



## SSCN8050GS3

### NPN Switching Transistor

#### ➤ Features

VCB	VCE	VEB	IC
40V	25V	5V	1.5A

#### ➤ Description

The NPN Transistor is designed for use in linear and switching applications. The device is housed in the SOT89-3 package, which is designed for telephony and professional communication equipment.

#### ➤ Applications

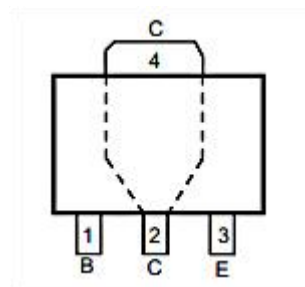
- General purpose switching and amplification
- Telephony and professional communication equipment

#### ➤ Ordering Information

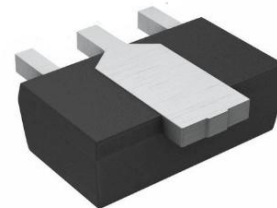
Device	Package	Shipping
SSCN8050GS3	SOT89-3L	3000/Reel

#### ➤ Pin configuration

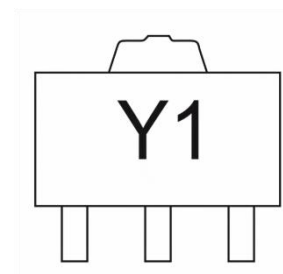
Top view



**SOT89-3L**



**Bottom view**



**Marking(Top View)**



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

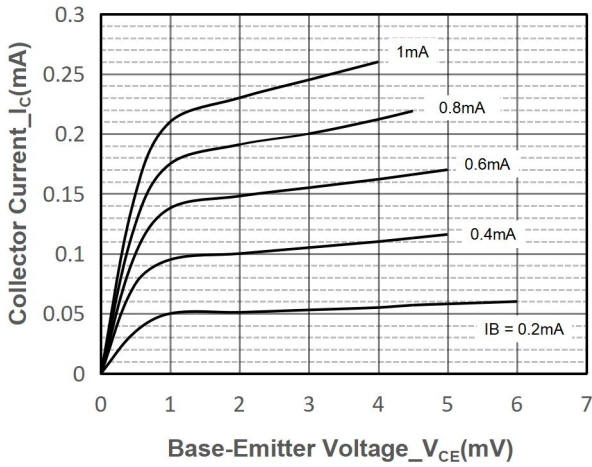
Parameter	Symbol	Value	Unit
Collector-Base Voltage	$V_{CB0}$	40	V
Collector- Emitter Voltage	$V_{CEO}$	25	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current-Continuous	$I_C$	1.5	A
Collector Power Dissipation	$P_C$	250	mW
Junction Temperature	$T_J$	-55 to 150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-55 to 150	$^\circ\text{C}$

