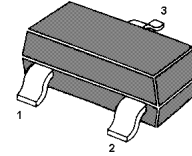


NPN Silicon Epitaxial Planar Transistor

for FM RF amp, mixer, osc, converter and IF amplifier.

The transistor is subdivided into three groups M, L, and K according to its DC current gain.



1.Base 2.Emitter 3.Collector
SOT-23 Plastic Package

Features

- 1) Small output capacitance
- 2) Low noise figure

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

	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	50	V
Collector Emitter Voltage	V_{CEO}	30	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	30	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_s	-55 to +150	$^\circ\text{C}$



CHINA BASE
INTERNATIONAL

SOT-23



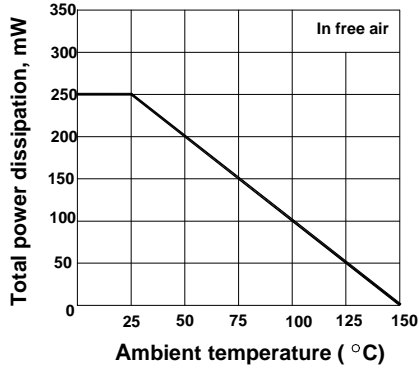
MMBTSC2787

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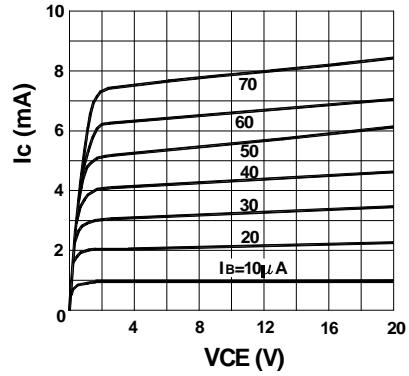
Characteristics at $T_{amb}=25\text{ }^{\circ}\text{C}$

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE}=6\text{V}$, $I_C=1\text{mA}$					
Current Gain Group M	h_{FE}	40	-	80	-
L	h_{FE}	60	-	120	-
K	h_{FE}	90	-	300	-
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
Base Emitter Voltage at $V_{CE}=6\text{V}$, $I_C=1\text{mA}$	V_{BE}	0.65	-	0.75	V
Collector Saturation Voltage at $I_C=10\text{mA}$, $I_B=1\text{mA}$	$V_{CE(sat)}$	-	-	0.3	V
Gain Bandwidth Product at $V_{CE}=6\text{V}$, $I_E=-1\text{mA}$	f_T	150	250	-	MHz
Collector Base Time Constant at $V_{CB}=6\text{V}$, $I_E=-10\text{mA}$, $f=31.9\text{MHz}$	$C_C \cdot r_{b'b}$	-	10	15	ps
Output Capacitance at $V_{CB}=6\text{V}$, $f=1\text{MHz}$	C_{OB}	-	1.9	2.2	pF
Noise Figure at $V_{CE}=6\text{V}$, $I_E=-1\text{mA}$, $f=1\text{MHz}$, $R_G=500\Omega$	NF	-	2	4	dB

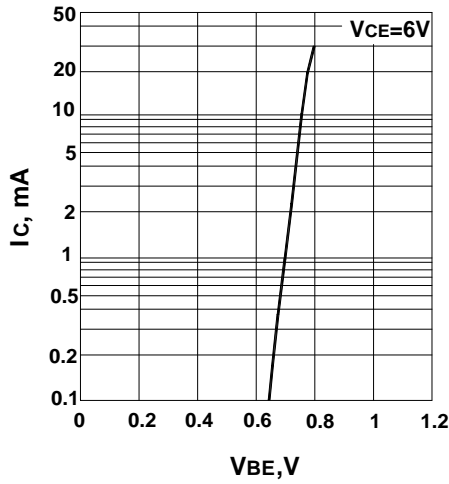
Total power dissipation vs. ambient temperature



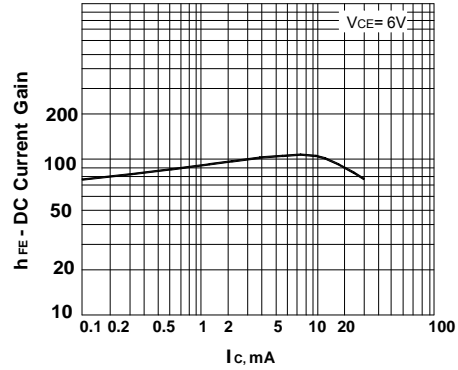
Collector current vs. collector emitter voltage



