



High Frequency High Gain NPN Signal BJT

➤ Features

VCE	VBE	VCESAT Typ.	IC
12V	6V	0.1V	0.2A

➤ Description

This device is produced with advanced high carrier density technology, which is especially used to minimize saturation voltage drop. This device particularly suits low voltage applications such as portable equipment, power management and low in-line power dissipation are needed in a very small outline surface mount package.

➤ Applications

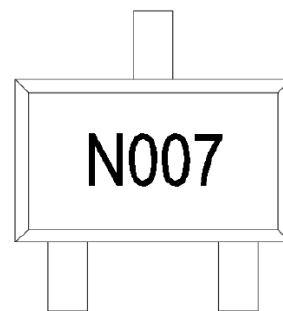
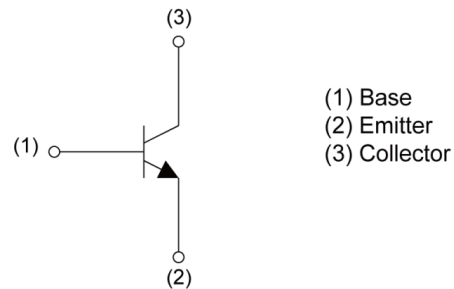
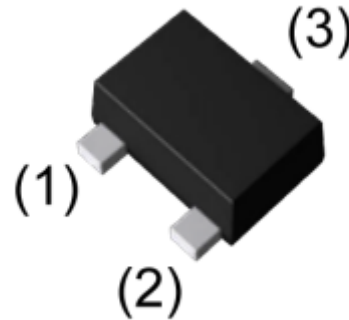
- Signal Amplifier
- High Gain Drive
- Switch Circuit

➤ Ordering Information

Device	Package	Shipping
SSCN007GS8	SOT523	3000/Reel

➤ Pin Configuration

Top view



Marking



➤ **Absolute Maximum Ratings**($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Ratings	Unit
V_{CBO}	Collector-Base Voltage	15	V
V_{CEO}	Collector-Emitter Voltage	12	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current ^A	0.2	A
I_{CM}	Pulsed Collector Current ^B	0.5	A
P_D	Power Dissipation ^A	0.5	W
T_A	Operation Temperature Range	-40 to 85	$^{\circ}\text{C}$
T_L	Lead Temperature	260	$^{\circ}\text{C}$
T_J, T_{STG}	Junction and Storage temperature range	-55 to 150	$^{\circ}\text{C}$

Notes:

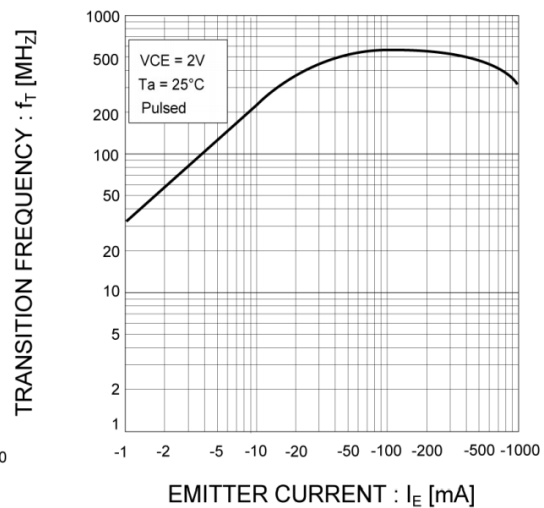
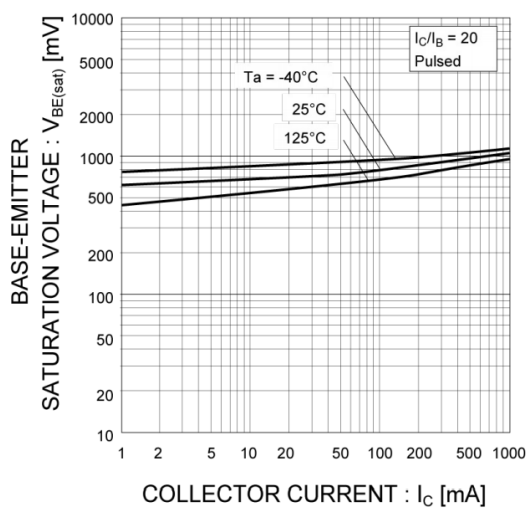
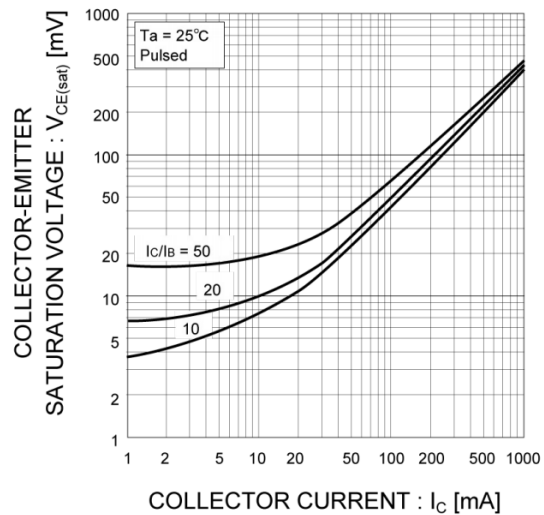
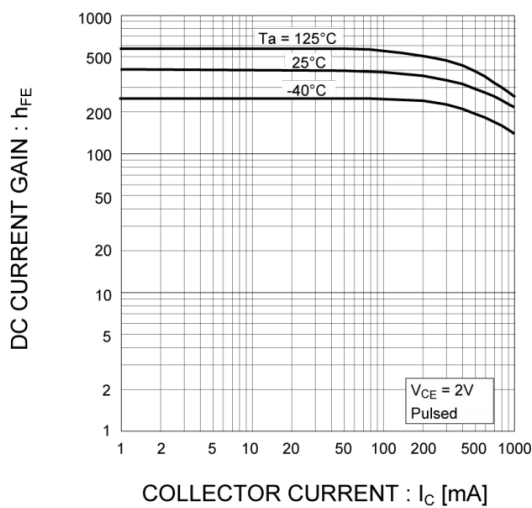
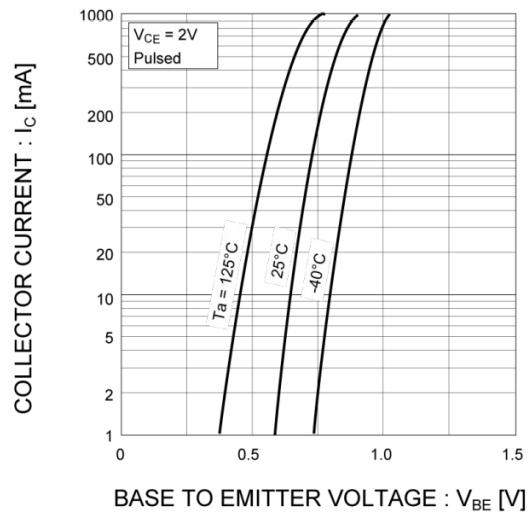
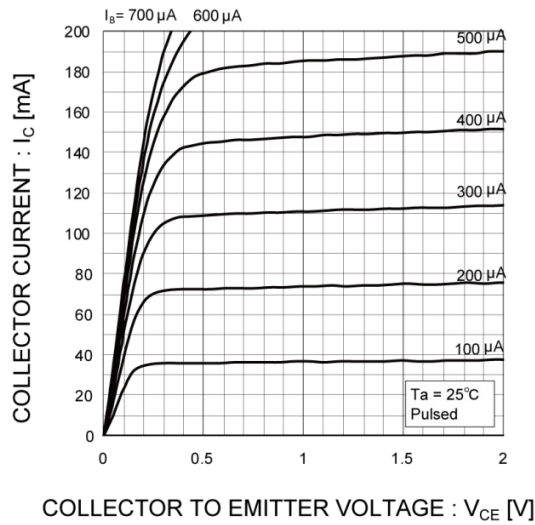
- A. Surface mounted on FR-4 Board using 1 square inch pad size, 1oz copper.
- B. Pulse width=300us, Duty Cycle<2%.

