



## SSCN5551GS7

### High Frequency High Gain NPN Power BJT

#### ➤ Features

VCB	VCE	VEB	IC
180V	160V	6V	600mA

#### ➤ Description

This device is designed for general-purpose high-voltage amplifiers and gas discharge display drivers. It is Ideal for medium power amplification and switching.

#### ➤ Applications

- General-purpose high-voltage amplifiers
- Gas discharge display drivers
- Medium power amplification and switching

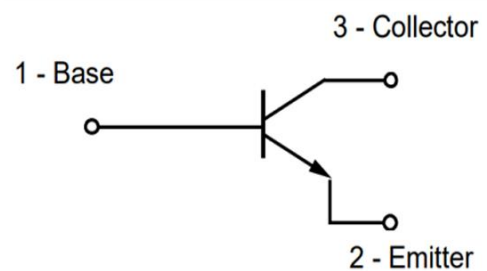
#### ➤ Ordering Information

Device	Package	Shipping
SSCN5551GS7	SOT-323	3000/Reel

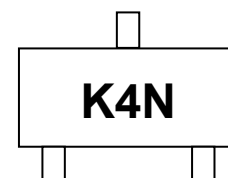
#### ➤ Pin configuration



**SOT-323**



**Circuit Diagram**



**Marking(Top View)**



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

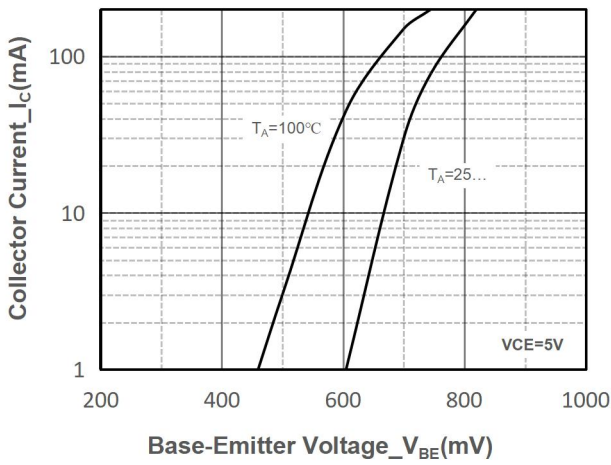
Parameter	Symbol	Value	Unit
Collector-Base Voltage	$V_{CB0}$	180	V
Collector- Emitter Voltage	$V_{CEO}$	160	V
Emitter-Base Voltage	$V_{EBO}$	6	V
Collector Current-Continuous	$I_C$	600	mA
Collector Power Dissipation	$P_C$	200	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	625	$^{\circ}\text{C}/\text{W}$
Junction Temperature	$T_J$	-55 to 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)

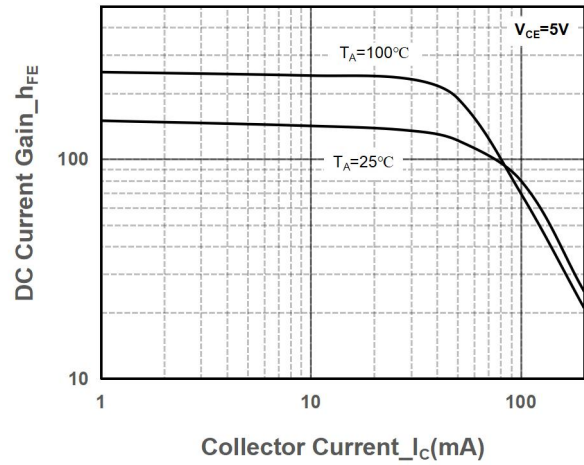
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$BV_{CB0}$	$I_C=0.1\text{mA}, I_E=0$	180			V
Collector-emitter Breakdown Voltage	$BV_{CEO}$	$I_C=1\text{mA}, I_B=0$	160			V
Emitter -Base Breakdown Voltage	$BV_{EBO}$	$I_E=0.1\text{mA}, I_C=0$	6			V
Collector Cutoff Current	$I_{CB0}$	$V_{CB}=120\text{V}, I_E=0$			0.05	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=4\text{V}, I_C=0$			0.05	$\mu\text{A}$
DC Current Gain	$h_{FE1}$	$V_{CE}=5\text{V}, I_C=1\text{mA}$	80			
	$h_{FE2}$	$V_{CE}=5\text{V}, I_C=10\text{mA}$	100		300	
	$h_{FE3}$	$V_{CE}=5\text{V}, I_C=50\text{mA}$	30			
Collector-Emitter Saturation Voltage	$V_{CE(sat)1}$	$I_C=10\text{mA}, I_B=1\text{mA}$			0.15	V
	$V_{CE(sat)2}$	$I_C=50\text{mA}, I_B=5\text{mA}$			0.2	V
Base-Emitter Saturation Voltage	$V_{BE(sat)1}$	$I_C=10\text{mA}, I_B=1\text{mA}$			1.0	V
	$V_{BE(sat)2}$	$I_C=50\text{mA}, I_B=5\text{mA}$			1.0	V
Output Capacitance	$C_{ob}$	$V_{CB}=10\text{V}, I_E=0,$ $f=1\text{MHz}$			6	pF
Transition frequency	$f_T$	$V_{CE}=10\text{V}, I_C=10\text{mA}$ $f=100\text{MHz}$	100		300	MHz



