# 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

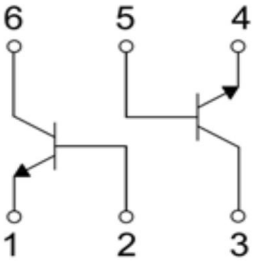
- General-purpose high-voltage amplifiers
- Gas discharge display drivers
- Medium power amplification and switching

### ➢ Ordering Information

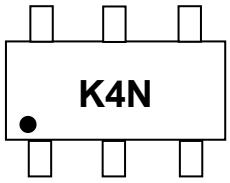
| Device | Package | Shipping |
|---|---|---|
| SSCN5551GSG | SOT-363 | 3000/Reel |

### ➢ Pin configuration


**SOT-363**




**Circuit Diagram**




**Marking(Top View)**

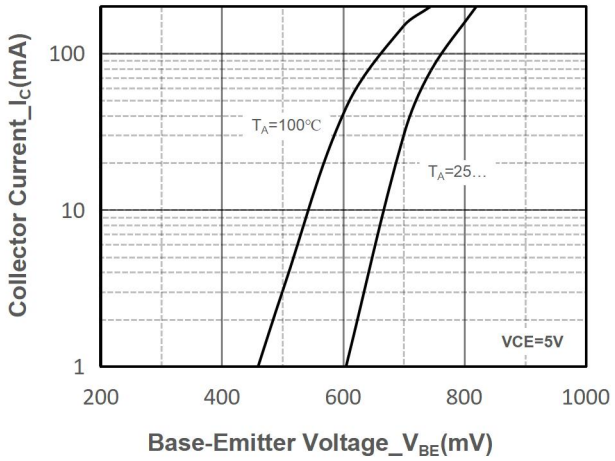
## ➢ Absolute Maximum Ratings($T_A$=25℃ unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Collector-Base Voltage | $V_{CBO}$ | 180 | V |
| Collector- Emitter Voltage | $V_{CEO}$ | 160 | V |
| Emitter-Base Voltage | $V_{EBO}$ | 6 | V |
| Collector Current-Continuous | $I_C$ | 200 | mA |
| Collector Power Dissipation | $P_C$ | 200 | mW |
| Junction Temperature | $T_J$ | -55 to 150 | ℃ |
| Storage Temperature | $T_{STG}$ | -55 to 150 | ℃ |

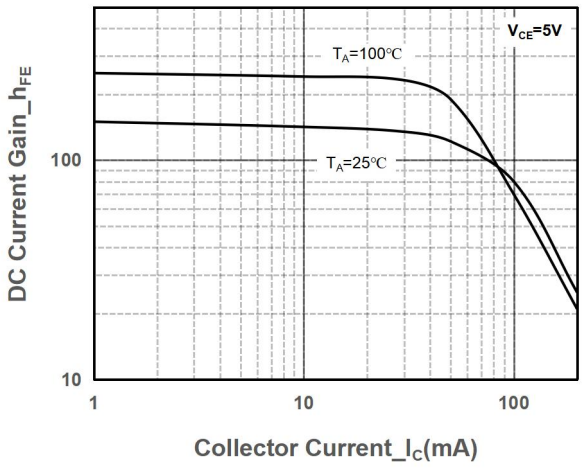
## ➢ Electrical Characteristics ($T_A$=25℃ unless otherwise noted)

