



SSCN2222AGS8

High Frequency High Gain NPN Power BJT

➤ Features

VCB	VCE	VEB	IC
75V	40V	6V	600mA

➤ Description

This product is general usage and suitable for many different applications. It can be used for medium power amplifiers and switches requiring collector currents up to 600 mA.

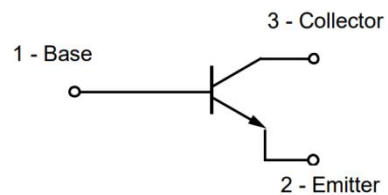
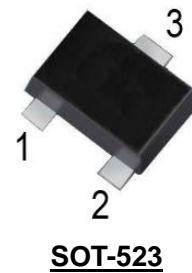
➤ Applications

- Low current and high precision circuits such preamplifiers, oscillators, current mirror configuration
- Medium power amplification and switching

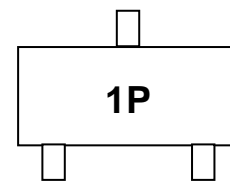
➤ Ordering Information

Device	Package	Shipping
SSCN2222AGS8	SOT-523	3000/Reel

➤ Pin configuration



Circuit Diagram



Marking (Top View)



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

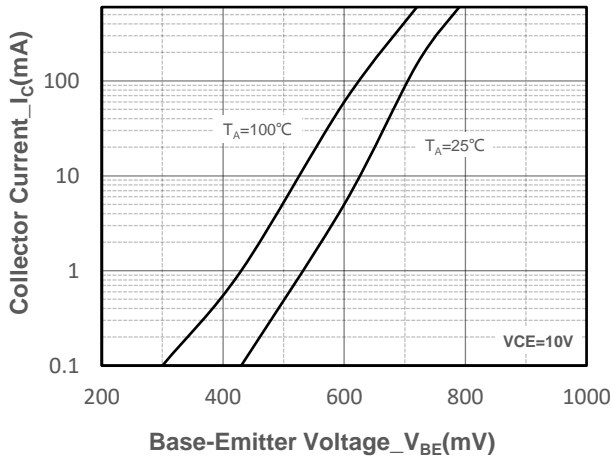
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CB0}	75	V
Collector- Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current-Continuous	I_C	600	mA
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 to 150	$^{\circ}\text{C}$

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

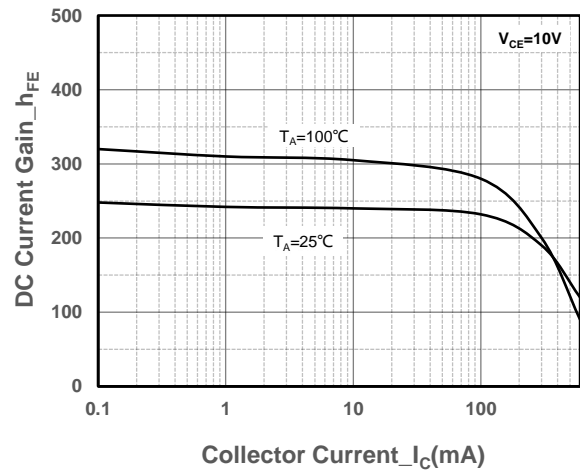
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	BV_{CB0}	$I_C=0.1\text{mA}, I_E=0$	75			V
Collector-emitter Breakdown Voltage	BV_{CEO}	$I_C=1\text{mA}, I_B=0$	40			V
Emitter -Base Breakdown Voltage	BV_{EBO}	$I_E=0.1\text{mA}, I_C=0$	6			V
Collector Cutoff Current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0$			0.01	μA
Collector Cutoff Current	I_{CEX}	$V_{CE}=60\text{V}, V_{BE}=3\text{V}$			0.01	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=3\text{V}, I_C=0$			0.01	μA
DC Current Gain	h_{FE1}	$V_{CE}=10\text{V}, I_C=150\text{mA}$	100		300	
	h_{FE2}	$V_{CE}=10\text{V}, I_C=0.1\text{mA}$	40			
	h_{FE3}	$V_{CE}=10\text{V}, I_C=500\text{mA}$	40			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$			1.0	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$			2.0	V
Transition frequency	f_T	$V_{CE}=20\text{V}, I_C=20\text{mA}$ $f=100\text{MHz}$	250			MHz
Delay Time	t_d	$V_{CC}=30\text{V}, I_C=150\text{mA},$ $I_{B1}=15\text{mA}$			10	ns
Rise Time	t_r	$V_{CC}=30\text{V}, I_C=150\text{mA},$ $I_{B1}=15\text{mA}$			25	ns
Storage Time	t_s	$V_{CC}=30\text{V}, I_C=150\text{mA},$ $I_{B1}= I_{B2}=15\text{mA}$			225	ns
Fall Time	t_f	$V_{CC}=30\text{V}, I_C=150\text{mA},$ $I_{B1}= I_{B2}=15\text{mA}$			60	ns



