

# NPN SILICON TRANSISTOR JE9018

**DESCRIPTION** The JE9018 is designed for use in AM/FM IF amplifier and local oscillator of FM/VHF tuner.

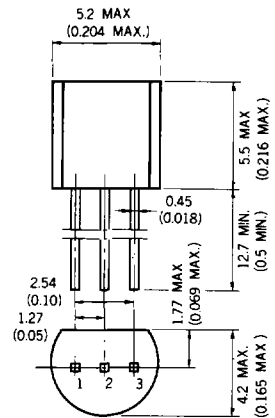
- FEATURES**
- High total power dissipation. ( $P_T : 400 \text{ mW}$ )
  - High gain bandwidth product. ( $f_T = 1\ 100 \text{ MHz TYP.}$ )
  - Stable oscillation and small frequency drift for supply voltage and ambient temperature change.

**ABSOLUTE MAXIMUM RATINGS**

Maximum Temperatures  
 Storage Temperature . . . . .  $-55 \text{ to } +150 \text{ }^\circ\text{C}$   
 Junction Temperature . . . . .  $+150 \text{ }^\circ\text{C}$  Maximum  
 Maximum Power Dissipation ( $T_a = 25 \text{ }^\circ\text{C}$ )  
 Total Power Dissipation . . . . . **400 mW**  
 Maximum Voltages and Currents ( $T_a = 25 \text{ }^\circ\text{C}$ )  
 $V_{CB0}$  Collector to Base Voltage . . . . . 30 V  
 $V_{CEO}$  Collector to Emitter Voltage . . . . . 15 V  
 $V_{EBO}$  Emitter to Base Voltage . . . . . 5.0 V  
 $I_C$  Collector Current . . . . . 50 mA  
 $I_B$  Base Current . . . . . 10 mA

**PACKAGE DIMENSIONS**

in millimeters (inches)



1. EMITTER EIAJ : SC-43  
 2. BASE JEDEC : TO-92  
 3. COLLECTOR IEC : PA33

**ELECTRICAL CHARACTERISTICS ( $T_a = 25 \text{ }^\circ\text{C}$ )**

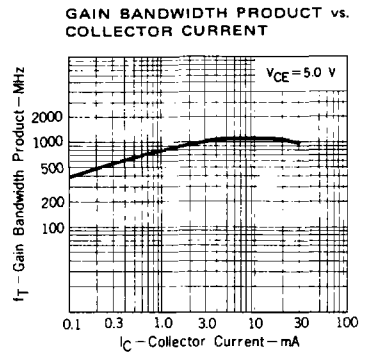
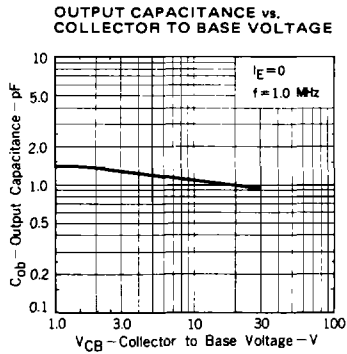
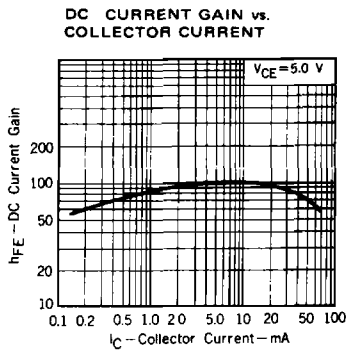
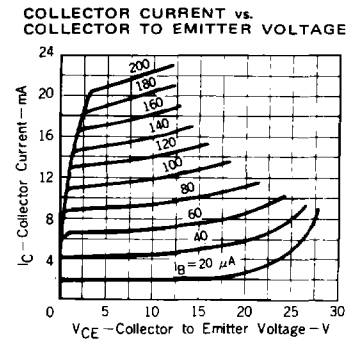
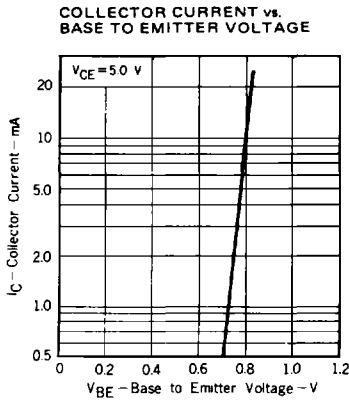
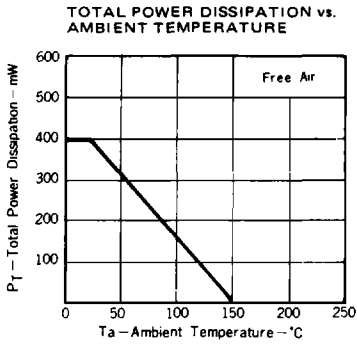
SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
$h_{FE}$	DC Current Gain	28	100	198	—	$V_{CE} = 5.0 \text{ V}, I_C = 1.0 \text{ mA}$
$C_{ob}$	Output Capacitance		1.3	1.7	pF	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1.0 \text{ MHz}$
$f_T$	Gain Bandwidth Product	700	1100		MHz	$V_{CE} = 5.0 \text{ V}, I_C = 5.0 \text{ mA}$
$I_{CBO}$	Collector Cutoff Current			50	nA	$V_{CB} = 12 \text{ V}, I_E = 0$
$BV_{CBO}$	Collector to Base Breakdown Voltage	30			V	$I_C = 0.1 \text{ mA}, I_E = 0$
$BV_{CEO}$	Collector to Emitter Breakdown Voltage	15			V	$I_C = 1.0 \text{ mA}, I_B = 0$
$BV_{EBO}$	Emitter to Base Breakdown Voltage	5.0			V	$I_E = 0.1 \text{ mA}, I_C = 0$
$V_{CE(sat)}$	Collector Saturation Voltage			0.5	V	$I_C = 10 \text{ mA}, I_B = 1.0 \text{ mA}$

**Classification of  $h_{FE}$**

Rank	D	E	F	G	H	I
Range	28-45	39-60	54-80	72-108	97-146	132-198

$h_{FE}$  Test Conditions :  $V_{CE} = 5.0 \text{ V}, I_C = 1.0 \text{ mA}$

TYPICAL CHARACTERISTICS (Ta = 25 °C)



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