



## SSCP3906GS9

### PNP Switching Transistor

#### ➤ Features

VCB	VCE	VBE	IC
-40V	-40V	-5V	-200mA

#### ➤ Description

The PNP Transistor is designed for use in linear and switching applications. The device is housed in the SOT-723 package, which is designed for telephony and professional communication equipment.

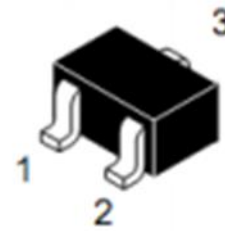
#### ➤ Applications

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

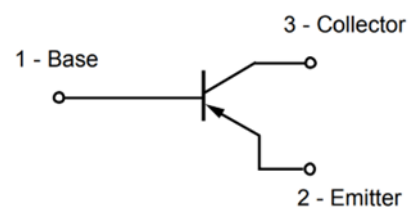
#### ➤ Ordering Information

Device	Package	Shipping
SSCP3906GS9	SOT-723	8000/Reel

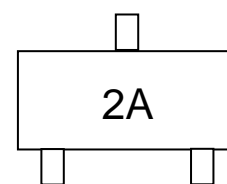
#### ➤ Pin configuration



**SOT-723**



**Circuit Diagram**



**Marking (Top View)**



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

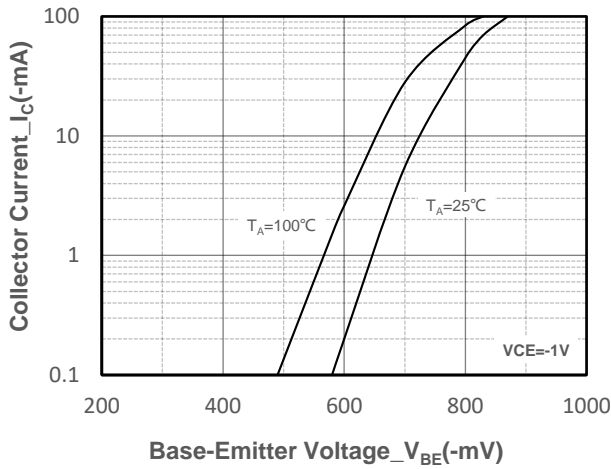
Parameter	Symbol	Value	Unit
Collector-Base Voltage	$V_{CB0}$	-40	V
Collector- Emitter Voltage	$V_{CEO}$	-40	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Collector Current-Continuous	$I_C$	-200	mA
Collector Power Dissipation	$P_C$	200	mW
Junction Temperature	$T_J$	150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 to 150	$^{\circ}\text{C}$

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

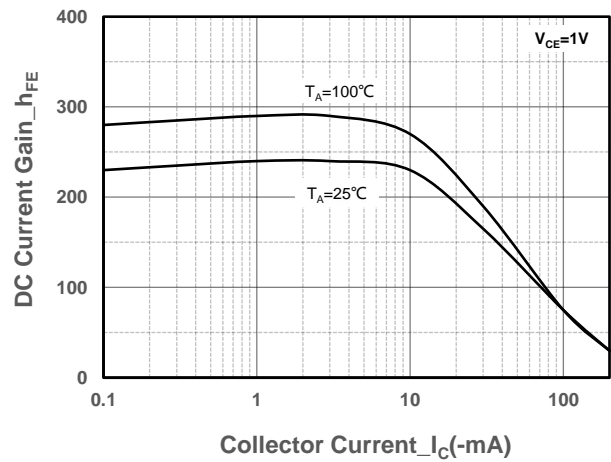
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$BV_{CB0}$	$I_C=-10\mu\text{A}, I_E=0$	-40			V
Collector-emitter Breakdown Voltage	$BV_{CEO}$	$I_C=-1\text{mA}, I_B=0$	-40			V
Emitter -Base Breakdown Voltage	$BV_{EBO}$	$I_E=-10\mu\text{A}, I_C=0$	-5			V
Collector Cutoff Current	$I_{CEX}$	$V_{CE}=-30\text{V}, V_{EB}=-3\text{V}$			-50	nA
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=-30\text{V}, I_E=0$			-100	nA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=-3\text{V}, I_C=0$			-100	nA
DC Current Gain	$h_{FE}$	$V_{CE}=-1\text{V}, I_C=-10\text{mA}$	100		300	
		$V_{CE}=-1\text{V}, I_C=-0.1\text{mA}$	60			
		$V_{CE}=-1\text{V}, I_C=-100\text{mA}$	30			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-50\text{mA}, I_B=-5\text{mA}$			-0.4	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-50\text{mA}, I_B=-5\text{mA}$			-0.95	V
Transition frequency	$f_T$	$V_{CE}=-20\text{V}, I_C=-10\text{mA}$ $f=100\text{MHz}$	250			MHz
Delay Time	$t_d$	$V_{CC}=-3\text{V}, V_{BE}=0.5\text{V}$			35	ns
Rise Time	$t_r$	$I_C=-10\text{mA}, I_{B1}=-1\text{mA}$			35	ns
Storage Time	$t_s$	$V_{CC}=-3\text{V}, I_C=-10\text{mA}$			225	ns
Fall Time	$t_f$	$I_{B1}=-I_{B2}=-1\text{mA}$			75	ns