**➤ Electronics Characteristics**($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
BVCBO	Collector-Base Breakdown Voltage	$I_C=100\mu\text{A}$ $I_E=0$	15			V
BVCEO	Collector-Emitter Breakdown Voltage	$I_C=1\text{mA}$ $I_B=0$	12			V
BVEBO	Emitter-Base Breakdown Voltage	$I_C=100\mu\text{A}$ $I_E=0$	6			V
ICBO	Collector cut off current	$V_{CB}=12\text{V}$ $I_E=0$			0.1	μA
IEBO	Emitter cut off current	$V_{EB}=4\text{V}$ $I_C=0$			0.1	μA
HFE	DC Current Gain@Note3	$V_{CE}=2\text{V}$ $I_C=10\text{mA}$	270	380	680	
VCEsat	Collector-Emitter Saturation Voltage	$I_C=200\text{mA}$ $I_B=10\text{mA}$		0.1	0.25	V
VBESAT	Base-Emitter Saturation Voltage	$I_C=200\text{mA}$ $I_B=10\text{mA}$		0.8	1.1	V
f_T	Transition frequency	$V_{CE}=2\text{V}$, $I_C=10\text{mA}$ $f=100\text{MHz}$		320		MHz

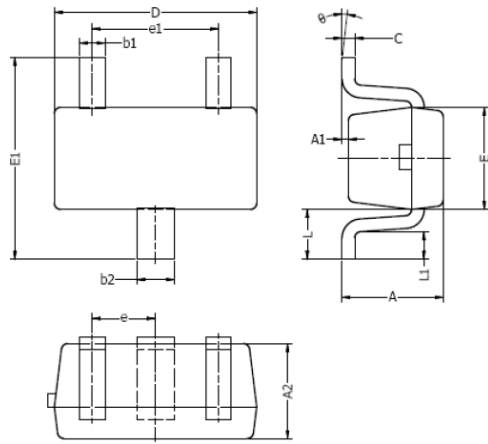


Typical Performance Characteristics



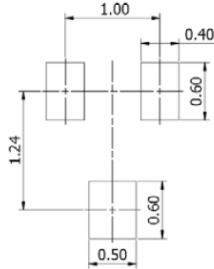


➤ Package Outline



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.70	0.90	0.028	0.035
A1	0.00	0.10	0.000	0.004
A2	0.70	0.80	0.028	0.031
b1	0.15	0.25	0.006	0.010
b2	0.25	0.35	0.010	0.014
c	0.10	0.20	0.004	0.008
D	1.50	1.70	0.059	0.067
E	0.70	0.90	0.028	0.035
E1	1.45	1.75	0.057	0.069
e	0.50 TYP.		0.020 TYP.	
e1	0.90	1.10	0.035	0.043
L	0.40 REF.		0.016 REF.	
L1	0.10	0.30	0.004	0.012
theta	0°	8°	0°	8°

Typical Soldering Pattern:



NOTES:

1. Above package outline conforms to JEITA EAIJ ED-7500A SC-75A.
2. Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

SOT-523

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