breakdown Voltage at $I_C=1\text{mA}$	$V_{(BR)CEO}$	160	-	V
Collector Base Breakdown Voltage at $I_C=100\mu\text{A}$	$V_{(BR)CBO}$	180	-	V
Emitter Base Breakdown Voltage at $I_E=10\mu\text{A}$	$V_{(BR)EBO}$	6	-	V
Collector Cutoff Current at $V_{CB}=120\text{V}$	I_{CBO}	-	50	nA
Emitter Cutoff Current at $V_{EB}=4\text{V}$	I_{EBO}	-	50	nA
Collector Saturation Voltage at $I_C=10\text{mA}$, $I_B=1\text{mA}$ at $I_C=50\text{mA}$, $I_B=5\text{mA}$	$V_{CE\text{ sat}}$ $V_{CE\text{ sat}}$	- -	0.15 0.2	V V
Base Saturation Voltage at $I_C=10\text{mA}$, $I_B=1\text{mA}$ at $I_C=50\text{mA}$, $I_B=5\text{mA}$	$V_{BE\text{ sat}}$ $V_{BE\text{ sat}}$	- -	1 1	V V
Gain Bandwidth Product at $V_{CE}=10\text{V}$, $I_C=10\text{mA}$, $f=100\text{MHz}$	f_T	100	300	MHz
Collector Base Capacitance at $V_{CB}=10\text{V}$, $f=1\text{MHz}$	C_{CBO}	-	6	pF
Noise Figure at $V_{CE}=5\text{V}$, $I_C=200\mu\text{A}$, $R_G=2\text{K}\Omega$, $f=30\text{Hz}\dots 15\text{KHz}$	NF	-	8	dB
Thermal Resistance Junction to Ambient	R_{thA}	-	200	K/W



SEMTECH ELECTRONICS LTD.

(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



Dated : 16/11/2005

Electrical Characteristic Curves

Fig. 1 $h_{FE} - I_C$

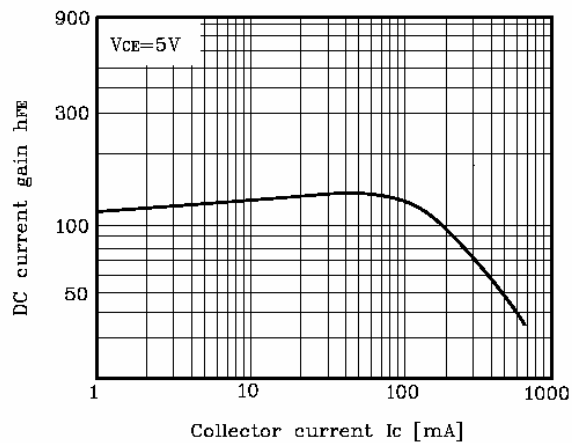


Fig. 2 $I_C - V_{BE}$

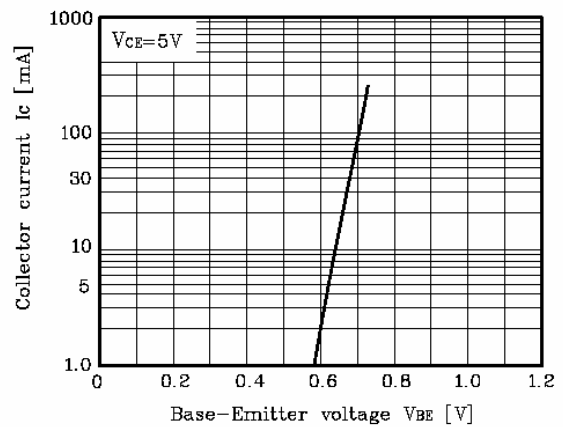


Fig. 3 $f_T - I_C$

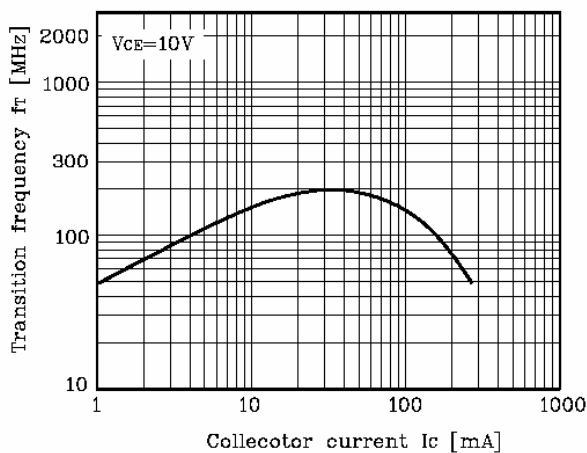


Fig. 4 $V_{CE(sat)}, V_{BE(sat)} - I_C$

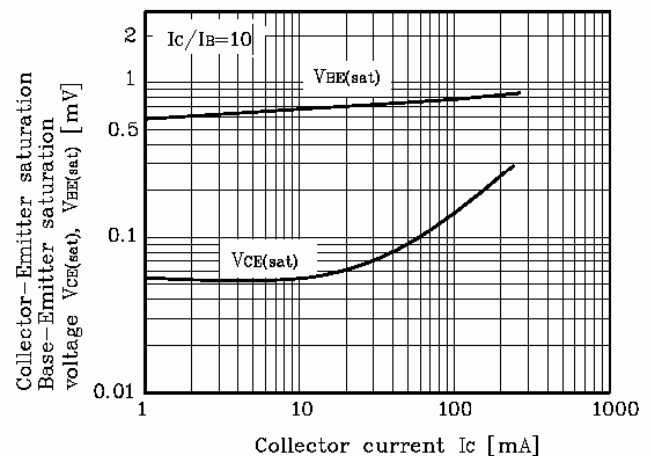
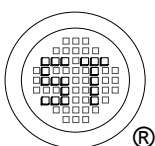
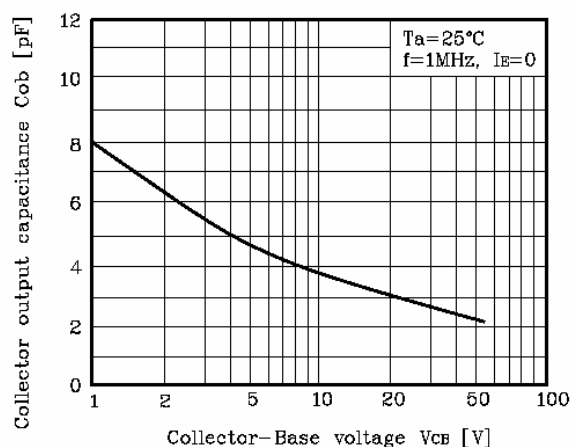


Fig. 5 $C_{ob} - V_{CB}$



SEMTECH ELECTRONICS LTD.

(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002
Certificate No. 05103



ISO 14001:2004
Certificate No. 7116



ISO 9001:2000
Certificate No. 0506098

Dated : 16/11/2005