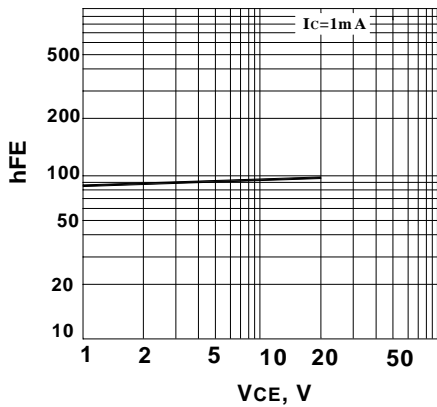
Collector current vs. base emitter voltage



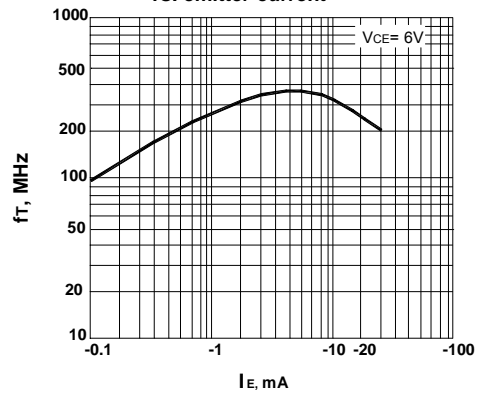
DC CURRENT GAIN vs. COLLECTOR CURRENT



DC current gain vs. collector emitter voltage

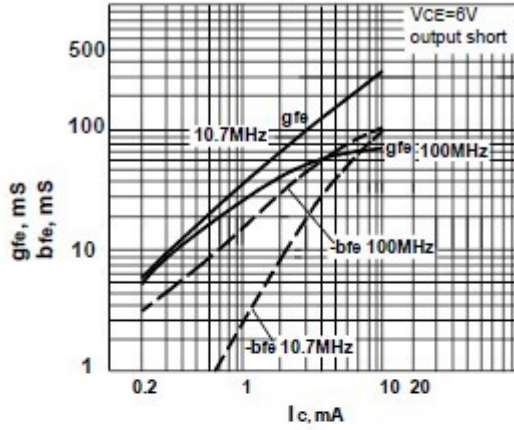


Gain bandwidth product vs. emitter current

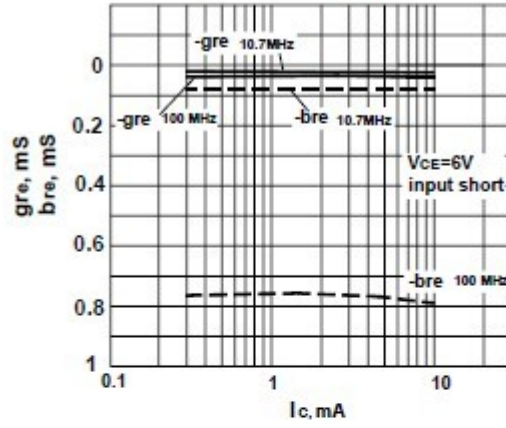




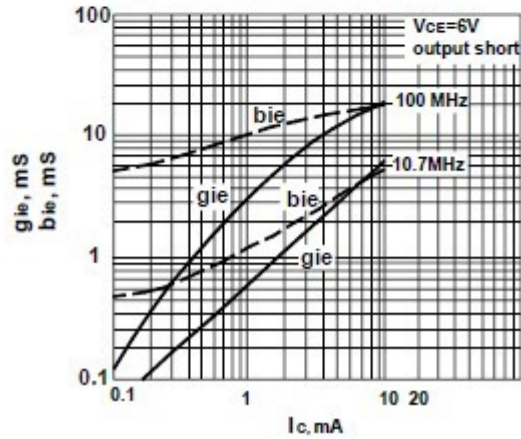
Forward transfer admittance vs. collector current



