



## SSCNA42GS7

### High Frequency High Gain NPN Power BJT

#### ➤ Features

VCB	VCE	VEB	IC
300V	300V	5V	0.2A

#### ➤ 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

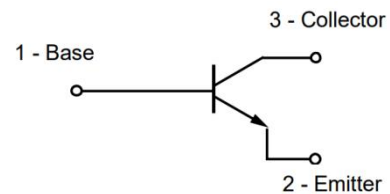
#### ➤ Ordering Information

Device	Package	Shipping
SSCNA42GS7	SOT-323	3000/Reel

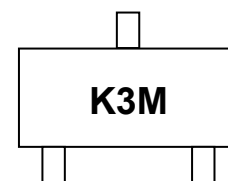
#### ➤ Pin configuration



**SOT-323**



**Circuit Diagram**



**Marking (Top View)**



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

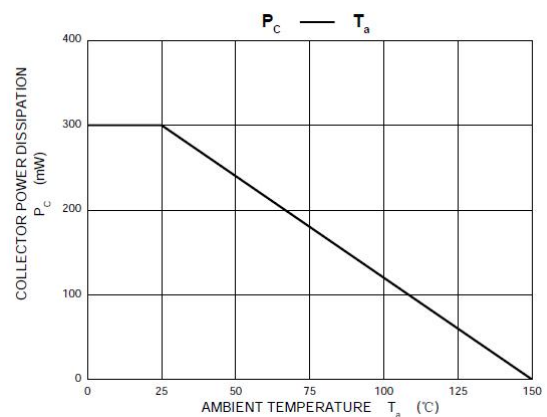
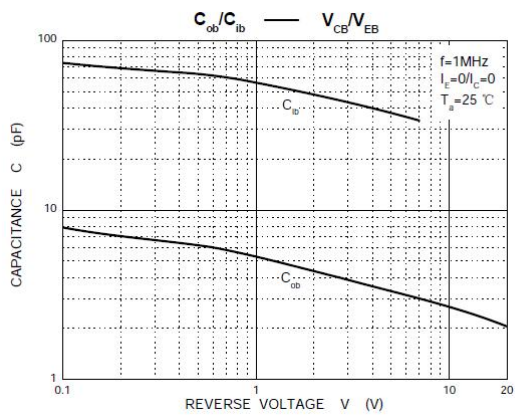
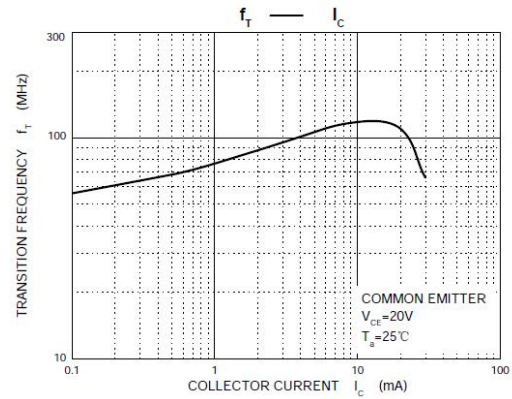
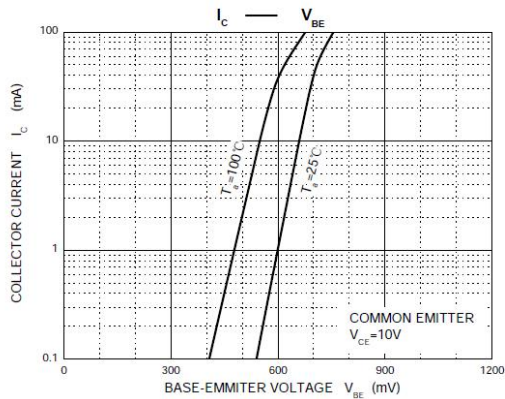
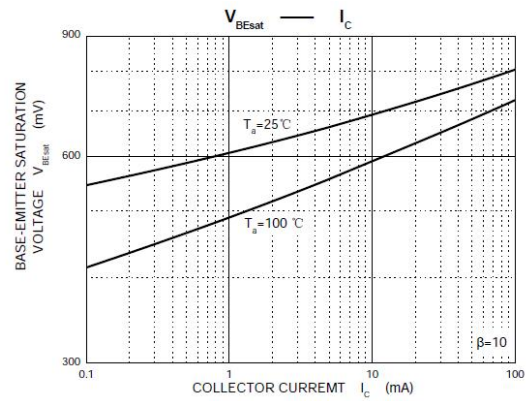
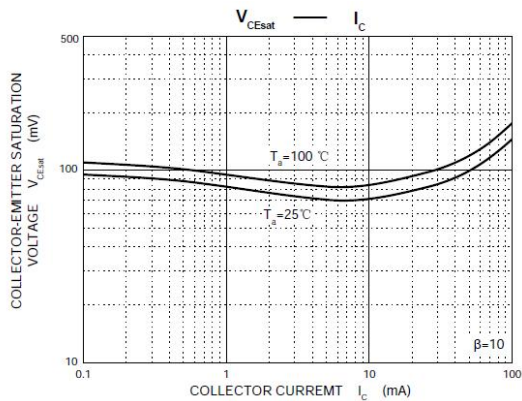
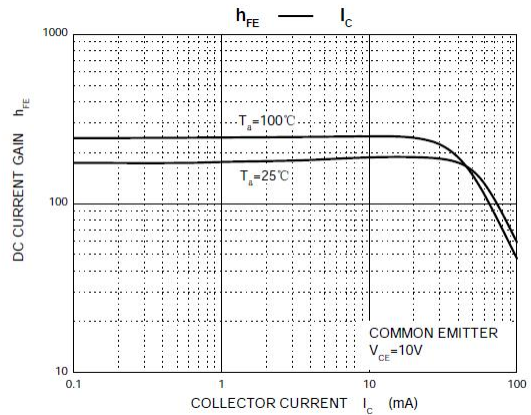
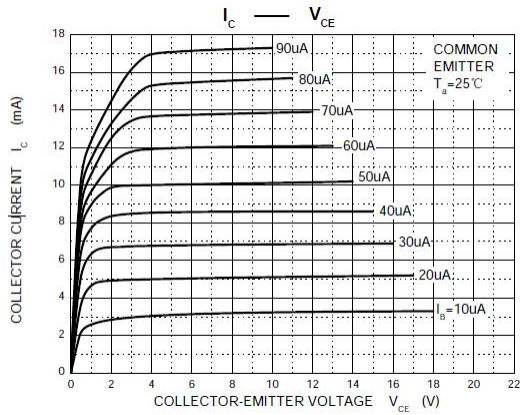
Parameter	Symbol	Value	Unit
Collector-Base Voltage	$V_{CB0}$	300	V
Collector- Emitter Voltage	$V_{CE0}$	300	V
Emitter-Base Voltage	$V_{EB0}$	5	V
Collector Current-Continuous	$I_C$	200	mA
Collector Current-Peak	$I_{CM}$	500	mA
Collector Power Dissipation	$P_C$	300	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	$^{\circ}\text{C}/\text{W}$
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	$BV_{CB0}$	$I_C=0.1\text{mA}, I_E=0$	300			V
Collector-emitter Breakdown Voltage	$BV_{CE0}$	$I_C=1\text{mA}, I_B=0$	300			V
Emitter -Base Breakdown Voltage	$BV_{EB0}$	$I_E=0.1\text{mA}, I_C=0$	5			V
Collector Cutoff Current	$I_{CB0}$	$V_{CB}=200\text{V}, I_E=0$			0.25	$\mu\text{A}$
Emitter Cutoff Current	$I_{EB0}$	$V_{EB}=5\text{V}, I_C=0$			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		
		$V_{CE}=10\text{V}, I_C=30\text{mA}$	75			
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

