

SOT-23 Plastic-Encapsulate Diodes

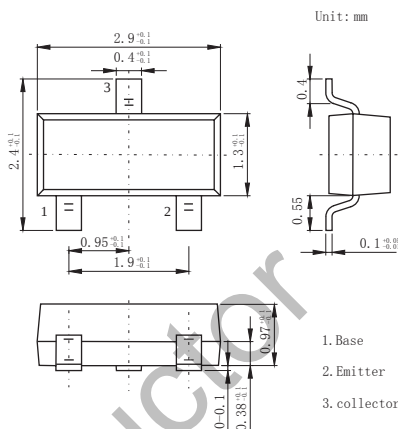


S9018

FEATURES

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

SOT-23

Unit: mm

MARKING: J8

1. Base
2. Emitter
3. collector

MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ 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	50	mA
P_C	Collector Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	316	$^{\circ}\text{C/W}$
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~+150	$^{\circ}\text{C}$

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=0.1\text{mA}$, $I_E=0$	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}$, $I_B=0$	15			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=0.1\text{mA}$, $I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=40\text{V}$, $I_E=0$			0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE}=20\text{V}$, $I_B=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}$, $I_C=0$			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
Base-emitter voltage	V_{BE}	$V_{CB}=1\text{V}$, $I_C=10\text{mA}$			0.7	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}

Rank	L	H
Range	70-100	100-200

3. Pulse Test: Pulse Width $<300\ \mu\text{s}$, Duty Cycle $<2.0\%$.

Typical Characteristics

Fig.1 Power Derating Curve

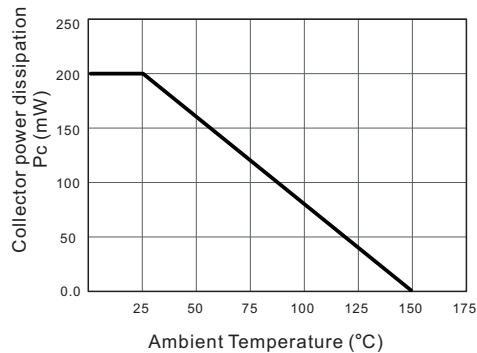
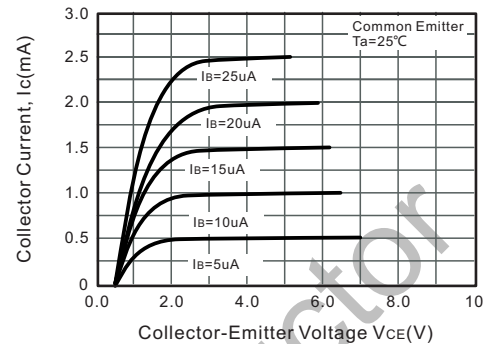
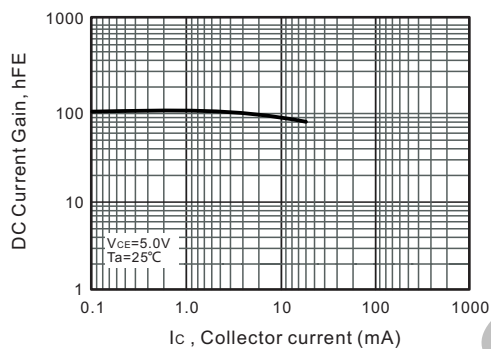
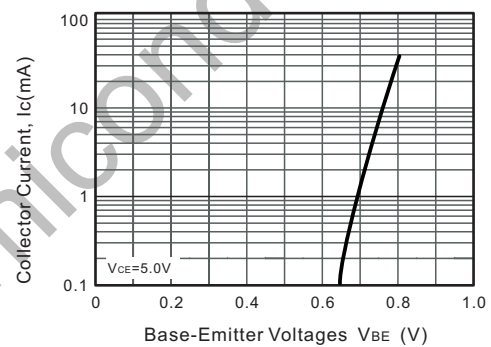
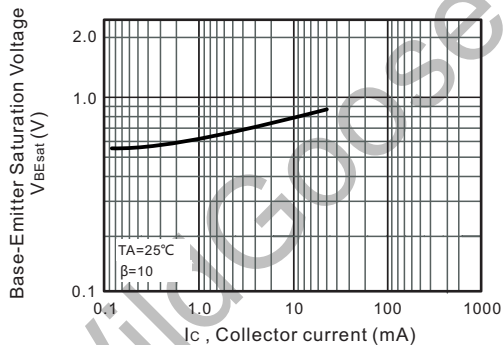
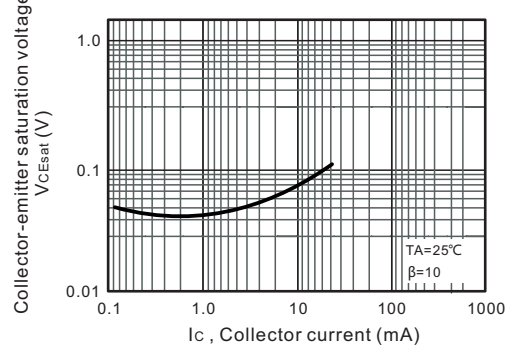
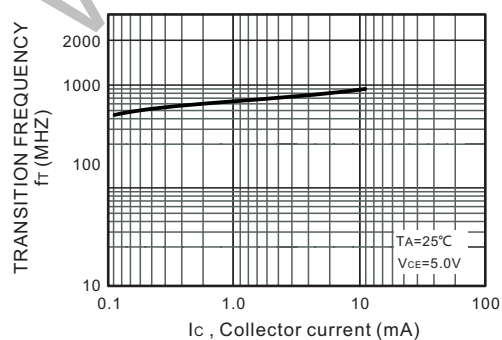


Fig.2 Static characteristics

Fig.3 h_{FE} -- I_c Fig.4 I_c -- V_{BE} Fig.5 V_{BEsat} -- I_c Fig.6 V_{CEsat} -- I_c Fig.7 f_t -- I_c Fig.8 C_{ob}/C_{ib} -- V_{CB}/V_{EB} 