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## **SS9018**

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

• High Current Gain Bandwidth Product f<sub>T</sub>=1.1 GHz (Typ)



## **NPN Epitaxial Silicon Transistor**

#### **Absolute Maximum Ratings** $T_a$ =25°C unless otherwise noted

Symbol	Parameter	Ratings	Units
V <sub>CBO</sub>	Collector-Base Voltage	30	V
$V_{CEO}$	Collector-Emitter Voltage	15	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current	50	mA
P <sub>C</sub>	Collector Power Dissipation	400	mW
TJ	Junction Temperature	150	°C
T <sub>STG</sub>	Storage Temperature	-55 ~ 150	°C

#### **Electrical Characteristics** $T_a$ =25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Units
BV <sub>CBO</sub>	Collector-Base Breakdown Voltage	$I_C = 100 \mu A, I_E = 0$	30			V
BV <sub>CEO</sub>	Collector-Emitter Breakdown Voltage	$I_C = 1.0 \text{mA}, I_B = 0$	15			V
BV <sub>EBO</sub>	Emitter-Base Breakdown Voltage	$I_E = 100 \mu A, I_C = 0$	5			V
I <sub>CBO</sub>	Collector Cut-off Current	$V_{CB} = 12V, I_{E} = 0$			50	nA
h <sub>FE</sub>	Emitter Cut-off Current	$V_{CE} = 5V, I_{C} = 1.0 \text{mA}$	28	100	198	
V <sub>CE</sub> (sat)	Collector-Emitter Saturation Voltage	$I_C = 10mA$ , $I_B = 1mA$			0.5	V
C <sub>ob</sub>	Output Capacitance	V <sub>CB</sub> =10V, I <sub>E</sub> =0 f=1MHz		1.3	1.7	pF
f <sub>T</sub>	Current Gain Bandwidth Product	$V_{CE} = 5V$ , $I_{C} = 5mA$	700	1100		MHz

## **h**<sub>FE</sub> Classification

Classification	D	E	F	G	Н	I
h <sub>FE</sub>	28 ~ 45	39 ~ 60	54 ~ 80	72 ~ 108	97 ~ 146	132 ~ 198

 $V_{\text{CE}} = 5V$ 

# **Typical Characteristics**

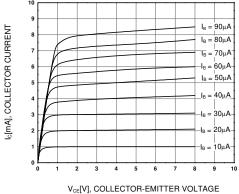
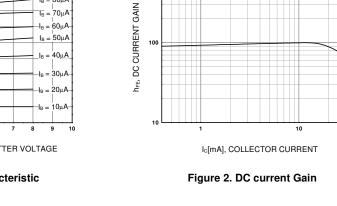


Figure 1. Static Characteristic



1000

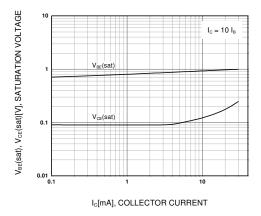


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

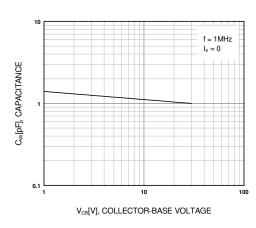


Figure 4. Output Capacitance

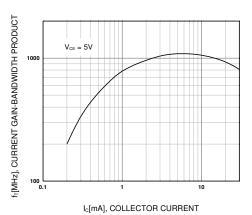
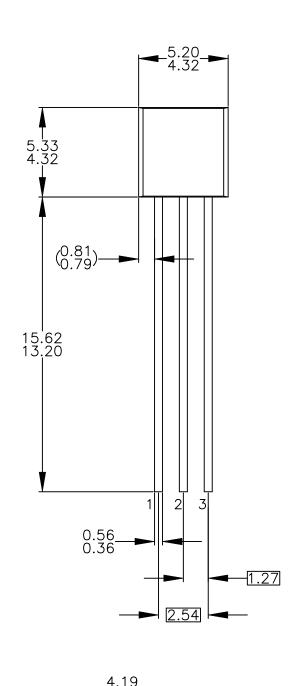
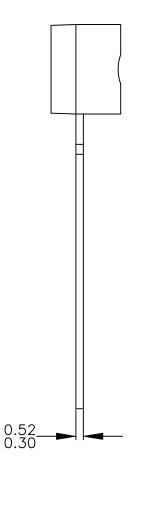


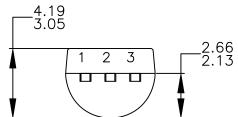
Figure 5. Current Gain Bandwidth Product





NOTES: UNLESS OTHERWISE SPECIFIED

- DRAWING WITH REFERENCE TO JEDEC TO-92 RECOMMENDATIONS.
  ALL DIMENSIONS ARE IN MILLIMETERS.
  DRAWING CONFORMS TO ASME Y14.5M-2009.
  DRAWING FILENAME: MKT-ZAO3DREV4.





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