

S9018

NPN Transistors

General description

SOT-23 Plastic-Encapsulate Transistors

SOT-23**FEATURES**

- AM/FM Amplifier, Local Oscillator of FM/VHF Tuner
- High Current Gain Bandwidth Product

1. BASE
2. EMITTER
3. COLLECTOR

**MARKING : J8****Maximum Ratings & Thermal Characteristics** $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Unit
V_{CBO}	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
θ_{JA}	Thermal Resistance from Junction to Ambient	625	$^\circ\text{C/W}$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55-150	$^\circ\text{C}$

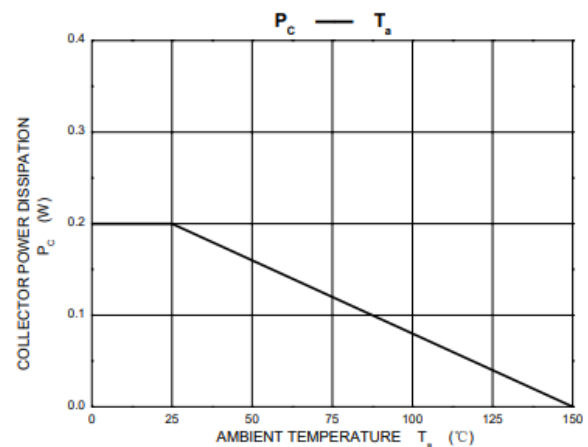
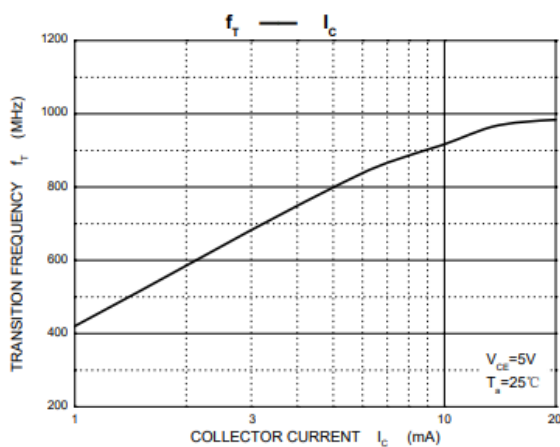
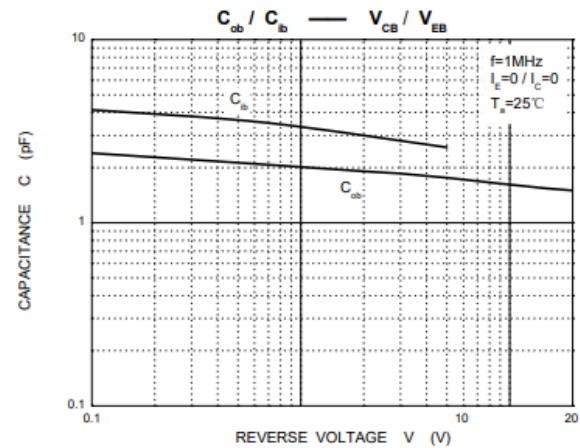
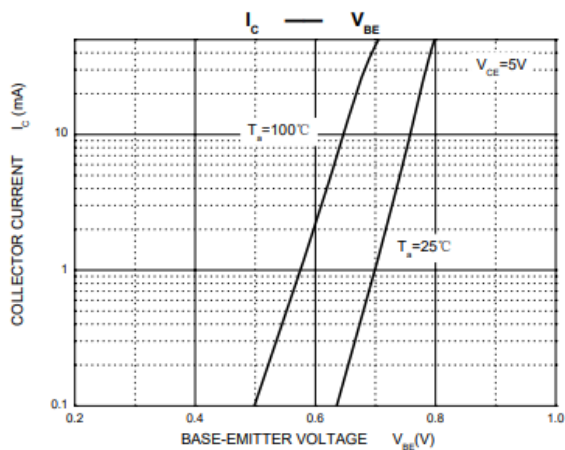
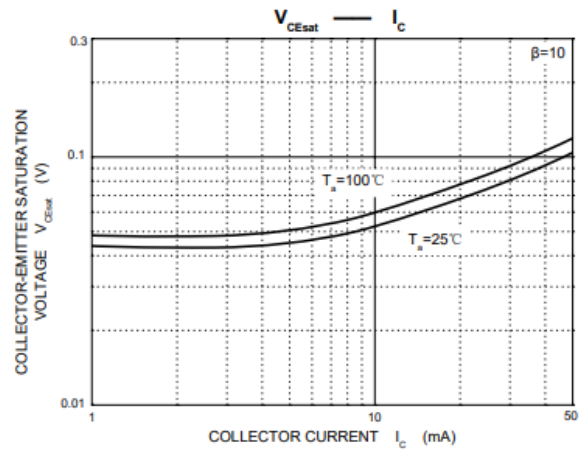
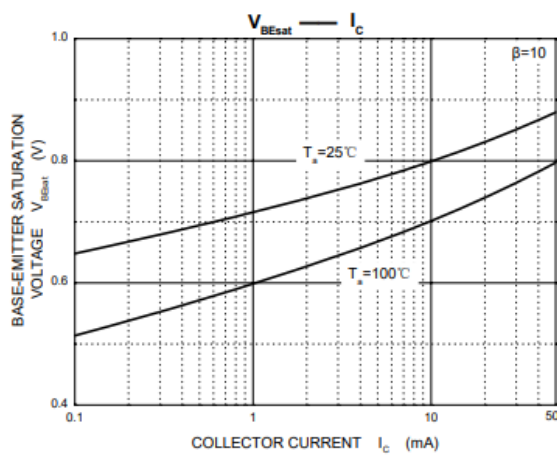
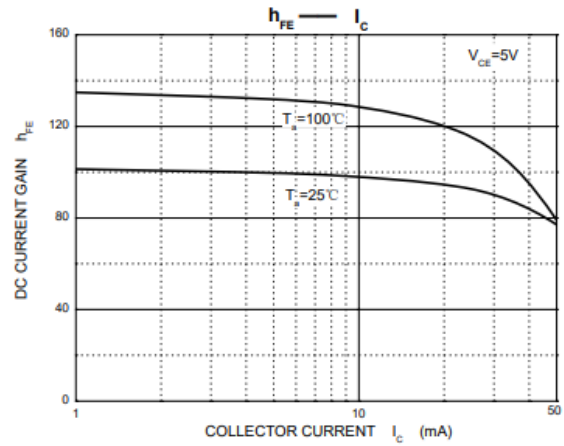
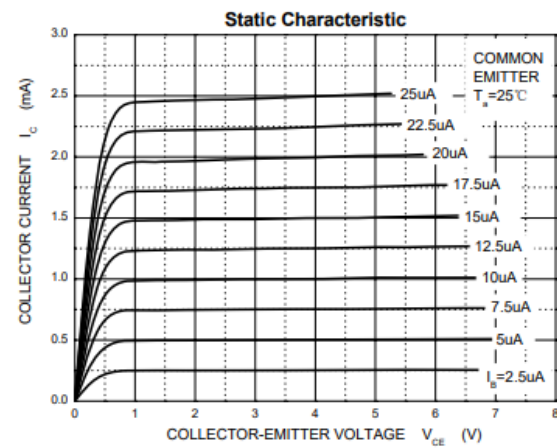
Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

