S9018

S9018
NPN Transistors

General description
SOT-23 Plastic-Encapsulate Transistors

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

MARKING：J8

SOT-23

1. BASE
2. EMITTER
3. COLLECTOR

Maximum Ratings & Thermal Characteristics
T_A = 25°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
$5_{ș\text{-}\$}$	Thermal Resistance from Junction to Ambient	625	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55-150	℃

Electrical Characteristics
T_A = 25°C unless otherwise noted

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 100μA, I_E=0	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= 1mA, I_B=0	15			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA, I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=12V, I_E=0			0.05	μA
Collector cut-off current	I_{CEO}	V_{CE}=12V, I_B=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}= 3V, I_C=0			0.1	μA
DC current gain	$h_{FE(1)}$	V_{CE}=5V, I_C= 1mA	70		200	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=10mA, I_B= 1mA			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=10mA, I_B= 1mA			1.4	V
Transition frequency	f_T	V_{CE}=5V, I_C= 5mA f=400MHz		800		MHz

CLASSIFICATION OF $h_{FE(1)}$

Rank	L	H
Range	70-100	100-200

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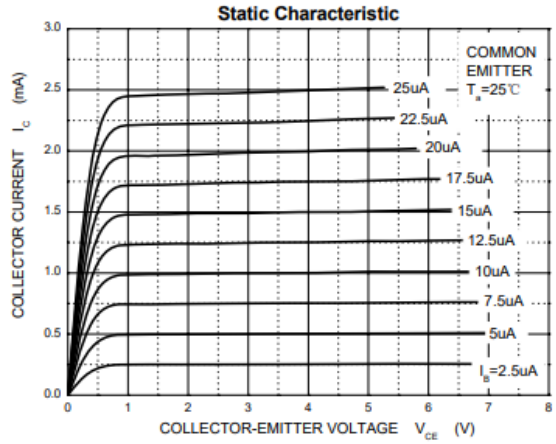
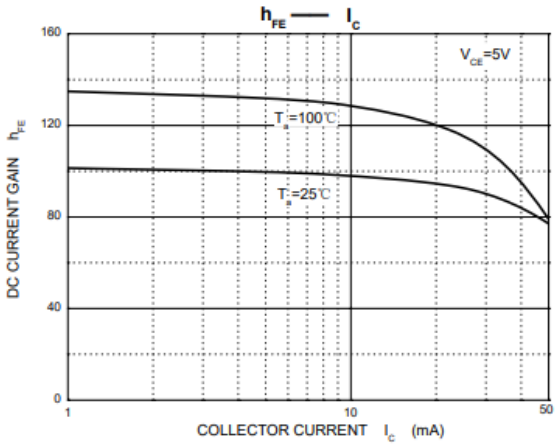
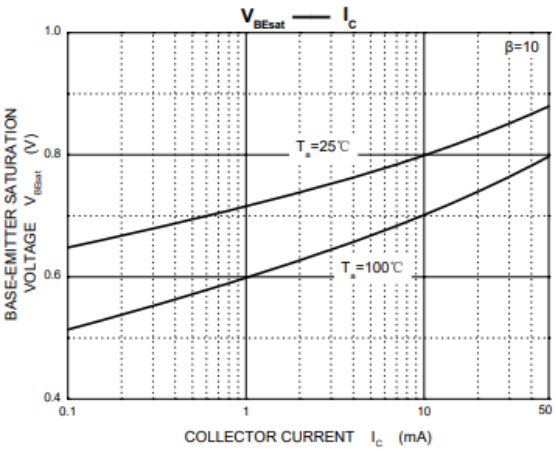
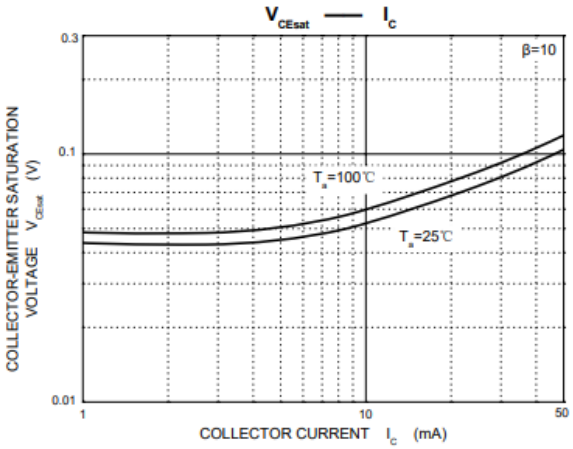
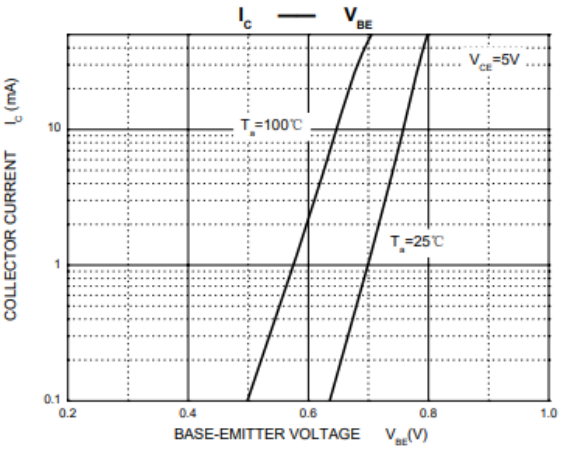
Typical characteristics

