



SSCN2222AGS7

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

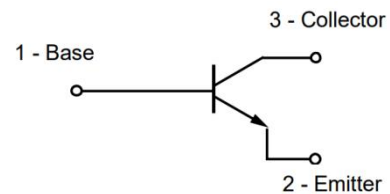
➤ Ordering Information

Device	Package	Shipping
SSCN2222AGS7	SOT-323	3000/Reel

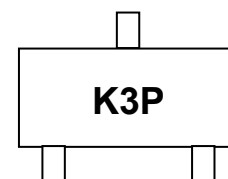
➤ Pin configuration



SOT-323



Circuit Diagram



Marking(Top View)



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

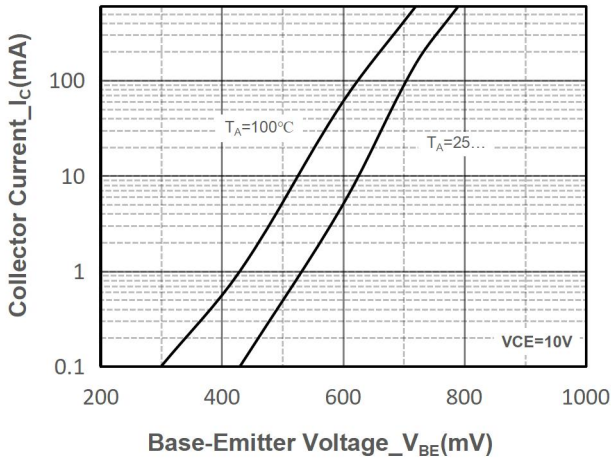
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	75	V
Collector- Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current-Continuous	I_C	600	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 to 150	$^{\circ}\text{C}$

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

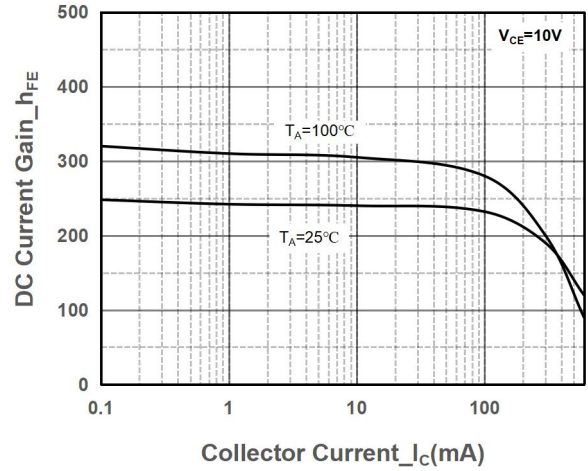
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=0.1\text{mA}, I_E=0$	75			V
Collector-emitter Breakdown Voltage	BV_{CEO}	$I_C=1\text{mA}, I_B=0$	40			V
Emitter -Base Breakdown Voltage	BV_{EBO}	$I_E=0.1\text{mA}, I_C=0$	6			V
Collector Cutoff Current	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



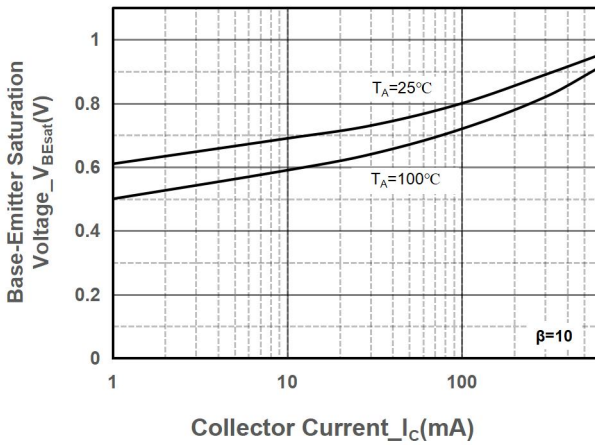
➤ Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)



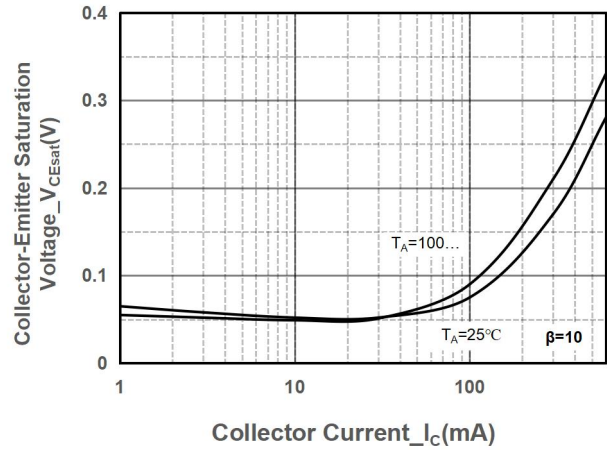
Collector Current vs. Base-Emitter Voltage



