

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)

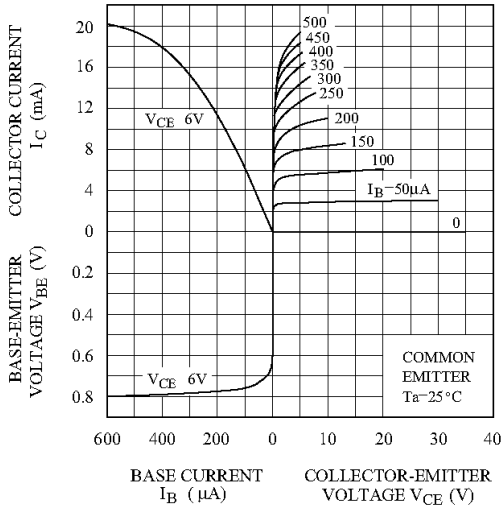
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V_{CBO}	$I_C=100\mu A, I_E=0$	30			V
Collector-emitter breakdown voltage	V_{CEO}	$I_C=1mA, I_B=0$	15			V
Emitter-base breakdown voltage	V_{EBO}	$I_E=100\mu A, I_C=0$	5			V
Collector cut-off current	I_{CB}	$V_{CB}=12V, I_E=0$			0.05	μA
Collector cut-off current	I_{CE}	$V_{CE}=12V, I_B=0$			0.1	μA
Emitter cut-off current	I_{EB}	$V_{EB}=3V, I_C=0$			0.1	μA
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}

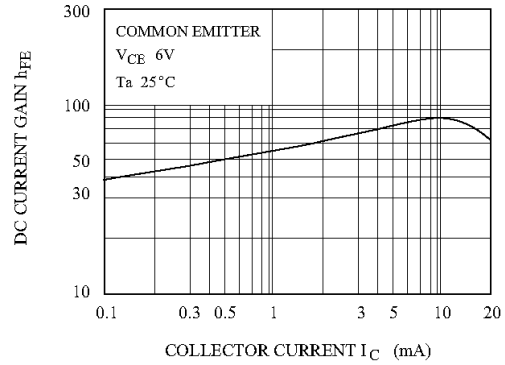
Rank	L	H	
Range	70-110	110-200	

S9018 Typical Characteristics

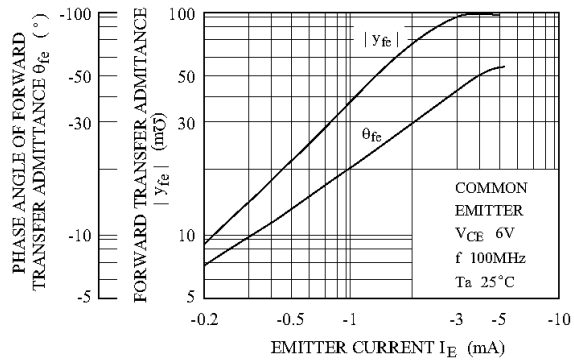
STATIC CHARACTERISTICS



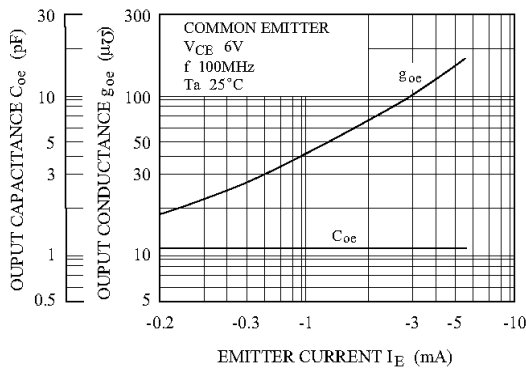
$h_{FE} - I_C$



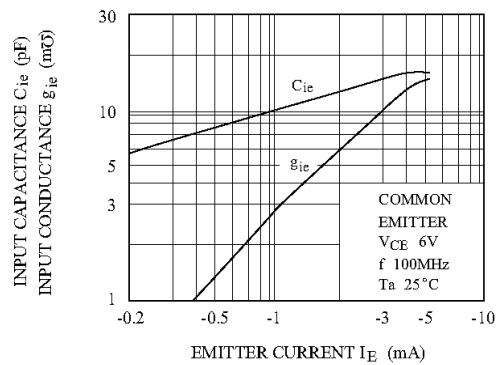
$|y_{fe}|, \theta_{fe} - I_E$



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



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



S9018 Typical Characteristics