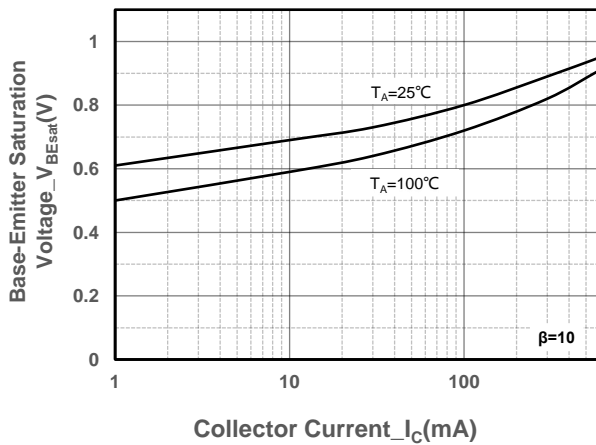
Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)



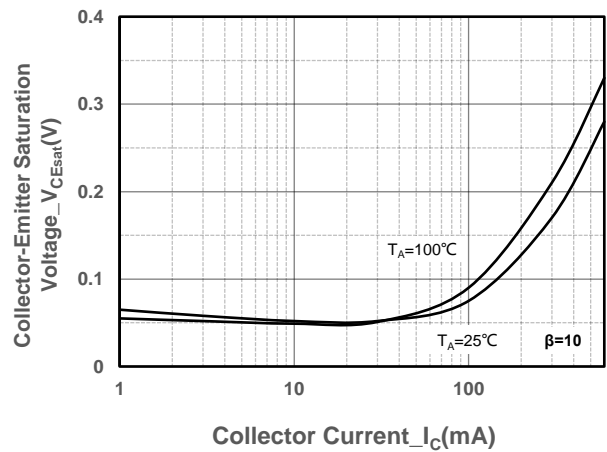
Collector Current vs. Base-Emitter Voltage



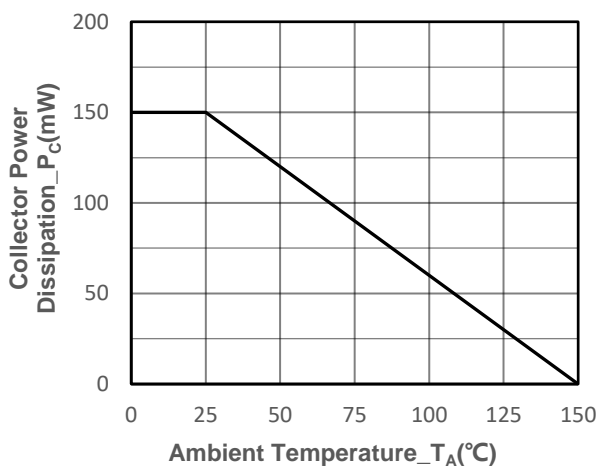
DC Current Gain vs. Collector Current



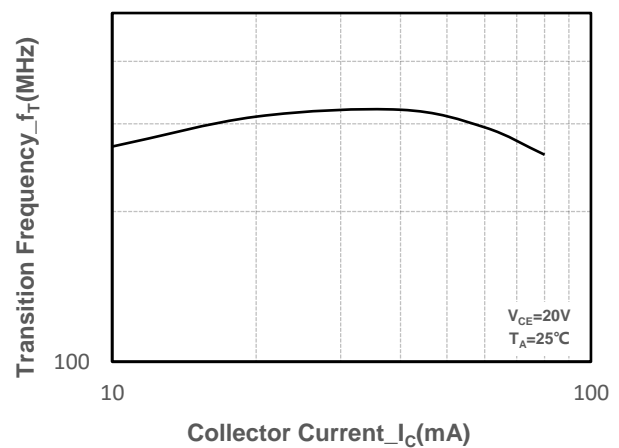
$V_{BE(sat)}$ vs. Collector Current



$V_{CE(sat)}$ vs. Collector Current



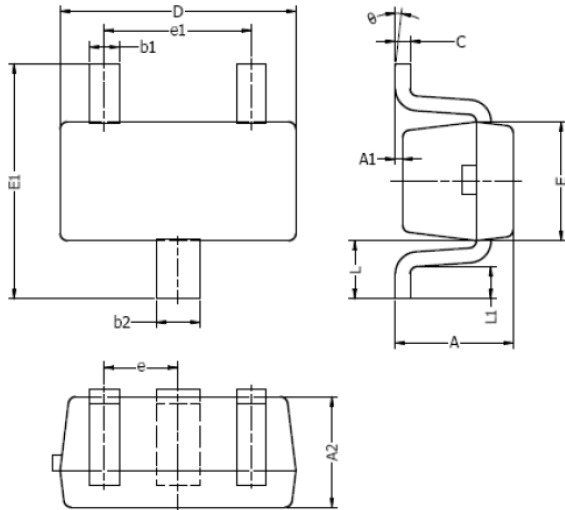
Power derating vs. Ambient temperature



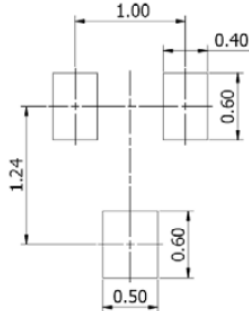
Transition Frequency vs. Collector Current

➤ Package Information

SOT-523



Typical Soldering Pattern:



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
θ	0°	8°	0°	8°

NOTES:

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

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