

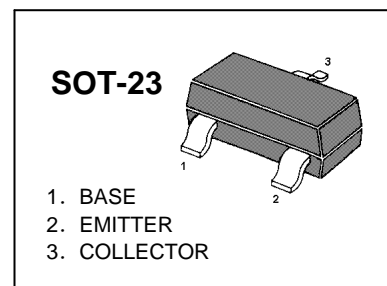
TRANSISTOR (NPN)

FEATURES

AM/FM Amplifier, Local Oscillator of FM/VHF Tuner

High Current Gain Bandwidth Product $f_T=1.1$ GHz (Typ)

MARKING : J8



MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise noted)

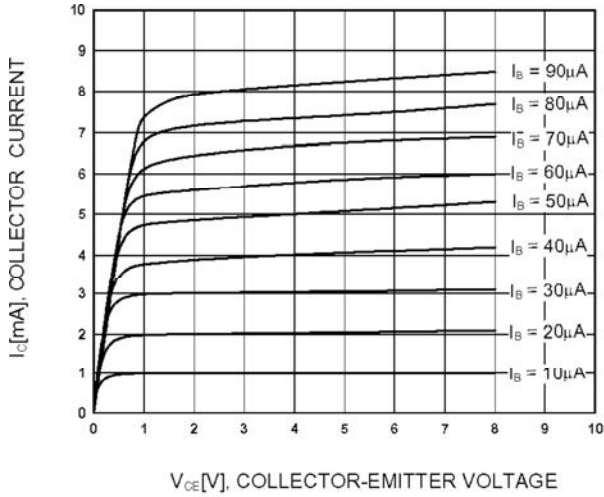
Symbol	Parameter	Value	Units
V_{CB0}	Collector-Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	15	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	50	mA
P_C	Collector Power Dissipation	200	mW
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55-150	$^\circ\text{C}$

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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}$, $I_E=0$	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}$, $I_B=0$	15			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}$, $I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=12\text{V}$, $I_E=0$			0.05	μA
Collector cut-off current	I_{CEO}	$V_{CE}=12\text{V}$, $I_B=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=3\text{V}$, $I_C=0$			0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=5\text{V}$, $I_C=1\text{mA}$	105		195	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10\text{mA}$, $I_B=1\text{mA}$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=10\text{mA}$, $I_B=1\text{mA}$			1.4	V
Transition frequency	f_T	$V_{CE}=5\text{V}$, $I_C=5\text{mA}$ $f=400\text{MHz}$	600			MHz

