# SSCN847SGSG

## High Frequency High Gain DUAL NPN Power BJT

### ➢ Features

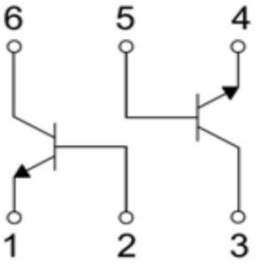
| VCB | VCE | VEB | IC |
|---|---|---|---|
| 50V | 45V | 6V | 100mA |

### ➢ Pin configuration


**SOT-363**

### ➢ 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.



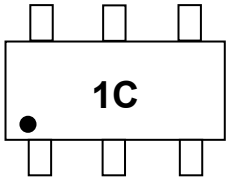

**Circuit Diagram**

### ➢ Applications

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

### ➢ Ordering Information

| Device | Package | Shipping |
|---|---|---|
| SSCN847SGSG | SOT-363 | 3000/Reel |




**Marking(Top View)**

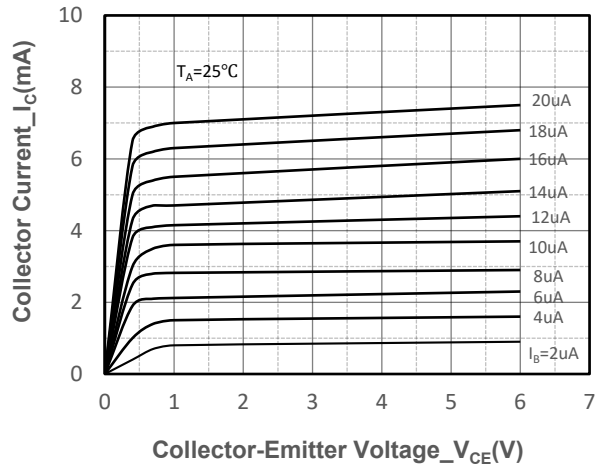
## ➢ Absolute Maximum Ratings($T_A$=25℃ unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Collector-Base Voltage | $V_{CBO}$ | 50 | V |
| Collector- Emitter Voltage | $V_{CEO}$ | 45 | V |
| Emitter-Base Voltage | $V_{EBO}$ | 6 | V |
| Collector Current-Continuous | $I_C$ | 100 | mA |
| Collector Power Dissipation | $P_C$ | 200 | mW |
| Junction Temperature | $T_J$ | -55 to 150 | ℃ |
| Storage Temperature | $T_{STG}$ | -55 to 150 | ℃ |

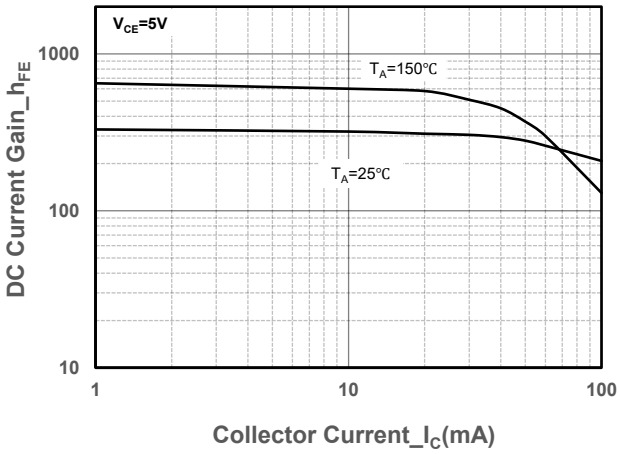
## ➢ Electrical Characteristics ($T_A$=25℃ unless otherwise noted)

