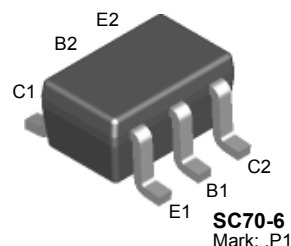


FFB5551

FFB5551

Dual-Chip NPN General Purpose Amplifier

- This device is designed for general purpose high voltage amplifiers.
- E1 is Pin 1.



Absolute Maximum Ratings* $T_C=25^{\circ}\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	160	V
V_{CBO}	Collector-Base Voltage	180	V
V_{EBO}	Emitter-Base Voltage	6.0	V
I_C	Collector Current - Continuous	200	mA
T_J, T_{STG}	Operating and Storage Junction Temperature Range	- 55 ~ 150	$^{\circ}\text{C}$

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:

- These ratings are based on a maximum junction temperature of 150 degrees C.
- These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations

Electrical Characteristics $T_C=25^{\circ}\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
Off Characteristics					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage *	$I_C = 1.0\text{mA}, I_B = 0$	160		V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = 100\mu\text{A}, I_E = 0$	180		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 10\mu\text{A}, I_C = 0$	6.0		V
I_{CBO}	Collector Cut-off Current	$V_{CB} = 120\text{V}, I_E = 0$ $V_{CB} = 120\text{V}, I_E = 0, T_A = 100^{\circ}\text{C}$		50 50	nA μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 4.0\text{V}, I_C = 0$		50	nA
On Characteristics *					
h_{FE}	DC Current Gain	$V_{CE} = 5.0\text{V}, I_C = 1.0\text{mA}$ $V_{CE} = 5.0\text{V}, I_C = 10\text{mA}$ $V_{CE} = 5.0\text{V}, I_C = 50\text{mA}$	80 80 30	250	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 10\text{mA}, I_B = 1.0\text{mA}$ $I_C = 50\text{mA}, I_B = 5.0\text{mA}$		0.15 0.20	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 10\text{mA}, I_B = 1.0\text{mA}$ $I_C = 50\text{mA}, I_B = 5.0\text{mA}$		1.0 1.0	V
Small Signal Characteristics					
f_T	Current gain Bandwidth Product	$V_{CE} = 10\text{V}, I_C = 10\text{mA}$ $f = 100\text{MHz}$	100	300	MHz
C_{obo}	Output Capacitance	$V_{CB} = 10\text{V}, I_E = 0, f = 1.0\text{MHz}$		6.0	pF

* Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$

Thermal Characteristics $T_A=25^{\circ}\text{C}$ unless otherwise noted

Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation	200	mW
	Derate above 25°C	1.6	mW/ $^{\circ}\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	625	$^{\circ}\text{C}/\text{W}$

Typical Characteristics

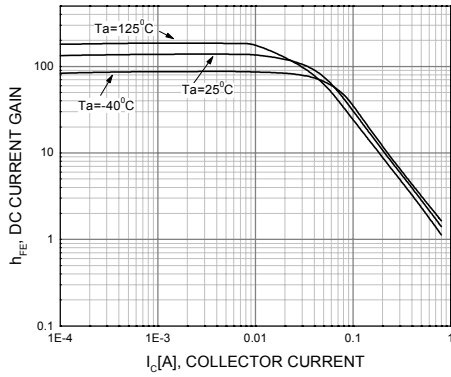


Figure 1. DC Current Gain

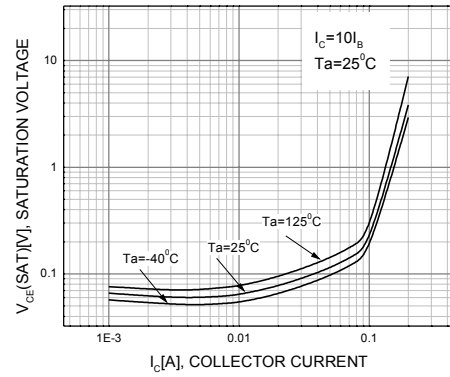


Figure 2. Collector-Emitter Saturation Voltage

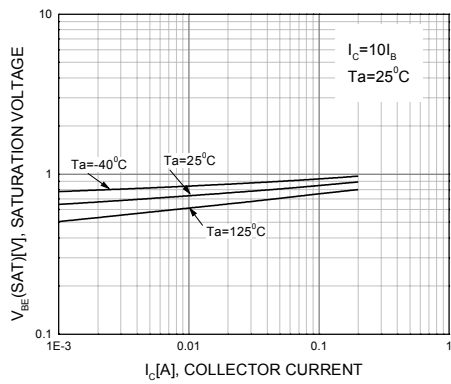


Figure 3. Base-Emitter Saturation Voltage

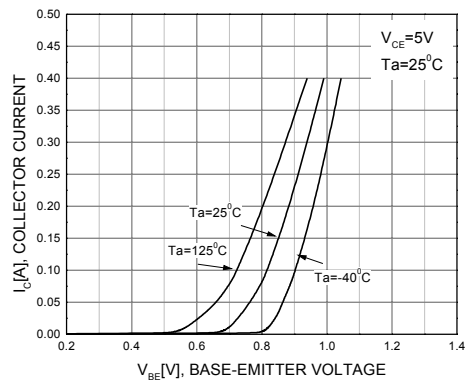
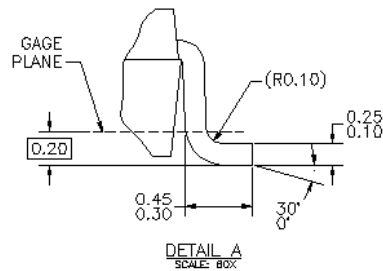
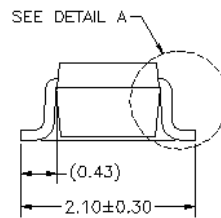
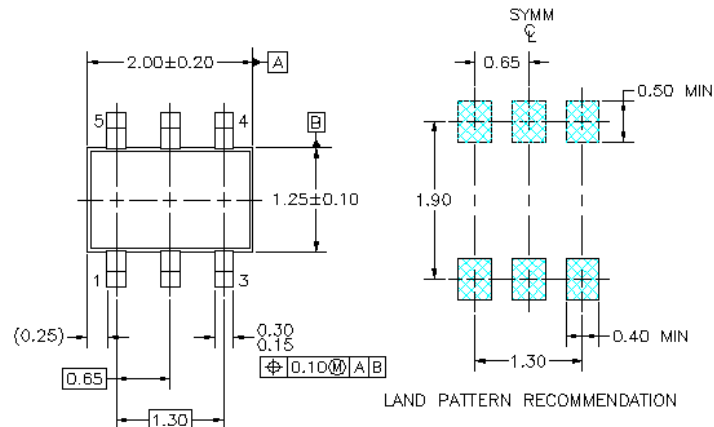


Figure 4. Base-Emitter On Voltage

Package Dimensions

SC70-6



NOTES: UNLESS OTHERWISE SPECIFIED

- A) THIS PACKAGE CONFORMS TO EIAJ SC-88, 1996.
- B) ALL DIMENSIONS ARE IN MILLIMETERS.
- C) DIMENSIONS DO NOT INCLUDE BURRS OR MOLD FLASH.

Dimensions in Millimeters

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