



## SSCNA42GS6

### High Frequency High Gain NPN Power BJT

#### ➤ Features

VCB	VCE	VEB	IC
300V	300V	5V	300mA

#### ➤ 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

- Amplifying signal
- Electronic switch
- Oscillating circuit
- Variable resistance

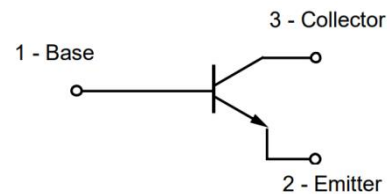
#### ➤ Ordering Information

Device	Package	Shipping
SSCNA42GS6	SOT-23	3000/Reel

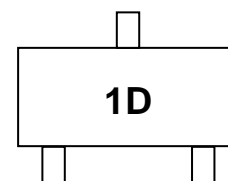
#### ➤ Pin configuration



**SOT-23**



**Circuit Diagram**



**Marking (Top View)**



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

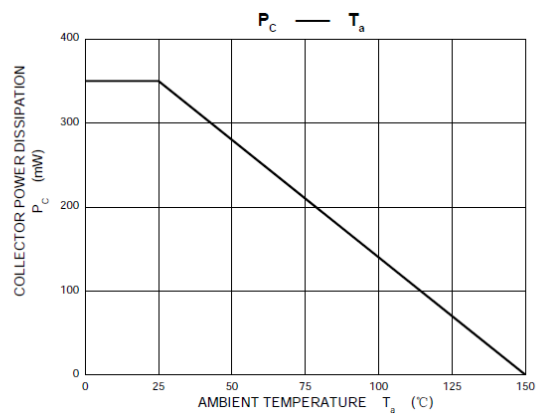
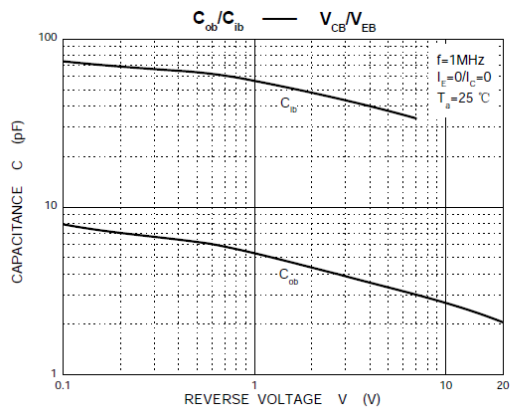
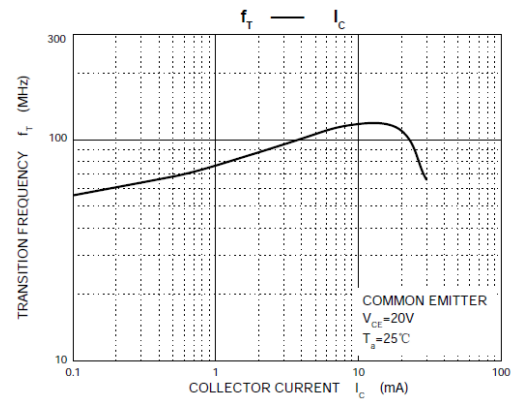
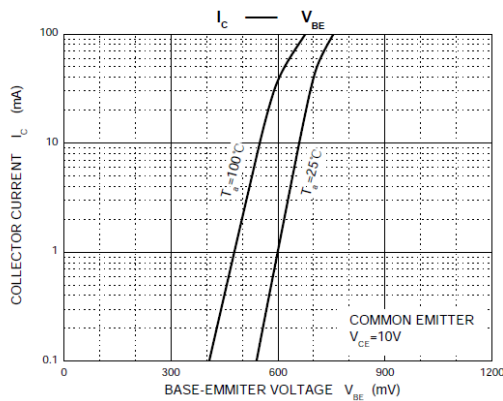
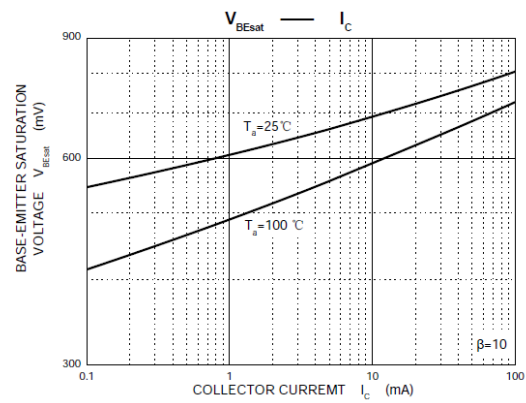
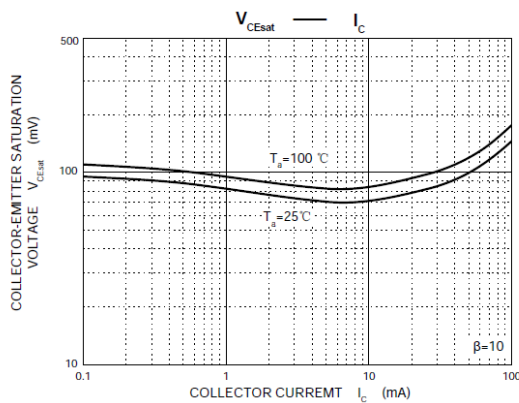
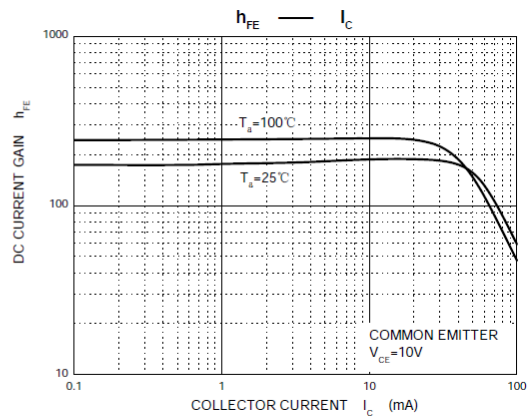
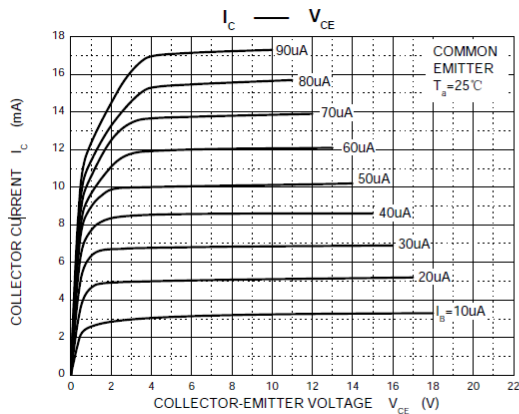
Parameter	Symbol	Value	Unit
Collector-Base Voltage	$V_{CB0}$	300	V
Collector- Emitter Voltage	$V_{CEO}$	300	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current-Continuous	$I_C$	300	mA
Collector Current-Peak	$I_{CM}$	500	mA
Collector Power Dissipation	$P_C$	350	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	357	$^{\circ}\text{C}/\text{W}$
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	$BV_{CBO}$	$I_C=0.1\text{mA}, I_E=0$	300			V
Collector-emitter Breakdown Voltage	$BV_{CEO}$	$I_C=1\text{mA}, I_B=0$	300			V
Emitter -Base Breakdown Voltage	$BV_{EBO}$	$I_E=0.1\text{mA}, I_C=0$	5			V
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=200\text{V}, I_E=0$			0.25	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=5\text{V}, I_C=0$			0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE}=10\text{V}, I_C=1\text{mA}$	60			
		$V_{CE}=10\text{V}, I_C=10\text{mA}$	100	200		
		$V_{CE}=10\text{V}, I_C=30\text{mA}$	60			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=20\text{mA}, I_B=2\text{mA}$			0.2	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=20\text{mA}, I_B=2\text{mA}$			0.9	V
Transition frequency	$f_T$	$V_{CE}=20\text{V}, I_C=10\text{mA}$ $f=30\text{MHz}$	50			MHz