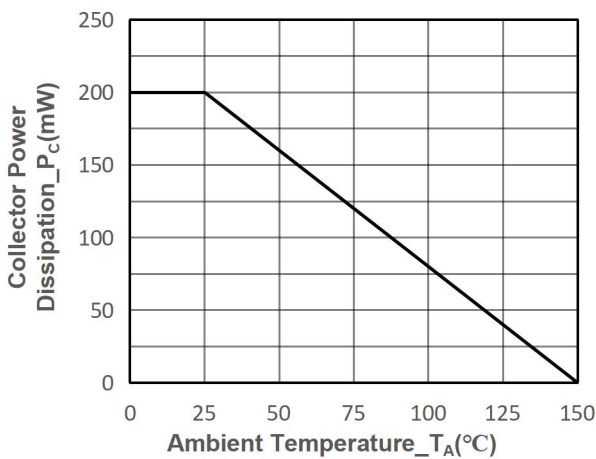
DC Current Gain vs. Collector Current



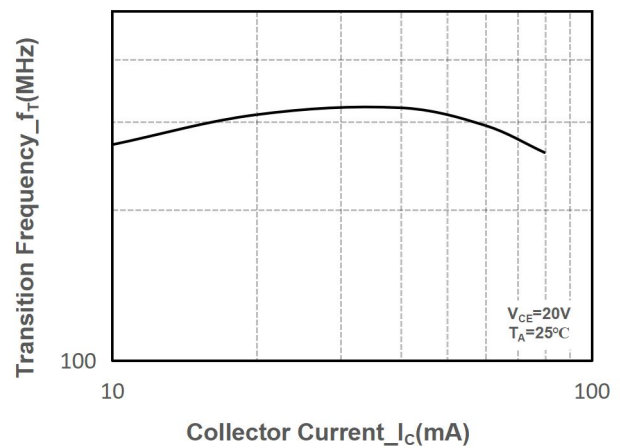
$V_{BE(sat)}$ vs. Collector Current



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

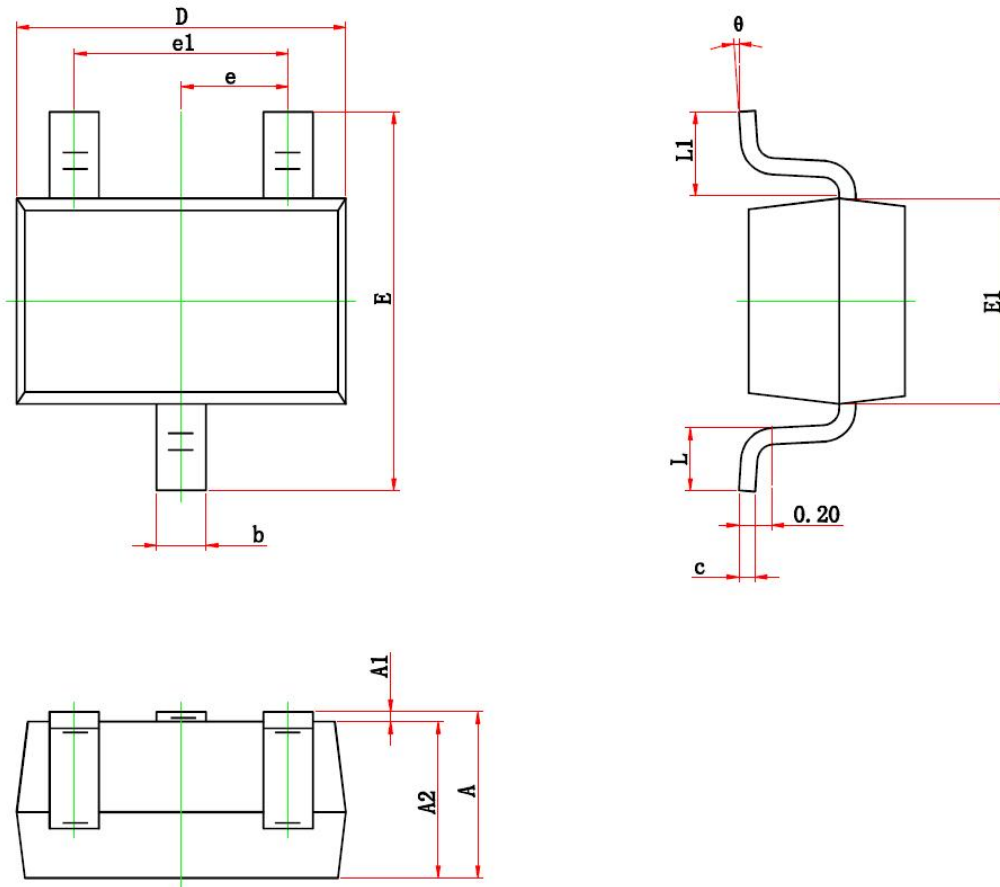


Power derating vs. Ambient temperature



Transition Frequency vs. Collector Current

➤ Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	2.150	2.450	0.085	0.096
E1	1.150	1.350	0.045	0.053
e	0.650 TYP.		0.026 TYP.	
e1	1.200	1.400	0.047	0.055
L	0.260	0.460	0.010	0.018
L1	0.525 REF.		0.021 REF.	
θ	0°	8°	0°	8°



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