# SSCP3906GS7

## PNP Switching Transistor

### ➢ Features

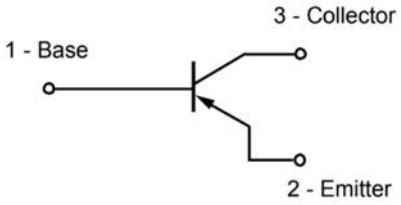
| VCB | VCE | VBE | VCESAT | IC |
|---|---|---|---|---|
| -40V | -40V | -5V | -400mV | -200mA |

### ➢ Pin configuration

SOT-323

### ➢ Description

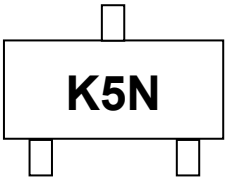
The PNP Transistor is designed for use in linear and switching applications. The device is housed in the SOT-323 package, which is designed for telephony and professional communication equipment.




Circuit Diagram

### ➢ Applications

- General purpose switching and amplification
- Telephony and professional communication equipment




Marking(Top View)

### ➢ Ordering Information

| Device | Package | Shipping |
|---|---|---|
| SSCP3906GS7 | SOT-323 | 3000/Reel |

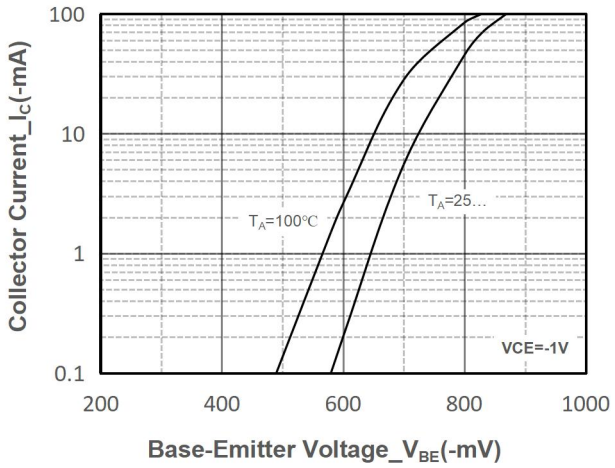
## ➢ Absolute Maximum Ratings($T_A$=25℃ unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Collector-Base Voltage | $V_{CBO}$ | -40 | V |
| Collector- Emitter Voltage | $V_{CEO}$ | -40 | V |
| Emitter-Base Voltage | $V_{EBO}$ | -5 | V |
| Collector Current-Continuous | $I_C$ | -200 | mA |
| Collector Power Dissipation | $P_C$ | 200 | mW |
| Junction Temperature | $T_J$ | 150 | ℃ |
| Storage Temperature | $T_{STG}$ | -55 to 150 | ℃ |

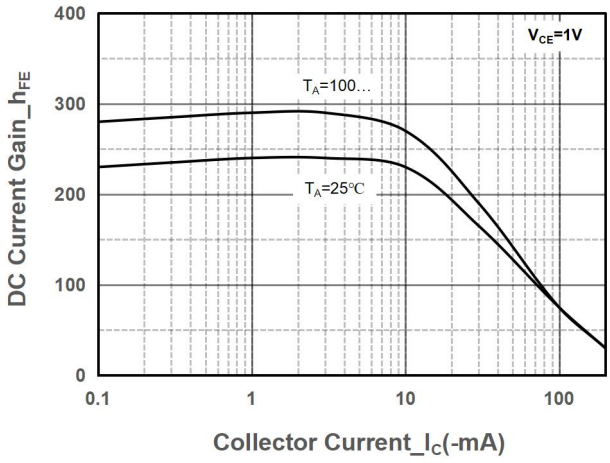
## ➢ Electrical Characteristics ($T_A$=25℃ unless otherwise noted)