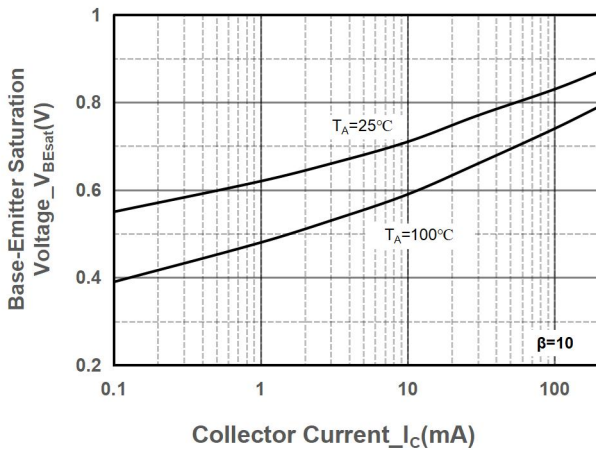
➤ Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise noted)



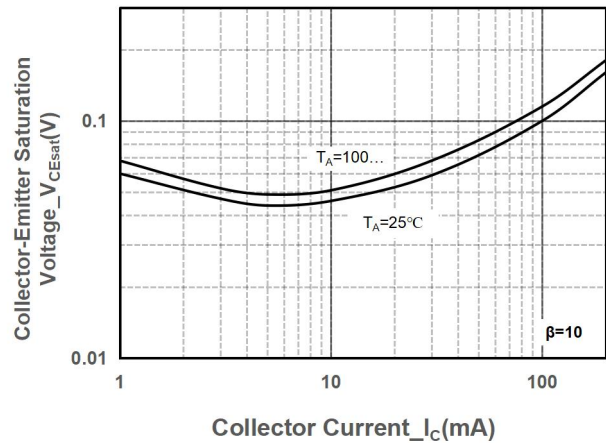
Collector Current vs. Base-Emitter Voltage



