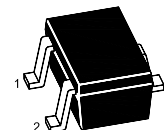


MMBTSA1980W

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.



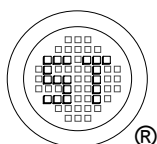
1.Base 2.Emitter 3.Collector
SOT-323 Plastic Package

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

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

Parameter	Symbol	Min.	Max.	Unit	
DC Current Gain at $-V_{CE} = 6\text{ V}$, $-I_C = 2\text{ mA}$ Current Gain Group	O	h_{FE}	70	140	-
	Y	h_{FE}	120	240	-
	G	h_{FE}	200	400	-
	L	h_{FE}	300	700	-
Collector Base Breakdown Voltage at $-I_C = 100\text{ }\mu\text{A}$	$-V_{(BR)CBO}$	50	-	V	
Collector Emitter Breakdown Voltage at $-I_C = 1\text{ mA}$	$-V_{(BR)CEO}$	50	-	V	
Emitter Base Breakdown Voltage at $-I_E = 10\text{ }\mu\text{A}$	$-V_{(BR)EBO}$	5	-	V	
Collector Cutoff Current at $-V_{CB} = 50\text{ V}$	$-I_{CBO}$	-	0.1	μA	
Emitter Cutoff Current at $-V_{EB} = 5\text{ V}$	$-I_{EBO}$	-	0.1	μA	
Collector Emitter Saturation Voltage at $-I_C = 100\text{ mA}$, $-I_B = 10\text{ mA}$	$-V_{CE(sat)}$	-	0.3	V	
Transition Frequency at $-V_{CE} = 10\text{ V}$, $-I_C = 1\text{ mA}$	f_T	80	-	MHz	
Collector Output Capacitance at $-V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{OB}	-	7	pF	
Noise Figure at $-V_{CE} = 6\text{ V}$, $-I_C = 0.1\text{ mA}$, $f = 1\text{ KHz}$, $R_G = 10\text{ K}\Omega$	NF	-	10	dB	



SEMTECH ELECTRONICS LTD.

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ISO/TS 16949 : 2002
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Certificate No. 7116



ISO 9001:2000
Certificate No. 0506098

Dated : 30/03/2006

Fig. 1 P_C-T_a

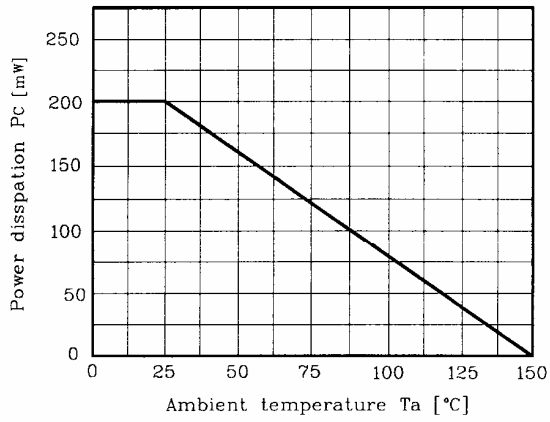


Fig. 2 I_C-V_{BE}

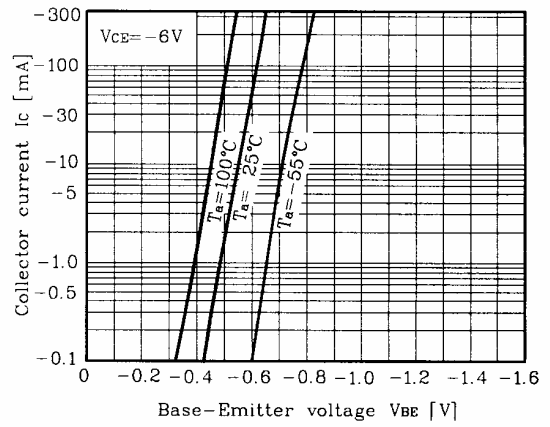


Fig. 3 I_C-V_{CE}

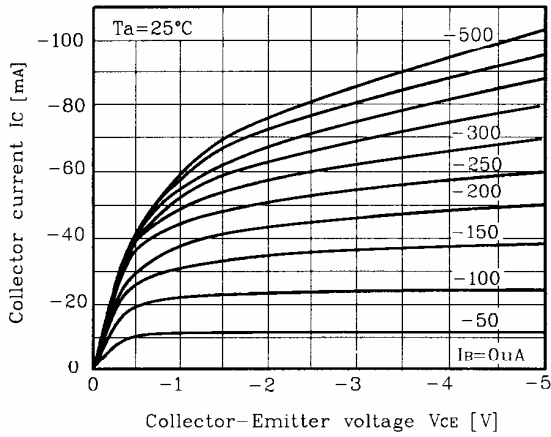


Fig. 4 $h_{FE}-I_C$

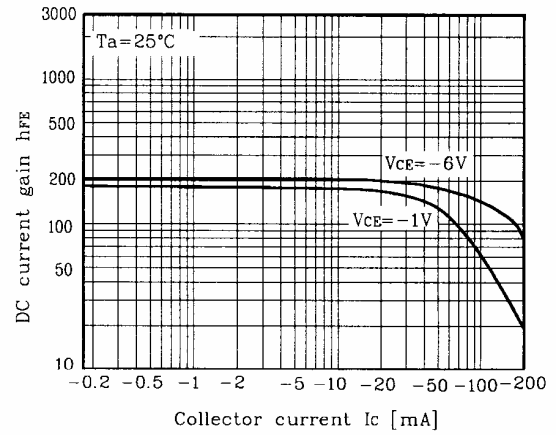
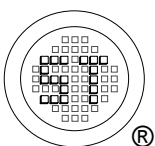
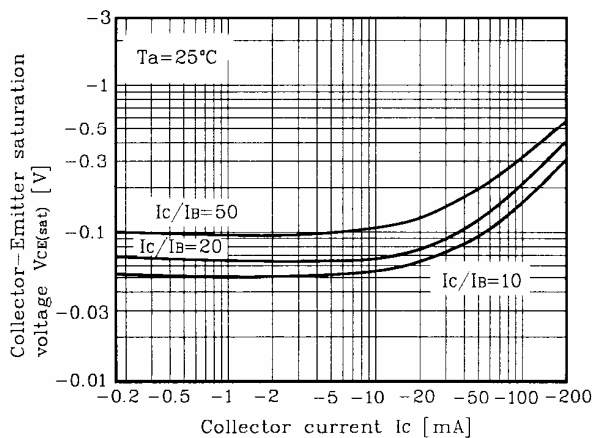


Fig. 5 $V_{CE(sat)}-I_C$



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