| Parameter | Symbol | Test Conditions | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Collector-Base Breakdown Voltage | $BV_{CBO}$ | $I_C$=0.1mA, $I_E$=0 | 180 | | | V |
| Collector-emitter Breakdown Voltage | $BV_{CEO}$ | $I_C$=1mA, $I_B$=0 | 160 | | | V |
| Emitter -Base Breakdown Voltage | $BV_{EBO}$ | $I_E$=0.1mA, $I_C$=0 | 6 | | | V |
| Collector Cutoff Current | $I_{CBO}$ | $V_{CB}$=120V, $I_E$=0 | | | 0.05 | μA |
| Emitter Cutoff Current | $I_{EBO}$ | $V_{EB}$=4V, $I_C$=0 | | | 0.05 | μA |
| DC Current Gain | $h_{FE1}$ | $V_{CE}$=5V, $I_C$=1mA | 80 | | | |
| | $h_{FE2}$ | $V_{CE}$=5V, $I_C$=10mA | 100 | | 300 | |
| | $h_{FE3}$ | $V_{CE}$=5V, $I_C$=50mA | 30 | | | |
| Collector-Emitter Saturation Voltage | $V_{CE\ (sat)1}$ | $I_C$=10mA, $I_B$=1mA | | | 0.15 | V |
| | $V_{CE\ (sat)2}$ | $I_C$=50mA, $I_B$=5mA | | | 0.2 | V |
| Base-Emitter Saturation Voltage | $V_{BE\ (sat)1}$ | $I_C$=10mA, $I_B$=1mA | | | 1.0 | V |
| | $V_{BE\ (sat)2}$ | $I_C$=50mA, $I_B$=5mA | | | 1.0 | V |
| Output Capacitance | Cob | VCB=10V, IE=0, f=1MHz | | | 6 | pF |
| Noise Figure | NF | VCE=5V, IC=-200uA, f=1KHz, Rs=1KΩ | | | 8.0 | dB |
| Transition frequency | $f_T$ | $V_{CE}$=10V, $I_C$=10mA f=100MHz | 100 | | 300 | MHz |

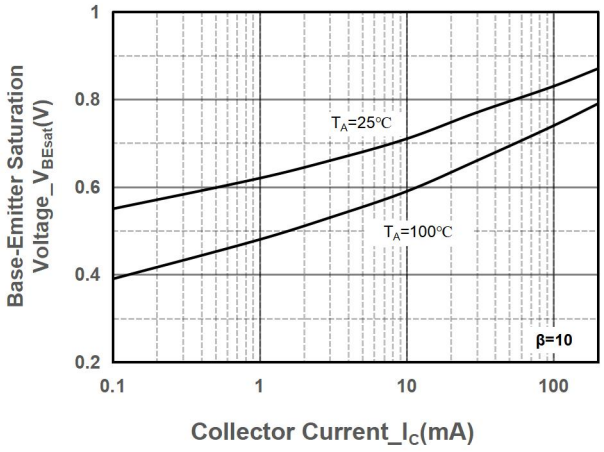
## ➢ Typical Performance Characteristics ($T_A$=25℃ unless otherwise noted)