| Parameter | Symbol | Test Conditions | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Collector-Base Breakdown Voltage | $BV_{CBO}$ | $I_C$=10uA, $I_E$=0 | 50 | | | V |
| Collector-emitter Breakdown Voltage | $BV_{CEO}$ | $I_C$=1mA, $I_B$=0 | 45 | | | V |
| Emitter -Base Breakdown Voltage | $BV_{EBO}$ | $I_E$=10uA, $I_C$=0 | 6 | | | V |
| Collector Cutoff Current | $I_{CBO}$ | $V_{CB}$=30V, $I_E$=0 | | | 15 | nA |
| Emitter Cutoff Current | $I_{EBO}$ | $V_{EB}$=4V, $I_C$=0 | | | 15 | nA |
| DC Current Gain | $h_{FE}$ | $V_{CE}$=5V, $I_C$=2mA | 110 | | 630 | |
| Collector-Emitter Saturation Voltage | $V_{CE\ (sat)1}$ | $I_C$=10mA, $I_B$=0.5mA | | | 0.25 | V |
| | $V_{CE\ (sat)2}$ | $I_C$=100mA, $I_B$=5mA | | | 0.65 | V |
| Base-Emitter Saturation Voltage | $V_{BE\ (sat)1}$ | $V_{CE}$=5V, $I_C$=2mA | 0.58 | | 0.7 | V |
| | $V_{BE\ (sat)2}$ | $V_{CE}$=5V, $I_C$=10mA | | | 0.77 | V |
| Output Capacitance | Cob | $V_{CB}$=10V, IE=0, f=1MHz | | 2 | | pF |

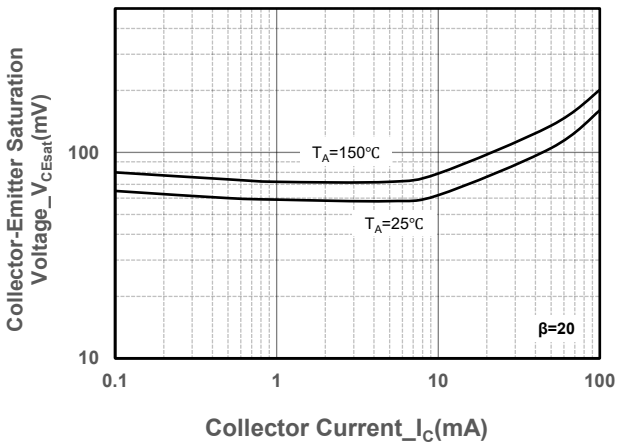
## ➢ Typical Performance Characteristics ($T_A$=25℃ unless otherwise noted)