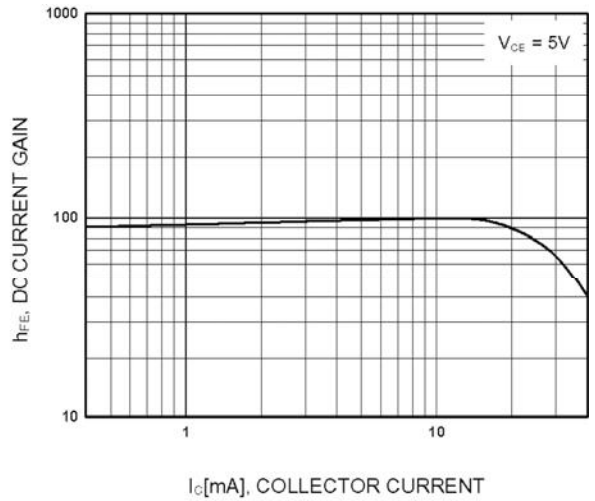


Typical Characteristics

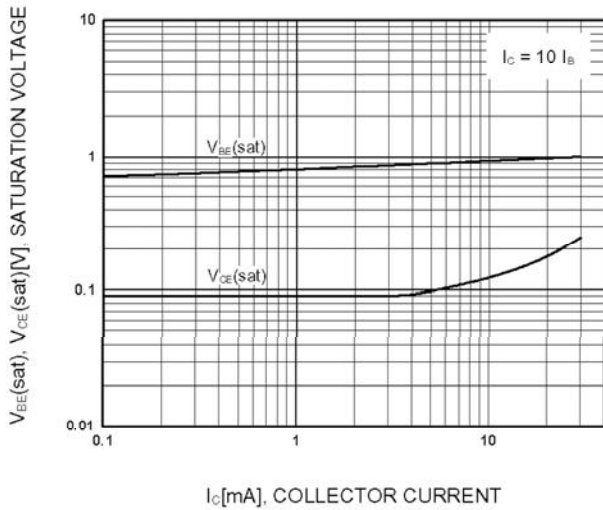


Static Characteristic

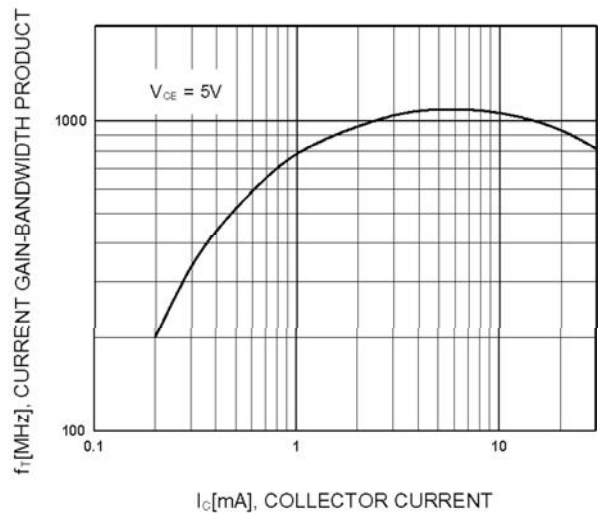
S9018



DC Current Gain



Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage



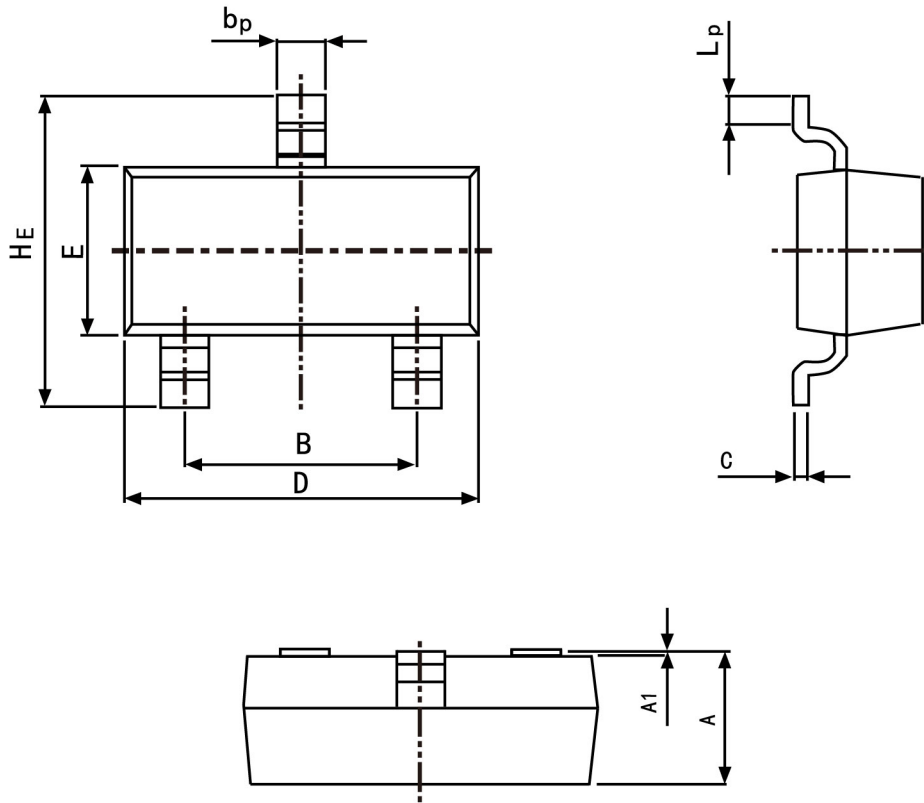
Current Gain Bandwidth Product



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