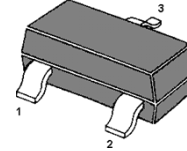


MMBTSA1980

PNP Silicon Epitaxial Planar Transistor

for general small signal amplifier applications.

The transistor is subdivided into four groups, O, Y, G and L, according to its DC current gain.



Marking Code: **M6**
SOT-23 Plastic Package

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

Parameter	Symbol	Value	Unit
Collector-Base Voltage	$-V_{CBO}$	50	V
Collector-Emitter Voltage	$-V_{CEO}$	50	V
Emitter-Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	150	mA
Power Dissipation	P_{tot}	350	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_s	-55 +150	$^\circ\text{C}$

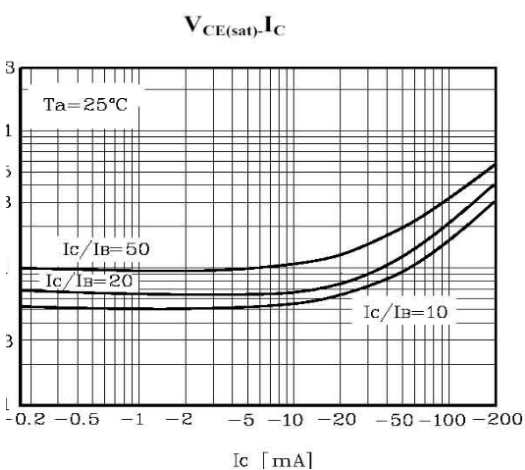
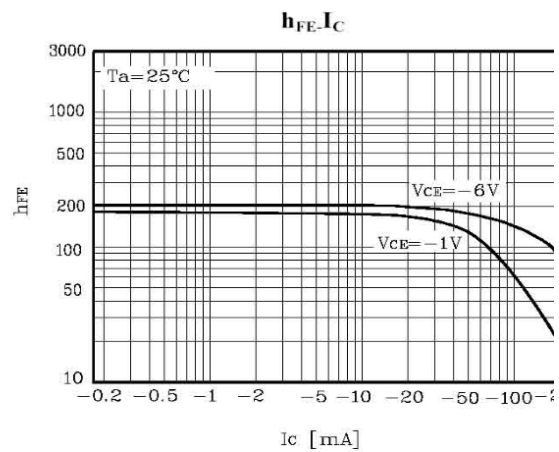
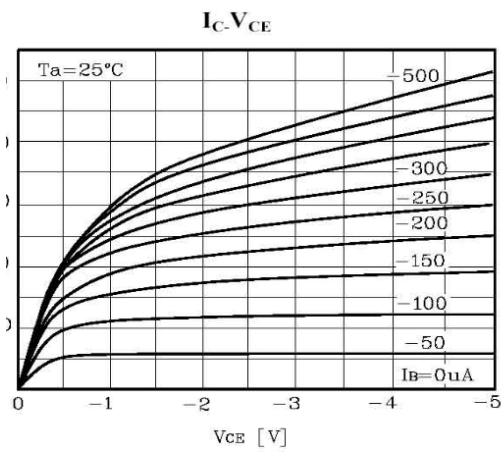
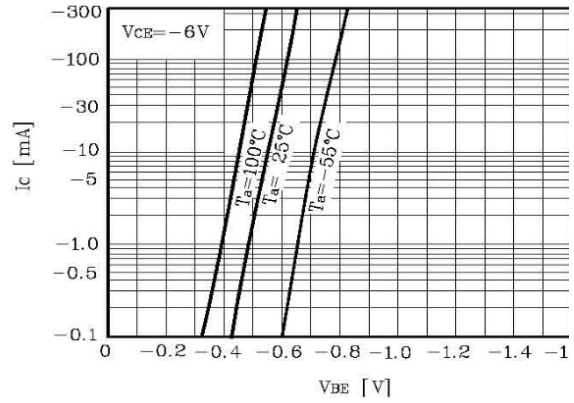
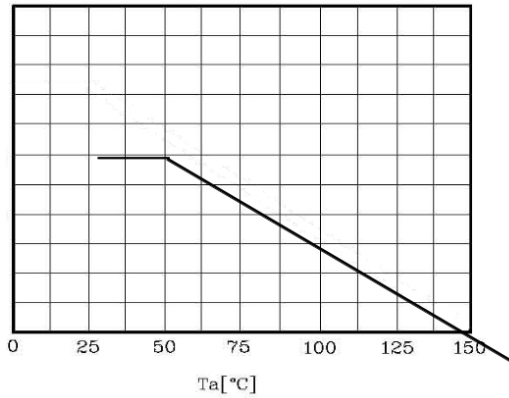
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100\mu\text{A}, I_E=0$	-50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-10\text{mA}, I_B=0$	-50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-10\mu\text{A}, I_C=0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB}=-50\text{V}, I_E=0$			-0.1	μA
Collector cut-off current	I_{CEO}	$V_{EB}=-5\text{V}, I_C=0$			-0.1	μA
DC current gain	h_{FE}	$V_{CE}=-6\text{V}, I_C=-2\text{mA}$	70		700	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-100\text{mA}, I_B=-10\text{mA}$			-0.3	V
Transition frequency	f_T	$V_{CE}=-10\text{V}, I_C=-1\text{mA}$	80			MHz
Collector output capacitance	C_{ob}	$V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$		4	7	pF
Noise figure	NF	$V_{CE}=-6\text{V}, I_C=-0.1\text{mA}, f=1\text{KHz}, R_s=10\text{K}\Omega$			10	dB

