



## SSCN5551GSG

High Frequency High Gain NPN Power BJT

### ➤ Features

VCB	VCE	VEB	IC
180V	160V	6V	200mA

### ➤ 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

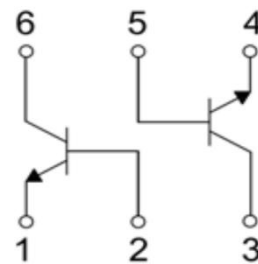
### ➤ Ordering Information

Device	Package	Shipping
SSCN5551GSG	SOT-363	3000/Reel

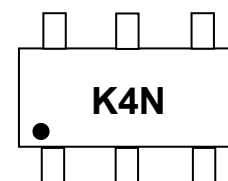
### ➤ Pin configuration



**SOT-363**



**Circuit Diagram**



**Marking(Top View)**



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

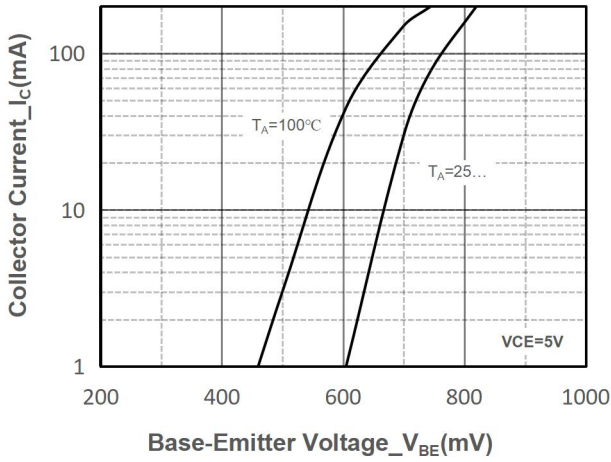
Parameter	Symbol	Value	Unit
Collector-Base Voltage	$V_{CB0}$	180	V
Collector- Emitter Voltage	$V_{CE0}$	160	V
Emitter-Base Voltage	$V_{EB0}$	6	V
Collector Current-Continuous	$I_C$	200	mA
Collector Power Dissipation	$P_C$	200	mW
Junction Temperature	$T_J$	-55 to 150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 to 150	$^{\circ}\text{C}$

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

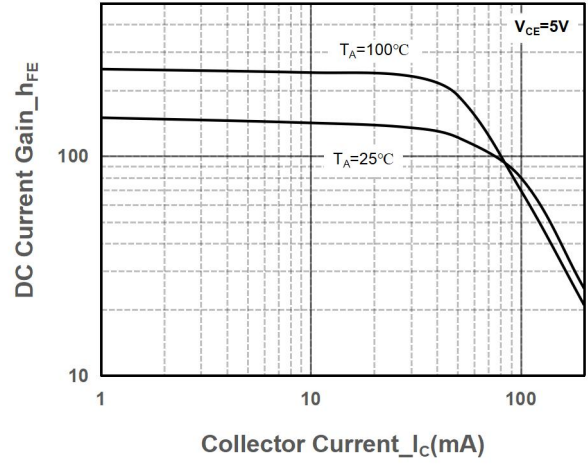
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$BV_{CB0}$	$I_C=0.1\text{mA}, I_E=0$	180			V
Collector-emitter Breakdown Voltage	$BV_{CE0}$	$I_C=1\text{mA}, I_B=0$	160			V
Emitter -Base Breakdown Voltage	$BV_{EB0}$	$I_E=0.1\text{mA}, I_C=0$	6			V
Collector Cutoff Current	$I_{CB0}$	$V_{CB}=120\text{V}, I_E=0$			0.05	$\mu\text{A}$
Emitter Cutoff Current	$I_{EB0}$	$V_{EB}=4\text{V}, I_C=0$			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
Noise Figure	NF	$V_{CE}=5\text{V}, I_C=-200\mu\text{A},$ $f=1\text{KHz}, R_s=1\text{K}\Omega$			8.0	dB
Transition frequency	$f_T$	$V_{CE}=10\text{V}, I_C=10\text{mA}$ $f=100\text{MHz}$	100		300	MHz



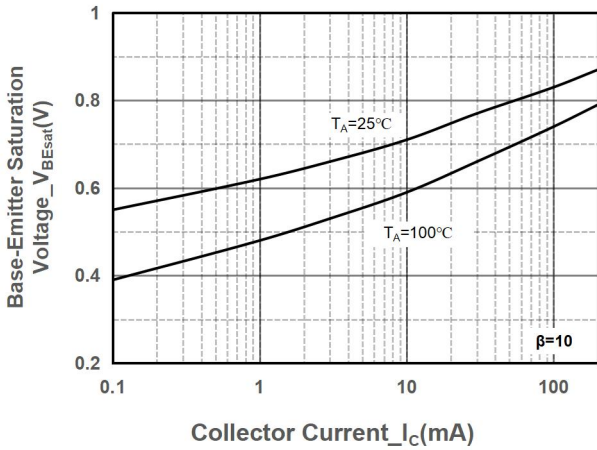
## ➤ Typical Performance Characteristics ( $T_A=25^\circ\text{C}$ unless otherwise noted)



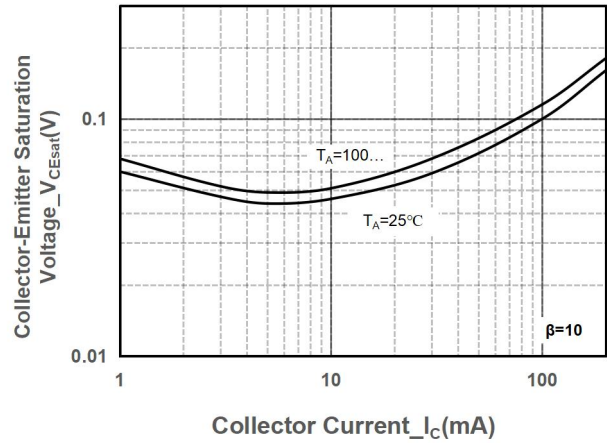
Collector Current vs. Base-Emitter Voltage