| Parameter | Symbol | Test Conditions | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Collector-Base Breakdown Voltage | $BV_{CBO}$ | $I_C$=-10uA,$I_E$=0 | -40 | | | V |
| Collector-emitter Breakdown Voltage | $BV_{CEO}$ | $I_C$=-1mA,$I_B$=0 | -40 | | | V |
| Emitter -Base Breakdown Voltage | $BV_{EBO}$ | $I_E$=-10uA,$I_C$=0 | -5 | | | V |
| Collector Cutoff Current | $I_{CEX}$ | $V_{CE}$=-30V, $V_{EB}$=-3V | | | -50 | nA |
| Collector Cutoff Current | $I_{CBO}$ | $V_{CB}$=-30V,$I_E$=0 | | | -100 | nA |
| Emitter Cutoff Current | $I_{EBO}$ | $V_{EB}$=-3V,$I_C$=0 | | | -100 | nA |
| DC Current Gain | $h_{FE}$ | $V_{CE}$=-1V,$I_C$=-10mA | 100 | | 300 | |
| | | $V_{CE}$=-1V,$I_C$=-0.1mA | 60 | | | |
| | | $V_{CE}$=-1V,$I_C$=-100mA | 30 | | | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C$=-50mA,$I_B$=-5mA | | | -0.4 | V |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C$=-50mA,$I_B$=-5mA | | | -0.95 | V |
| Transition frequency | $f_T$ | $V_{CE}$=-20V,$I_C$=-10mA f=100MHz | 250 | | | MHz |
| Delay Time | $t_d$ | $V_{CC}$=-3V,$V_{BE}$=0.5V | | | 35 | ns |
| Rise Time | $t_r$ | $I_C$=-10mA,$I_{B1}$=-1mA | | | 35 | ns |
| Storage Time | $t_s$ | $V_{CC}$=-3V,$I_C$=-10mA | | | 225 | ns |
| Fall Time | $t_f$ | $I_{B1}$=-$I_{B2}$=-1mA | | | 75 | ns |

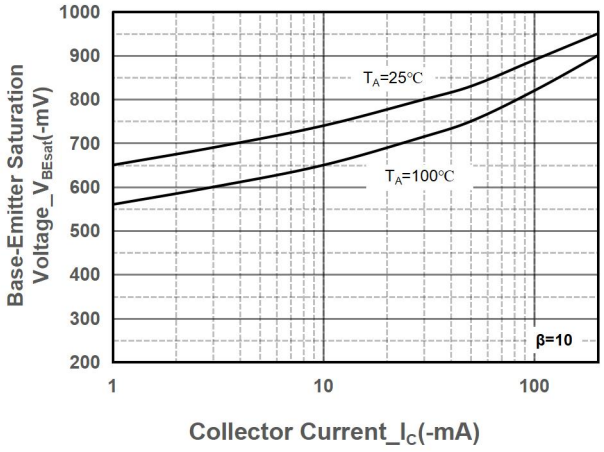
## ➢ Typical Performance Characteristics ($T_A$=25℃ unless otherwise noted)