CLASSIFICATION OF h_{FE}

Rank	O	Y	G	L
Range	70-140	120-240	200-400	300-700

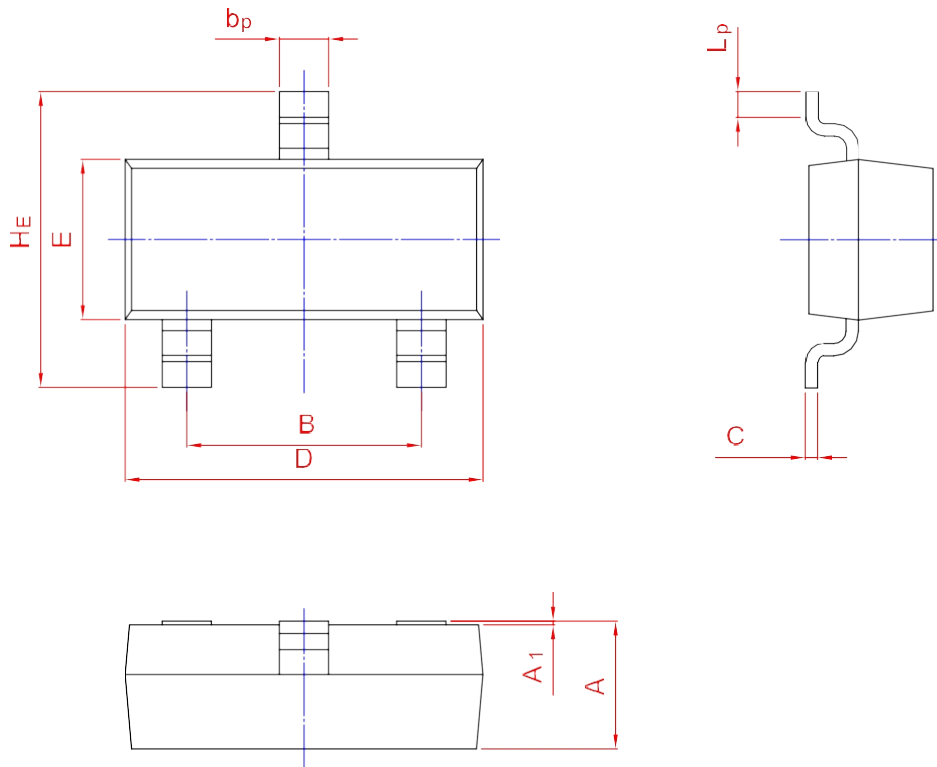
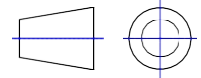
Typical Characteristics



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	bp	C	D	E	HE	A1	Lp
mm	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50
	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20