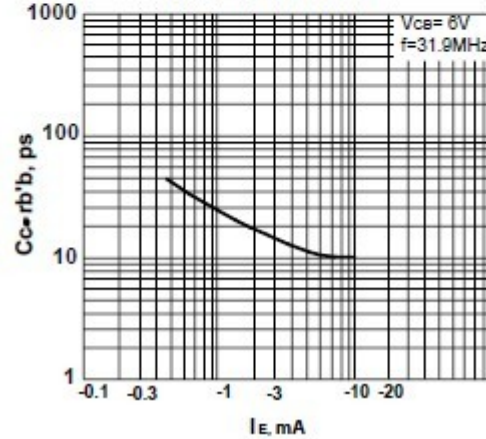
Reverse transfer admittance vs. collector current



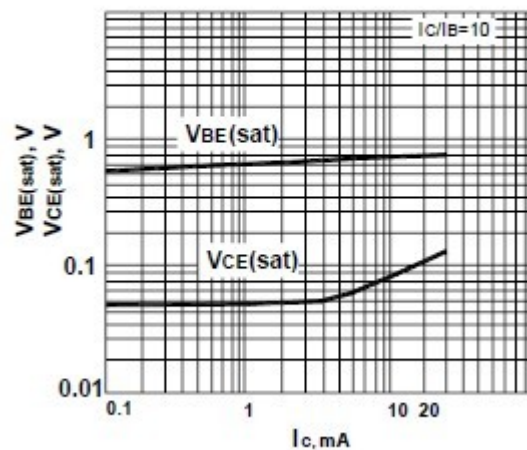
Input admittance vs. collector current



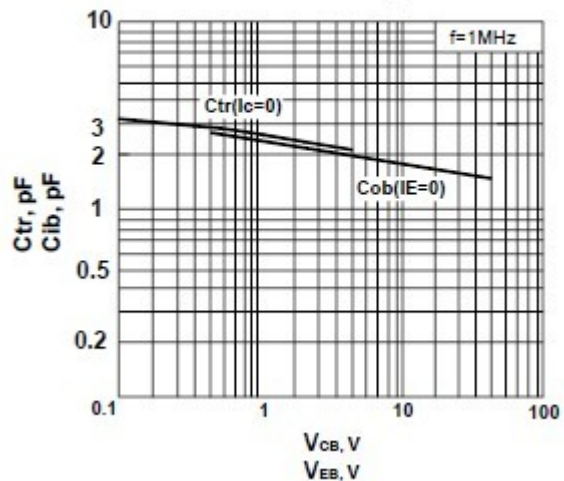
Collector base time constant vs. emitter current



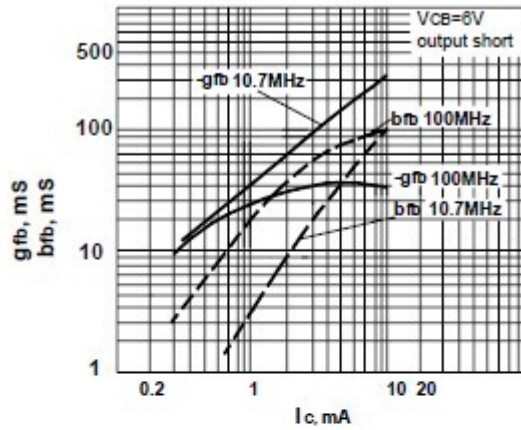
Base collector saturation voltage vs. collector current



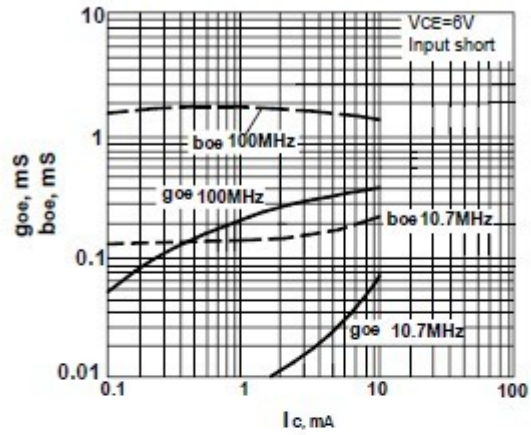
Input & output capacitance vs. reverse voltage