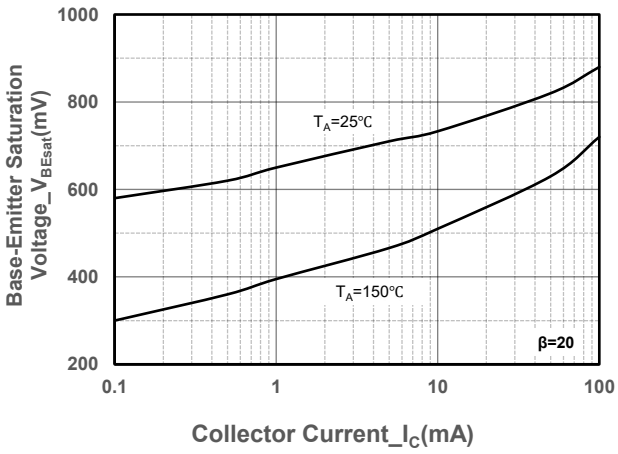

**Collector Current vs. Collector-Emitter Voltage**



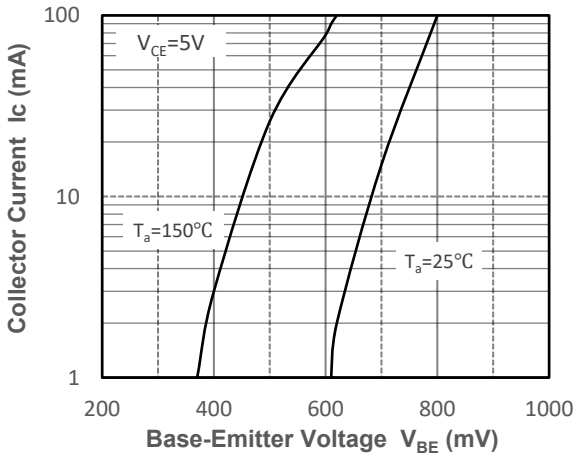

**DC Current Gain vs. Collector Current**



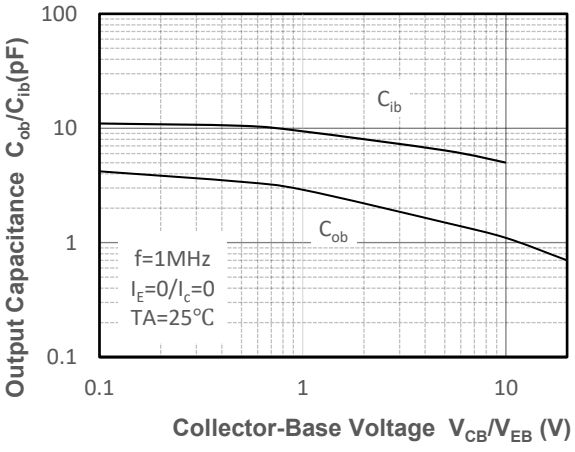

**$V_{CE(sat)}$ vs. Collector Current**



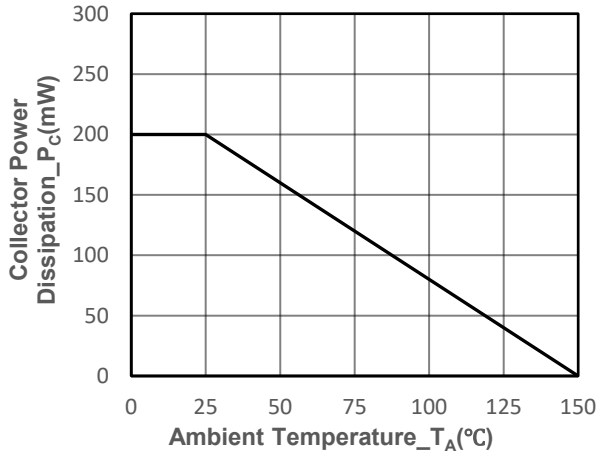

**$V_{BE(sat)}$ vs. Collector Current**




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



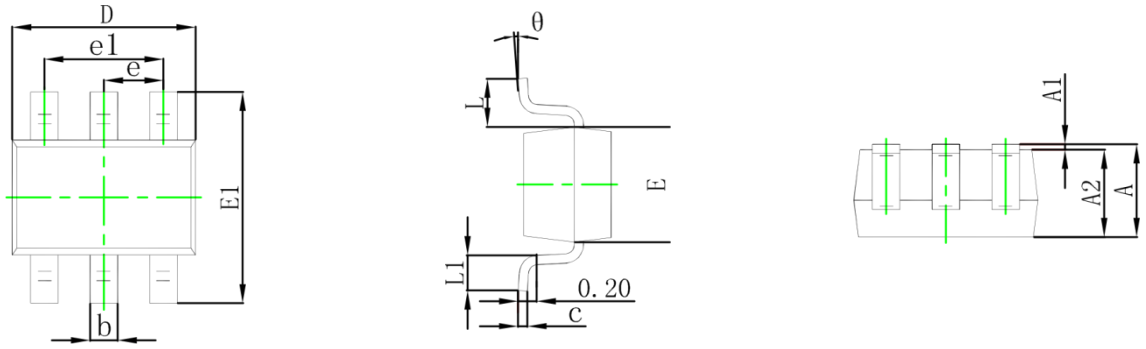

**Output Capacitance vs. Collector-Base Voltage**




**Power derating vs. Ambient temperature**

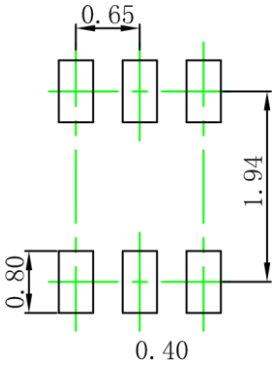
## ➢ Package Information

**SOT-363**




| 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 | 0.150 | 0.350 | 0.006 | 0.014 |
| c | 0.100 | 0.150 | 0.004 | 0.006 |
| D | 2.000 | 2.200 | 0.079 | 0.087 |
| E | 1.150 | 1.350 | 0.045 | 0.053 |
| E1 | 2.150 | 2.400 | 0.085 | 0.094 |
| e | 0.650 TYP | | 0.026 TYP | |
| e1 | 1.200 | 1.400 | 0.047 | 0.055 |
| L | 0.525 REF | | 0.021 REF | |
| L1 | 0.260 | 0.460 | 0.010 | 0.018 |
| θ | 0° | 8° | 0° | 8° |

## ➢ SOT-363 Suggested Pad Layout



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