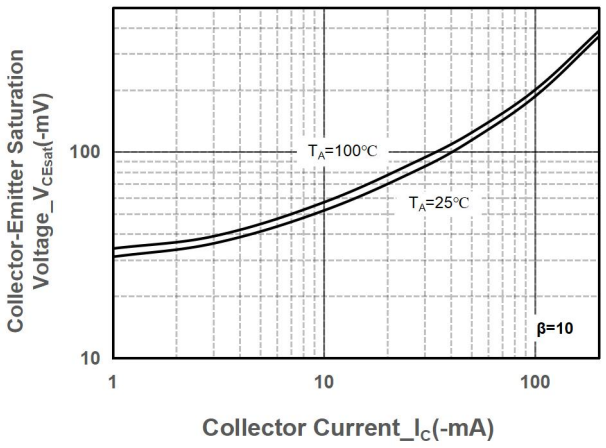

**Collector Current vs. Base-Emitter Voltage**



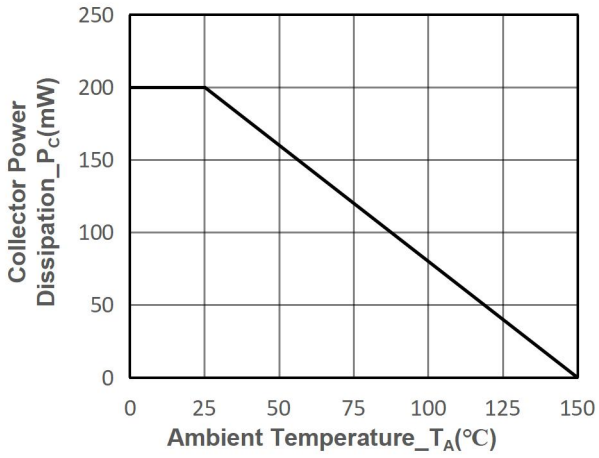

**DC Current Gain vs. Collector Current**



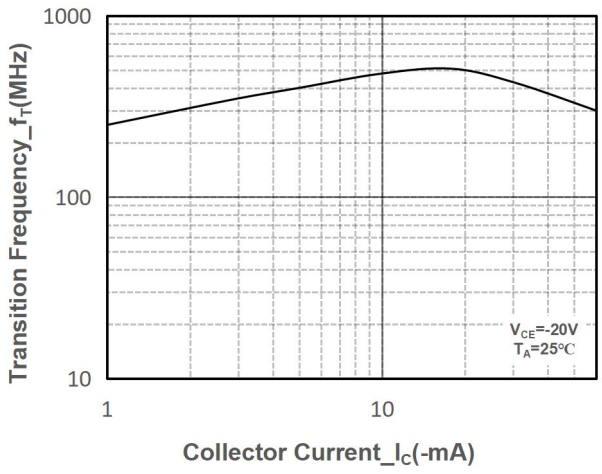

**$V_{BE(sat)}$ vs. Collector Current**




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

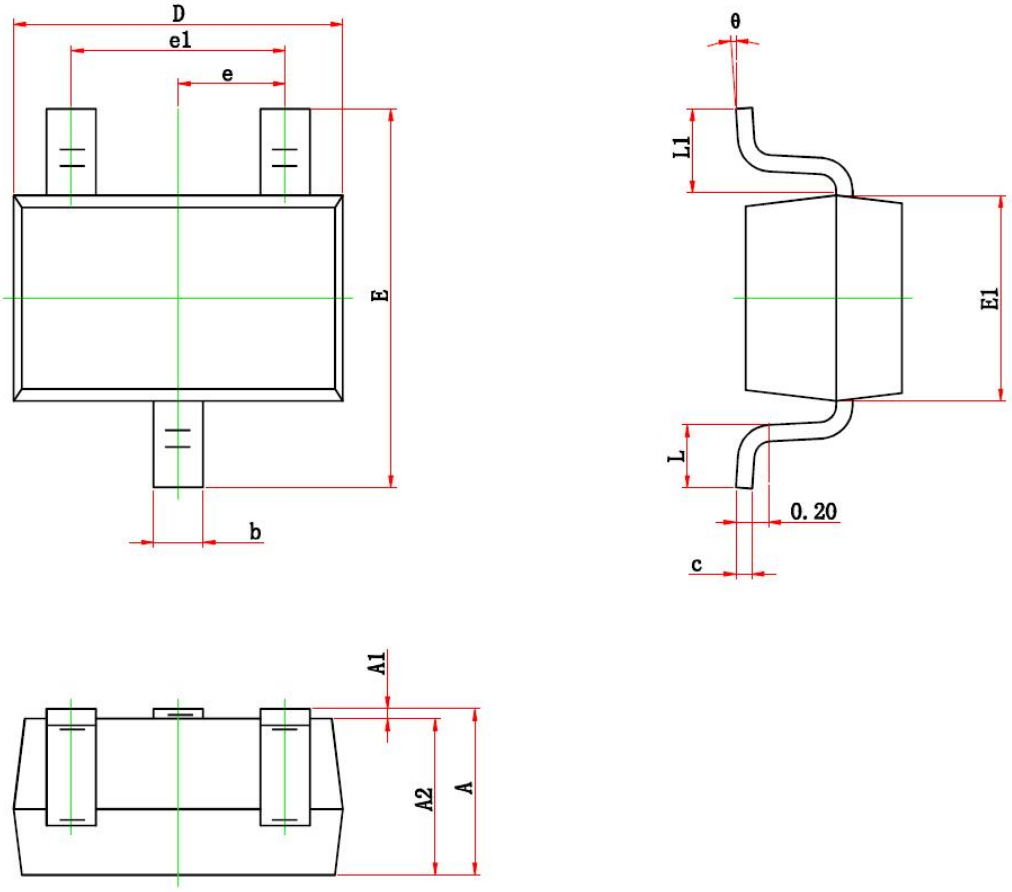



**Power derating vs. Ambient temperature**




**Transition Frequency vs. Collector Current**

- **Package Information**




| 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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