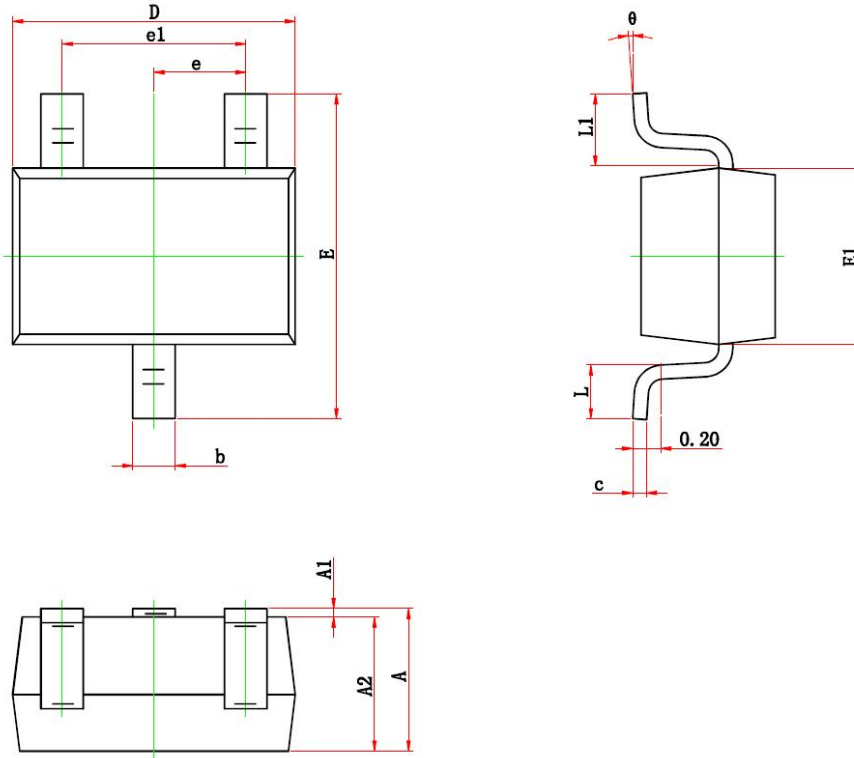


## ➤ Typical Performance Characteristics ( $T_A=25^\circ\text{C}$ unless otherwise noted)



## ➤ Package Information

### SOT-323



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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