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

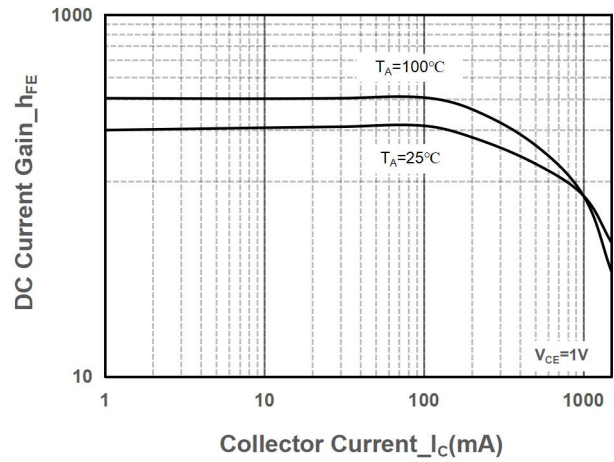
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$BV_{CB0}$	$I_C = 100\mu\text{A}, I_E = 0$	40			V
Collector-emitter Breakdown Voltage	$BV_{CEO}$	$I_C = 0.1\text{mA}, I_B = 0$	25			V
Emitter -Base Breakdown Voltage	$BV_{EBO}$	$I_E = 100\mu\text{A}, I_C = 0$	5			V
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 40\text{V}, I_E = 0$			0.1	$\mu\text{A}$
Emitter Cutoff Current	$I_{CEO}$	$V_{CE} = 20\text{V}, I_E = 0$			0.1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 5\text{V}, I_C = 0$			0.1	$\mu\text{A}$
DC Current Gain	$h_{FE1}$	$V_{CE} = 1\text{V}, I_C = 100\text{mA}$	85		400	
	$h_{FE2}$	$V_{CE} = 1\text{V}, I_C = 800\text{mA}$	40			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 800\text{mA}, I_B = 80\text{mA}$			0.5	V
Base-Emitter Saturation Base-Emitter	$V_{BE(sat)}$	$I_C = 800\text{mA}, I_B = 80\text{mA}$			1.2	V
Base-Emitter Voltage	$V_{BE}$	$V_{CE} = 1\text{V}, I_C = 10\text{mA}$			1	V
Transition frequency	$f_T$	$V_{CE} = 10\text{V}, I_C = 50\text{mA}$ $f = 30\text{MHz}$	100			MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10\text{V}, I_E = 0,$ $f = 1\text{MHz}$			15	pF



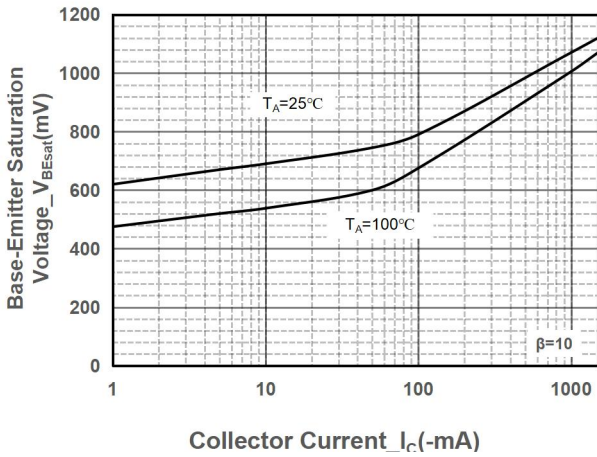
➤ **Typical Performance Characteristics ( $T_A = 25^\circ\text{C}$  unless otherwise noted)**



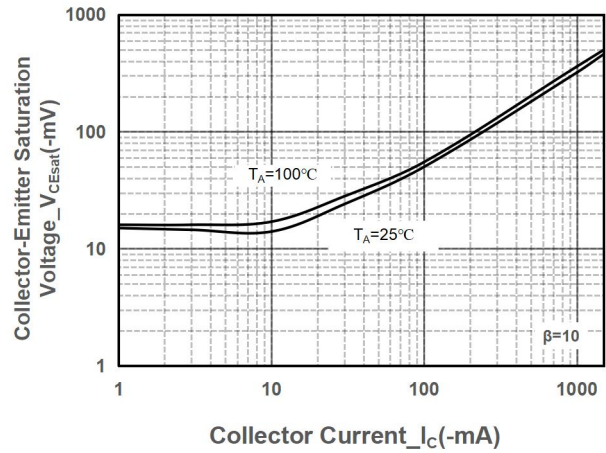
**Collector Current vs. Base-Emitter Voltage**



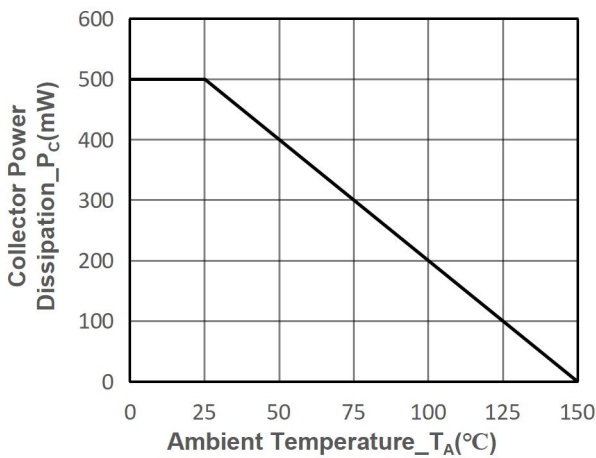
**DC Current Gain vs. Collector Current**