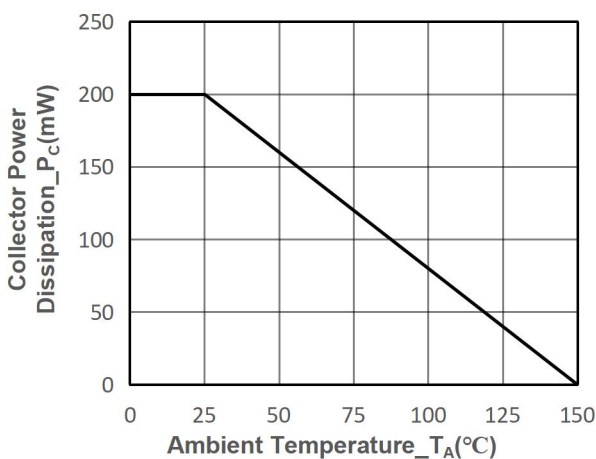
DC Current Gain vs. Collector Current



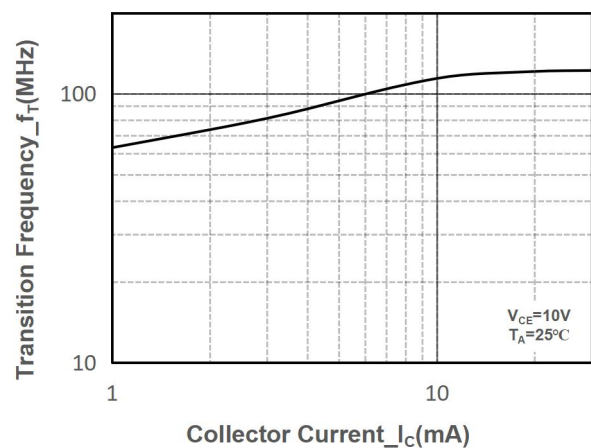
$V_{BE(sat)}$  vs. Collector Current



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



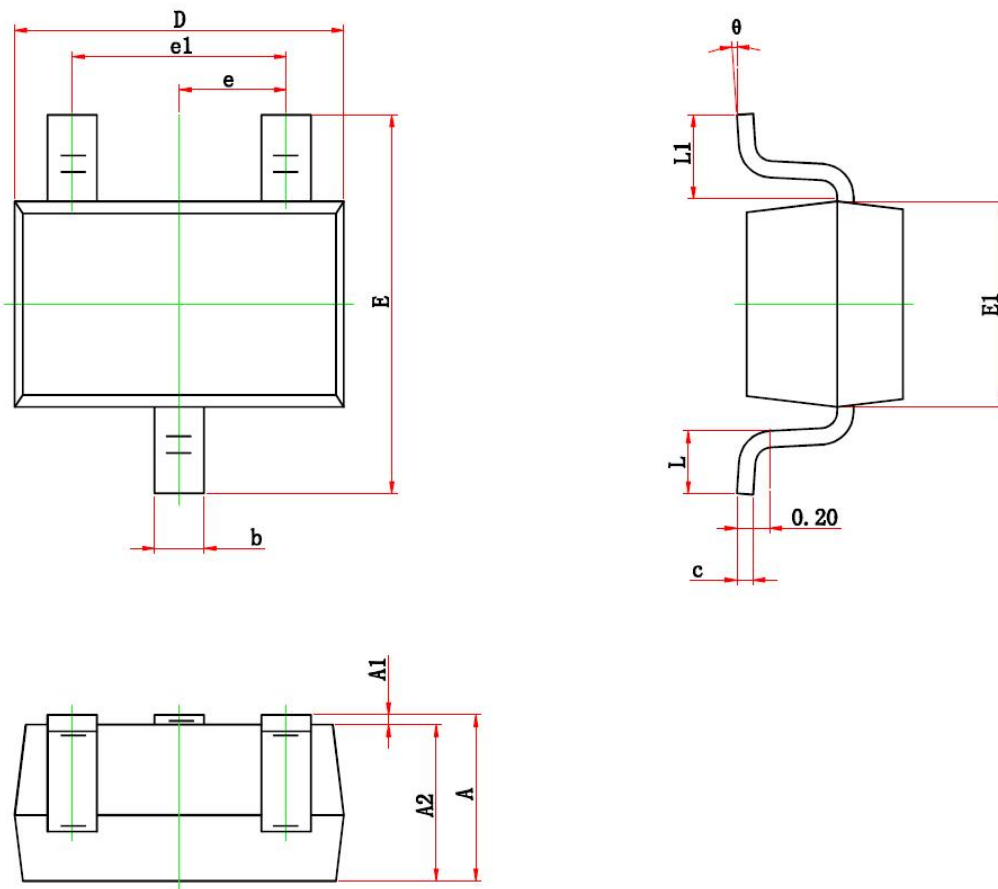
Power derating vs. Ambient temperature



Transition Frequency vs. Collector Current

## Package Information

### SOT-323



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.	
$\theta$	0°	8°	0°	8°



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