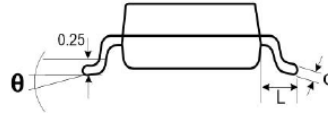
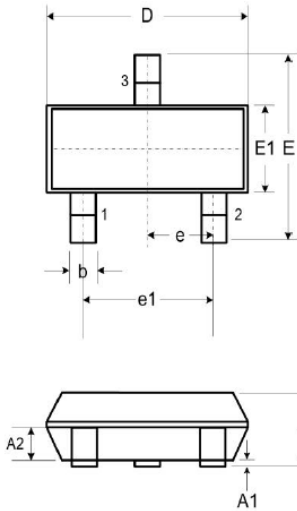
➤ Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise noted)





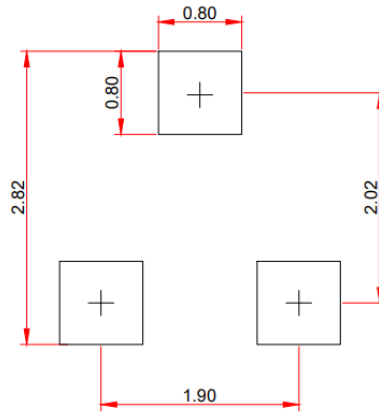
➤ **Package Information**

● **Mechanical Data**



DIM	Millimeters		
	Min.	Typ.	Max.
A	0.89	-	1.12
A1	0.01	-	0.10
A2	0.88	0.95	1.02
b	0.30	-	0.51
c	0.08	-	0.18
D	2.80	2.90	3.04
E	2.10	2.37	2.64
E1	1.20	1.30	1.40
e	1.90		
e1	0.95		
L	0.40	0.50	0.60
L1	0.55		
N	3		
$\theta$	0°	-	8°

● **Recommended Pad outline (Unit: mm)**





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