

**FEATURES**

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

 High Current Gain Bandwidth Product  $f_T=1.1$  GHz (Typ)

**S9018 (NPN)**
**MARKING: J8**
**MAXIMUM RATINGS** (TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	$V_{CBO}$	30	V
Collector-Emitter Voltage	$V_{CEO}$	15	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current -Continuous	$I_C$	50	mA
Collector Power Dissipation	$P_C$	0.2	W
Junction Temperature	$T_J$	150	°C
Storage Temperature	$T_{stg}$	-55 to +150	°C


**ELECTRICAL CHARACTERISTICS** (Tamb=25°C unless otherwise specified)

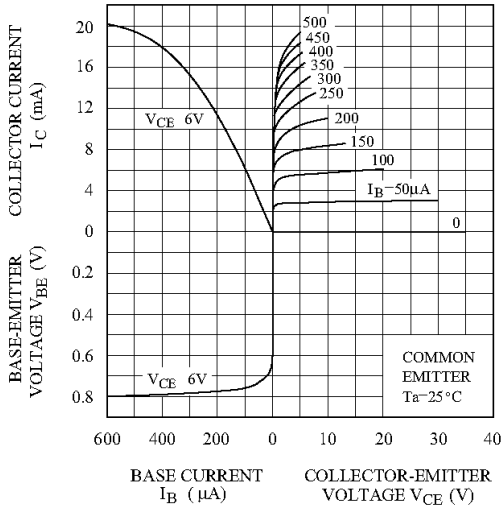
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{CBO}$	$I_C=100\mu A, I_E=0$	30			V
Collector-emitter breakdown voltage	$V_{CEO}$	$I_C=1mA, I_B=0$	15			V
Emitter-base breakdown voltage	$V_{EBO}$	$I_E=100\mu A, I_C=0$	5			V
Collector cut-off current	$I_{CB}$	$V_{CB}=12V, I_E=0$			0.05	$\mu A$
Collector cut-off current	$I_{CE}$	$V_{CE}=12V, I_B=0$			0.1	$\mu A$
Emitter cut-off current	$I_{EB}$	$V_{EB}=3V, I_C=0$			0.1	$\mu A$
DC current gain	$h_{FE(1)}$	$V_{CE}=5V, I_C=1mA$	70		190	
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	$f_T$	$V_{CE}=5V, I_C=5mA$ $f=400MHz$	600			MHz

**CLASSIFICATION OF  $h_{FE}$** 

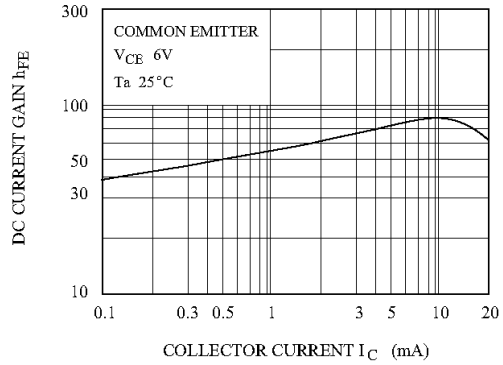
Rank	L	H	
Range	70-110	110-200	

**S9018** Typical Characteristics

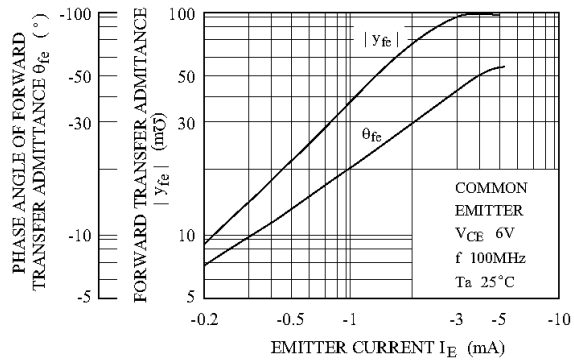
STATIC CHARACTERISTICS



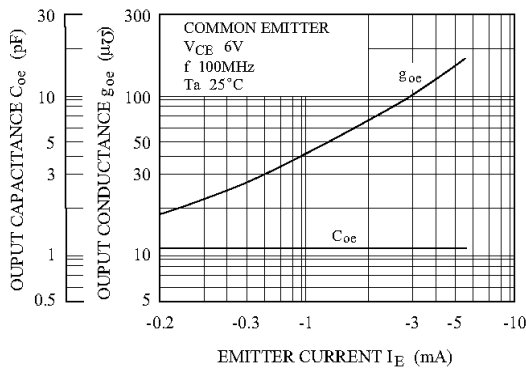
$h_{FE} - I_C$



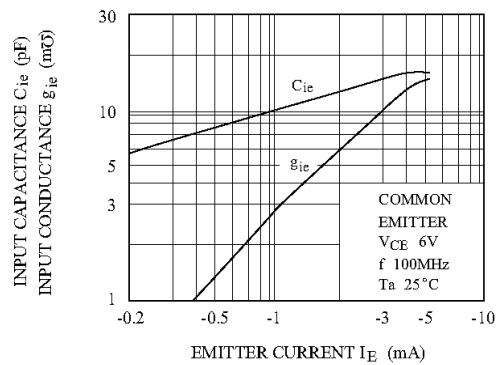
$|y_{fe}|, \theta_{fe} - I_E$



$C_{oe}, g_{oe} - I_E$



$C_{ie}, g_{ie} - I_E$



**S9018** Typical Characteristics

