

SS9014

Pre-Amplifier, Low Level & Low Noise

- High total power dissipation. ($P_T=450mW$)
- High h_{FE} and good linearity
- Complementary to SS9015



TO-92
1. Emitter 2. Base 3. Collector

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings $T_a=25^\circ C$ unless otherwise noted

Symbol	Parameter	Ratings	Units
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	100	A
P_C	Collector Dissipation	450	W
T_J	Junction Temperature	150	$^\circ C$
T_{STG}	Storage Temperature	-55 ~ 150	$^\circ C$

Electrical Characteristics $T_a=25^\circ C$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C=100\mu A, I_E=0$	50			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C=1mA, I_B=0$	45			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E=100\mu A, I_C=0$	5			V
I_{CBO}	Collector Cut-off Current	$V_{CB}=50V, I_E=0$			50	nA
I_{EBO}	Emitter Cut-off Current	$V_{EB}=5V, I_C=0$			50	nA
h_{FE}	DC Current Gain	$V_{CE}=5V, I_C=1mA$	60	280	1000	
$V_{CE(sat)}$	Collector-Base Saturation Voltage	$I_C=100mA, I_B=5mA$		0.14	0.3	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=100mA, I_B=5mA$		0.84	1.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE}=5V, I_C=2mA$	0.58	0.63	0.7	V
C_{ob}	Output Capacitance	$V_{CB}=10V, I_E=0$ $f=1MHz$		2.2	3.5	pF
f_T	Current Gain Bandwidth Product	$V_{CE}=5V, I_C=10mA$	150	270		MHz
NF	Noise Figure	$V_{CE}=5V, I_C=0.2mA$ $f=1KHz, R_S=2K\Omega$		0.9	10	dB

h_{FE} Classification

Classification	A	B	C	D
h_{FE}	60 ~ 150	100 ~ 300	200 ~ 600	400 ~ 1000

Typical Characteristics

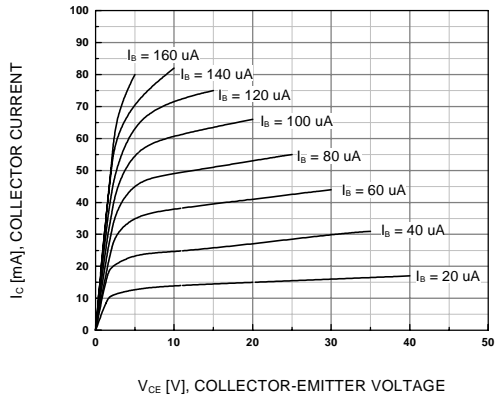


Figure 1. Static Characteristic

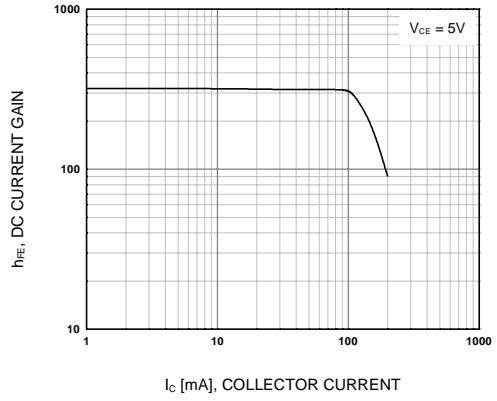


Figure 2. DC current Gain

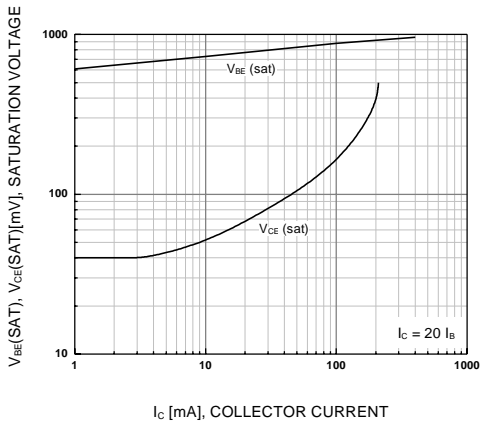


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

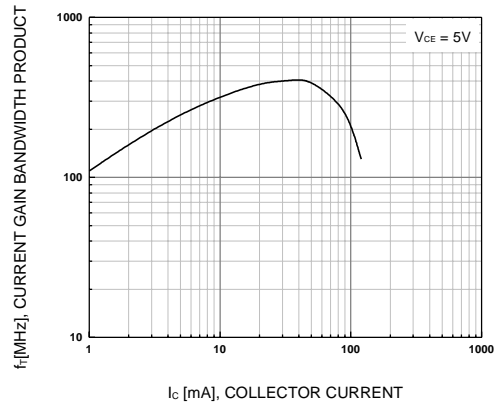
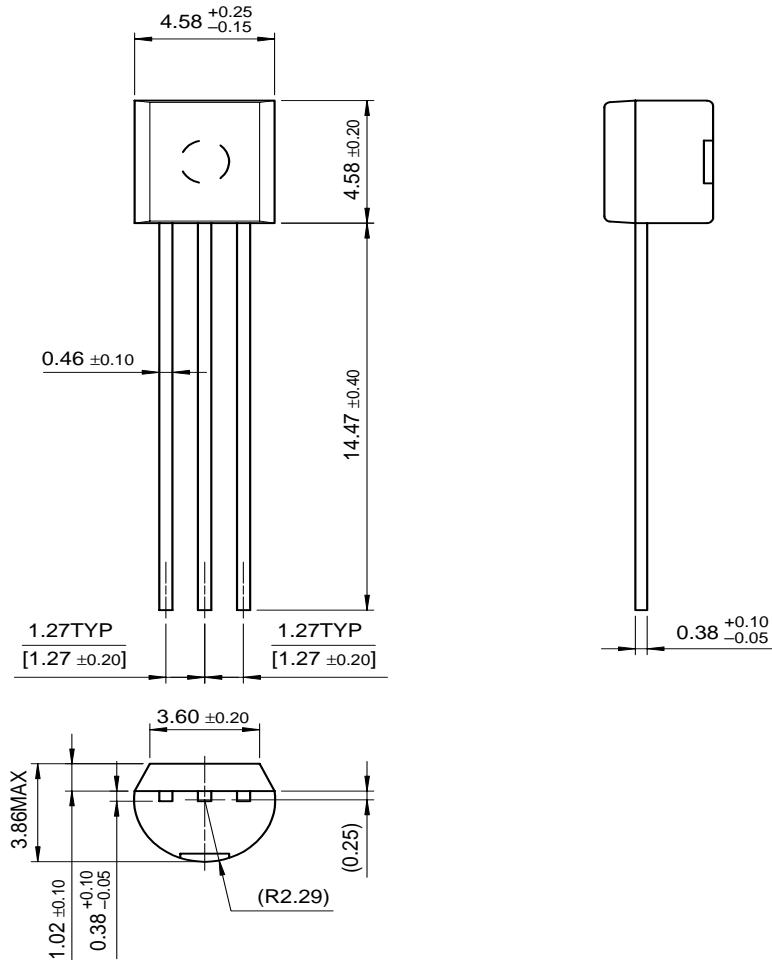


Figure 4. Current Gain Bandwidth Product

Package Dimensions

SS9014

TO-92



Dimensions in Millimeters

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