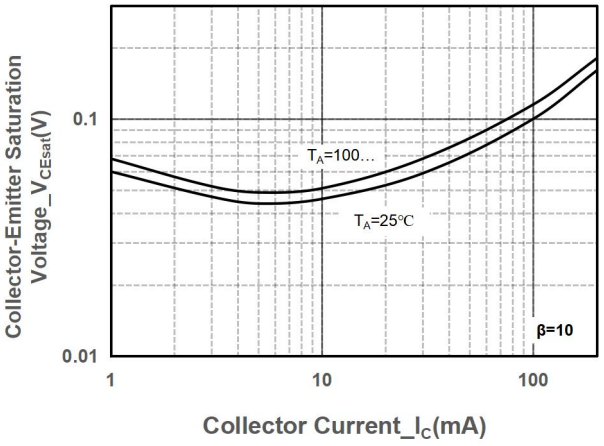

**Collector Current vs. Base-Emitter Voltage**



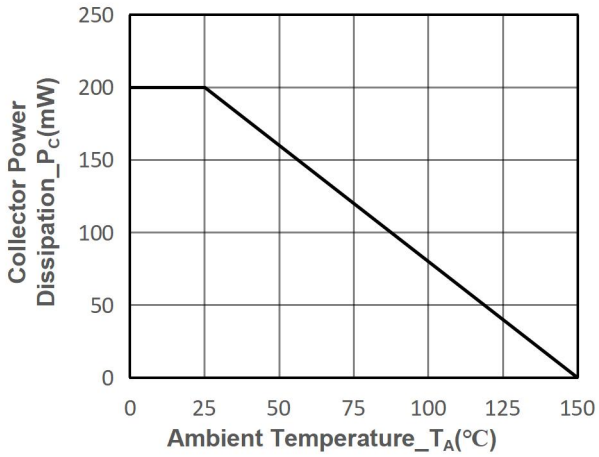

**DC Current Gain vs. Collector Current**



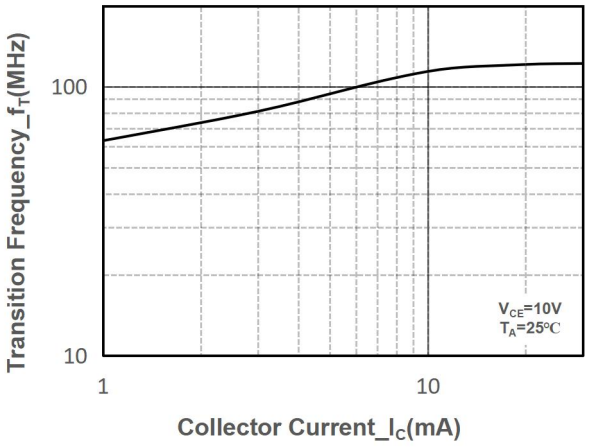

**$V_{BE(sat)}$ vs. Collector Current**




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




**Power derating vs. Ambient temperature**

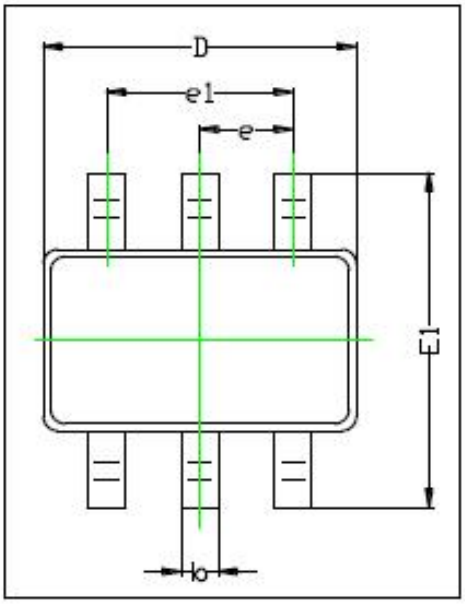



**Transition Frequency vs. Collector Current**

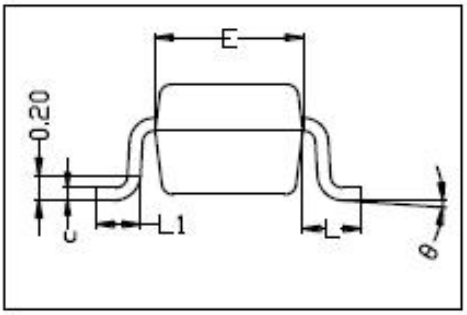
## ➢ Package Information

**SOT-363**

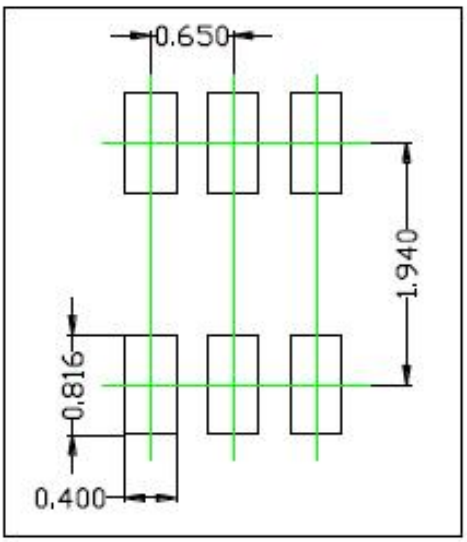
TOP VIEW



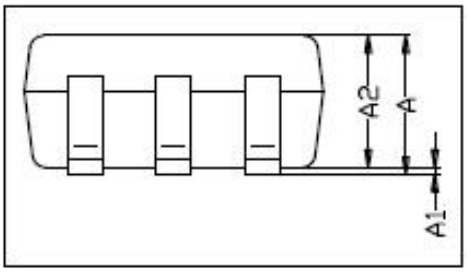

SIDE VIEW




SOLDRING 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 |
| θ | 0° | 8° |

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