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	$h_{FE(1)}$	$V_{CE} = 5\text{V}, I_C = 1\text{mA}$	70		200	
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	$V_{CE} = 5\text{V}, I_C = 5\text{mA}$ $f = 400\text{MHz}$		800		MHz

CLASSIFICATION OF $h_{FE(1)}$

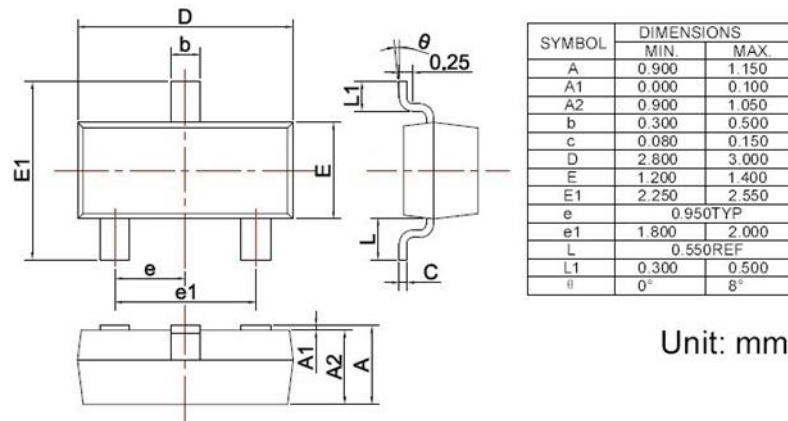
Rank	L	H
Range	70-100	100-200

Typical characteristics

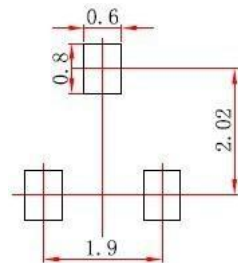


S9018

SOT-23 PACKAGE OUTLINE Plastic surface mounted package



Recommended land dimensions for SOT-23 diode. Electrode patterns for PCBs



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.

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