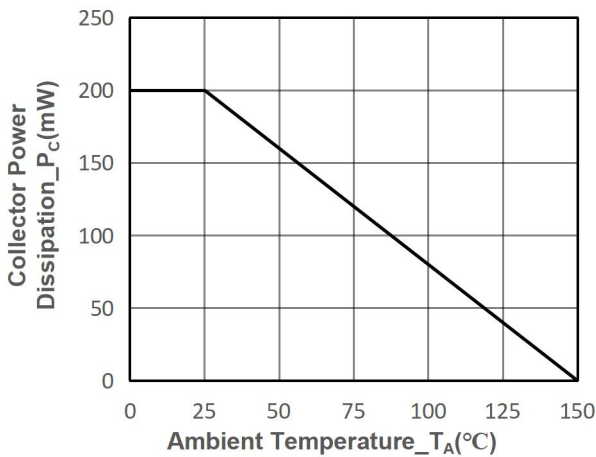
DC Current Gain vs. Collector Current



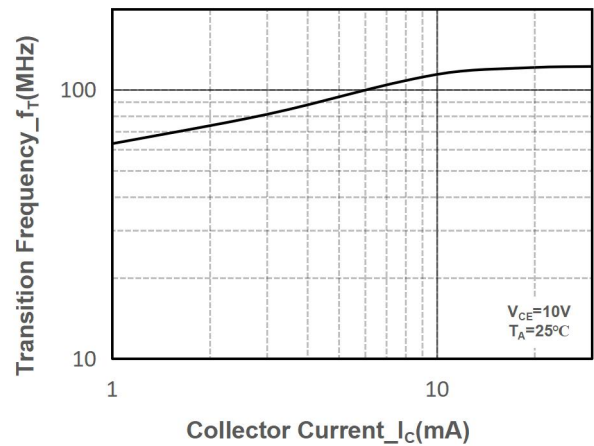
$V_{BE(sat)}$  vs. Collector Current



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



Power derating vs. Ambient temperature

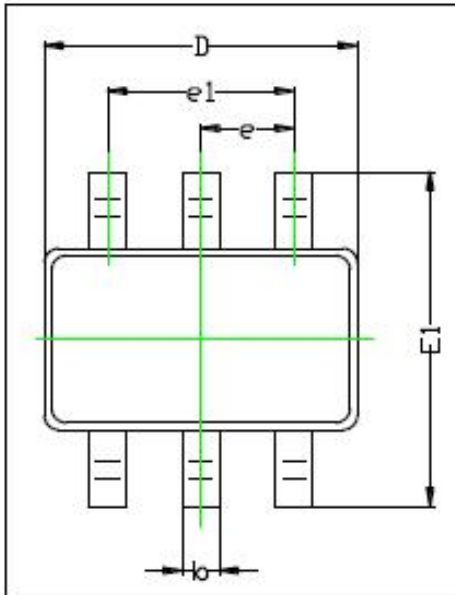


Transition Frequency vs. Collector Current

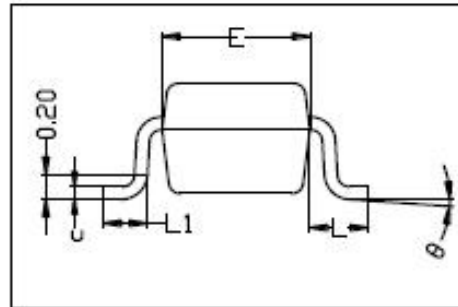
## Package Information

### SOT-363

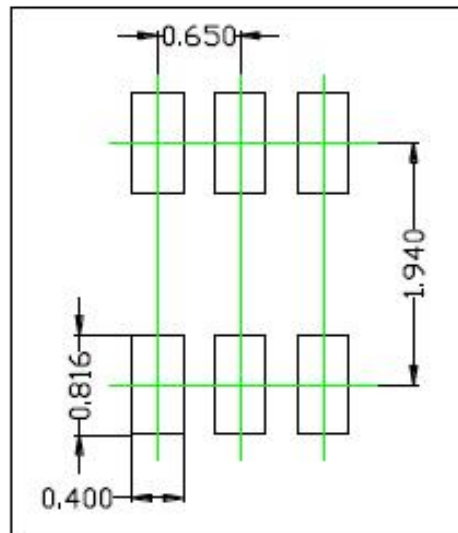
TOP VIEW



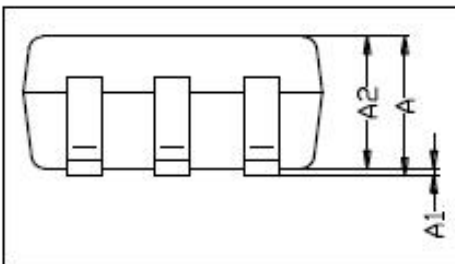
SIDE VIEW



SOLDERING PATTERN



FRONT VIEW



SYMBOL	DIMENSIONS IN MILLIMETER	
	MIN	MAX
A	0.900	1.000
A1	0.000	0.100
A2	0.900	1.000
b	0.150	0.300
c	0.100	0.150
D	2.000	2.200
E	1.150	1.350
E1	2.150	2.400
e	0.650 TYP.	
e1	1.200	1.400
L	0.525 REF.	
L1	0.260	0.450
$\theta$	0°	8°



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