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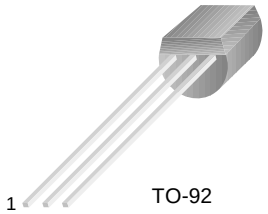
SS9014

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°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	mA
P_C	Collector Power Dissipation	450	mW
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55 ~ 150	°C

Electrical Characteristics T_a=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	I_C =100μA, 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 =100μA, 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=2KΩ		0.9	10	dB

h_{FE} Classification

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

Typical Characteristics

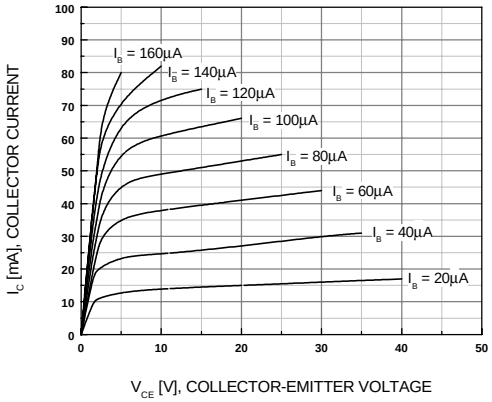


Figure 1. Static Characteristic

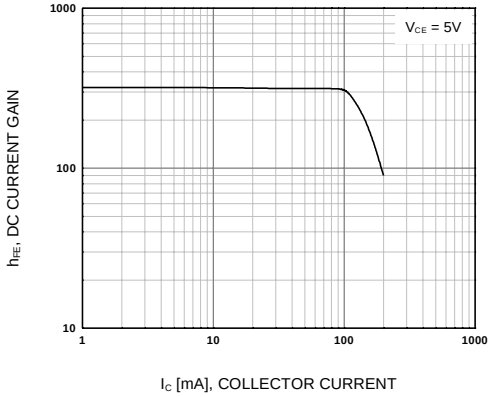


Figure 2. DC current Gain

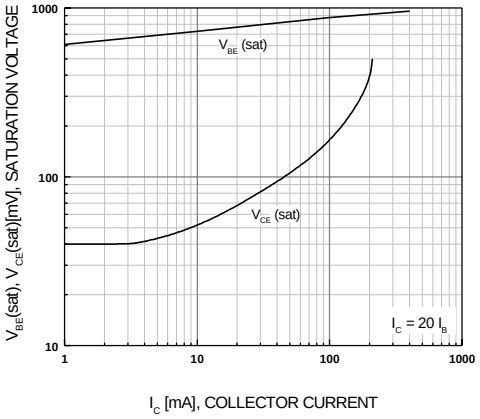


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

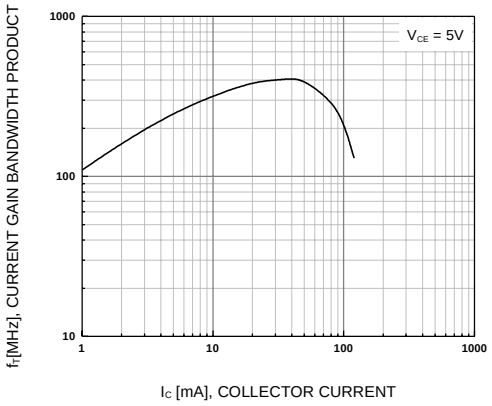
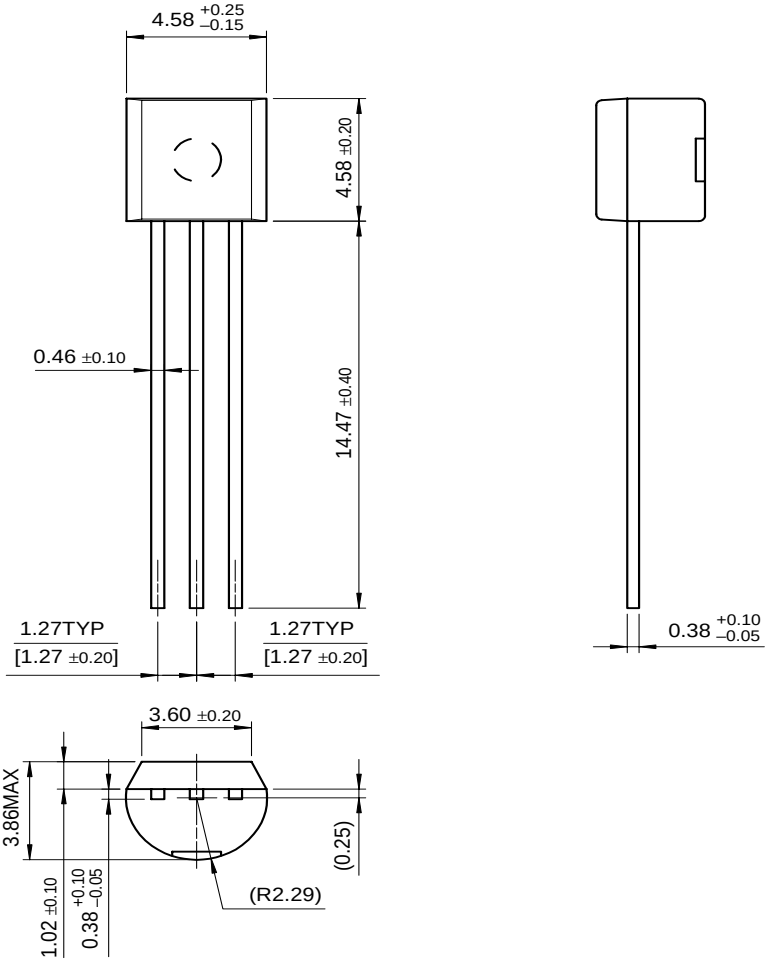


Figure 4. Current Gain Bandwidth Product

Package Dimensions

TO-92



Dimensions in Millimeters

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