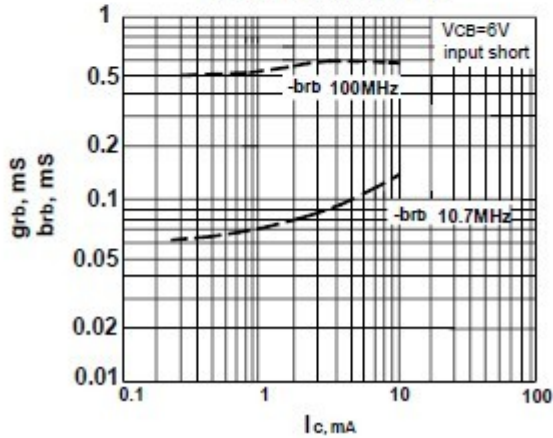
Forward transfer admittance vs. collector current



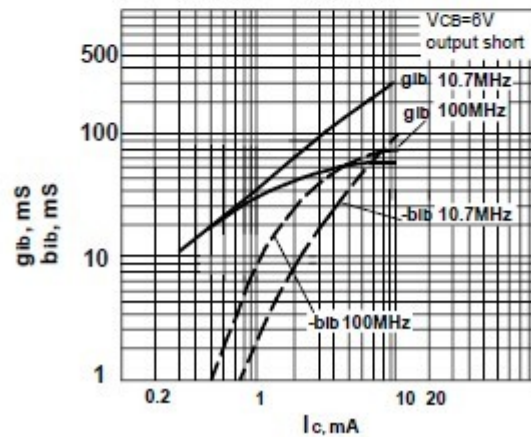
Output admittance vs. collector current



Reverse transfer admittance vs. collector current



Input admittance vs. collector current

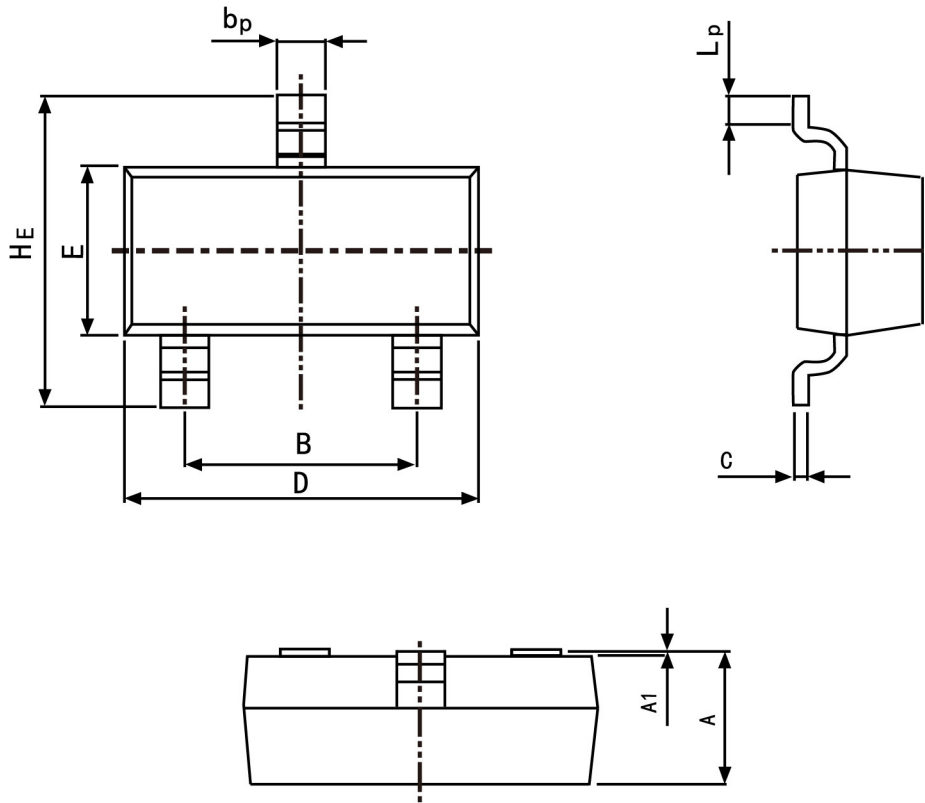




PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



Symbol	Dimension in Millimeters	
	Min	Max
A	0.95	1.40
B	1.78	2.04
bp	0.35	0.50
C	0.08	0.19
D	2.70	3.10
E	1.20	1.65
HE	2.20	3.00
A1	0.100	0.013
Lp	0.20	0.50