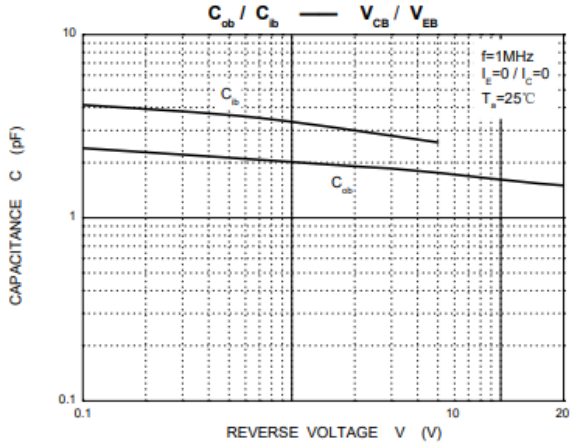


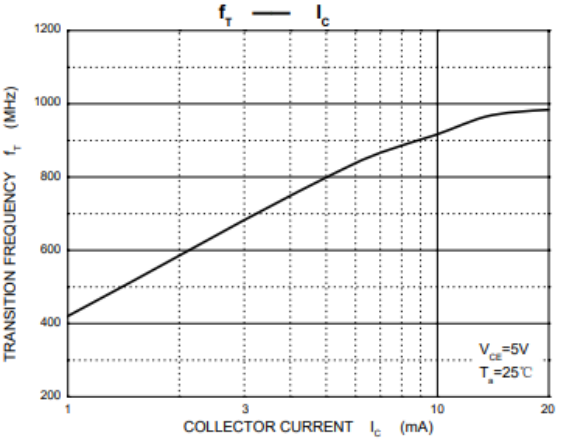


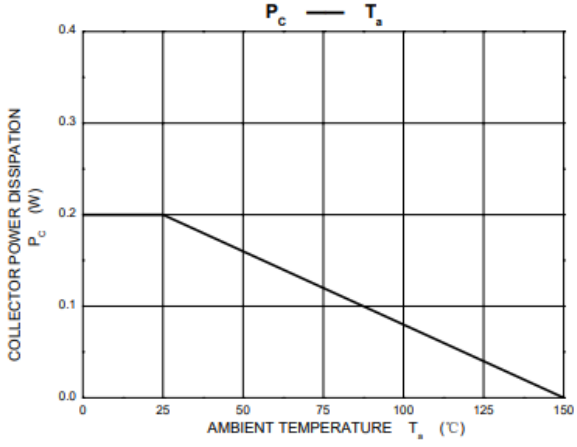












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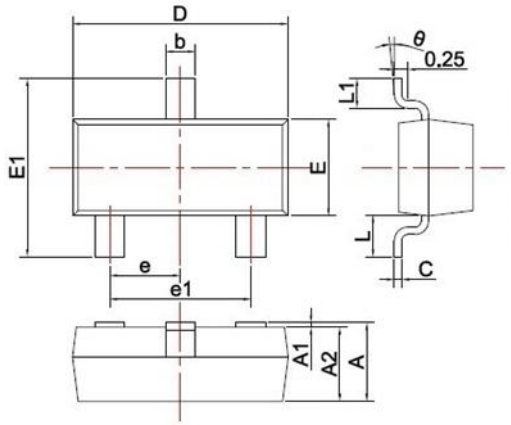
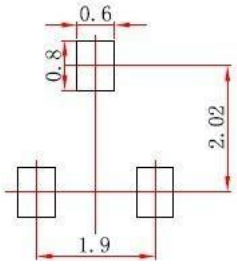
SOT-23 PACKAGE OUTLINE Plastic surface mounted package



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

Unit: mm

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



Note:
1.Controlling dimension:In millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

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