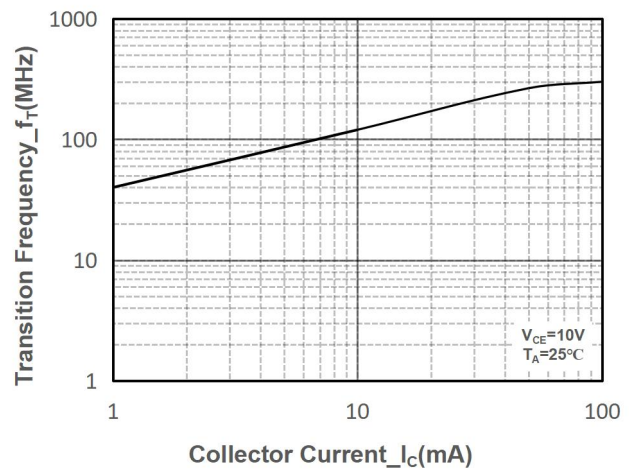
**$V_{BE(sat)}$  vs. Collector Current**



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



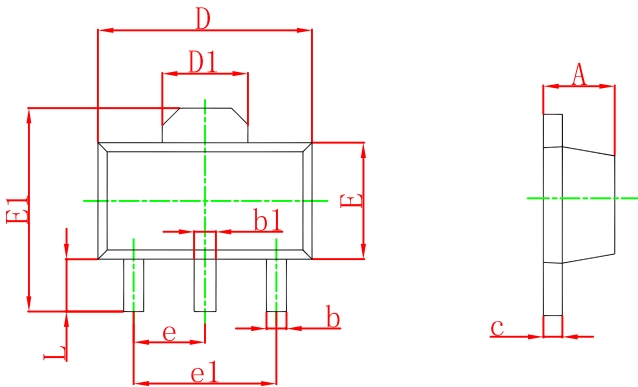
**Power derating vs. Ambient temperature**



**Transition Frequency vs. Collector Current**

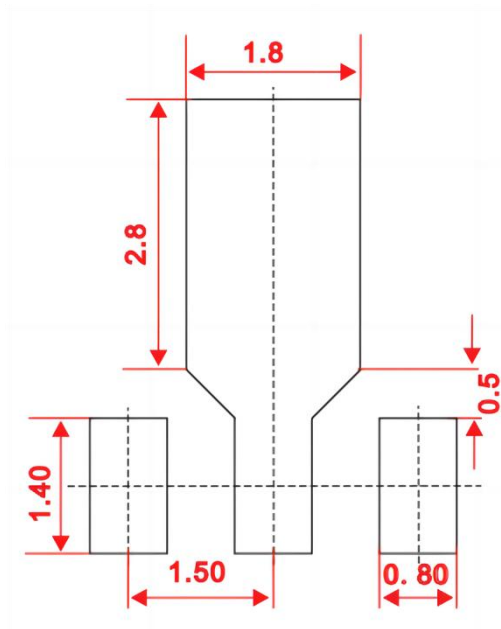
## ➤ Package Information

### SOT89-3L



DIM	Millimeters		
	Min.	Typ.	Max.
A	1.400		1.600
b	0.320		0.520
b1	0.400		0.580
c	0.350		0.440
D	4.400		4.600
D1		1.550	
E	2.300		2.600
E1	3.940		4.250
e		1.500	
e1		3.000	
L	0.900		1.200

### Recommended Pad outline (Unit: mm)





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