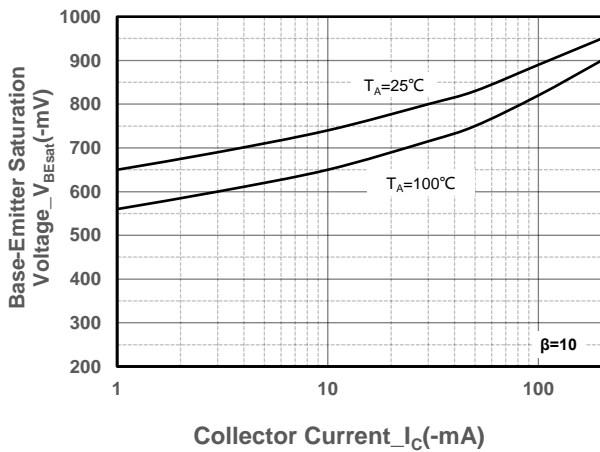
➤ **Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise noted)**



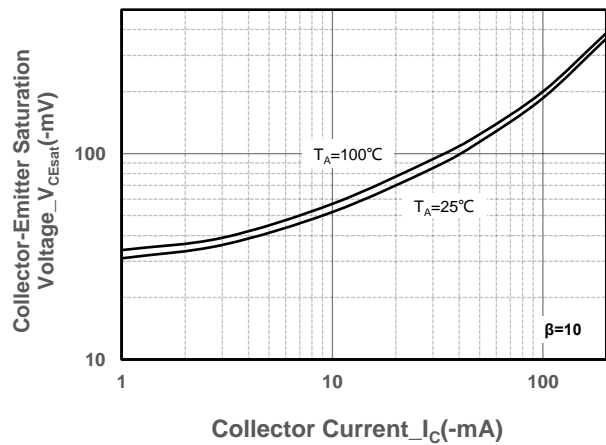
**Collector Current vs. Base-Emitter Voltage**



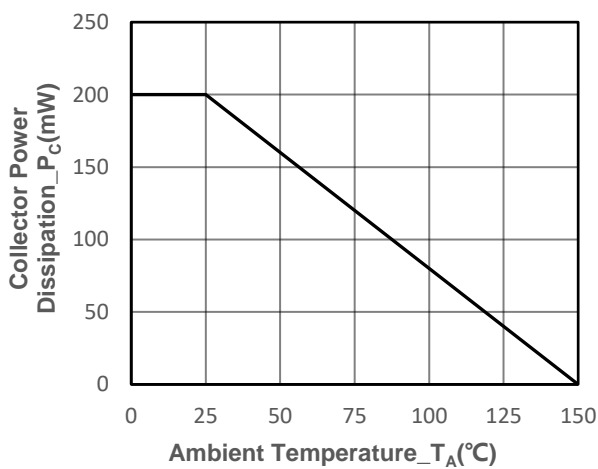
**DC Current Gain vs. Collector Current**



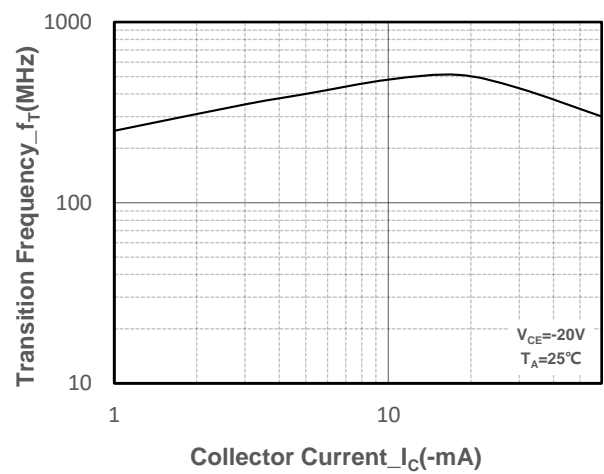
**$V_{BE(sat)}$  vs. Collector Current**



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



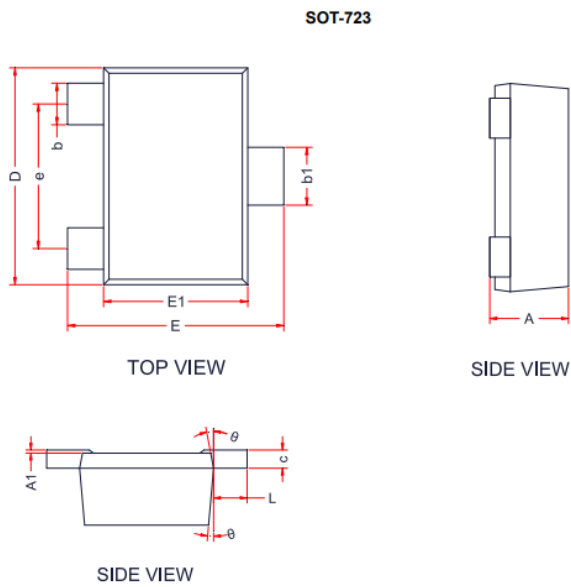
**Power derating vs. Ambient temperature**



**Transition Frequency vs. Collector Current**

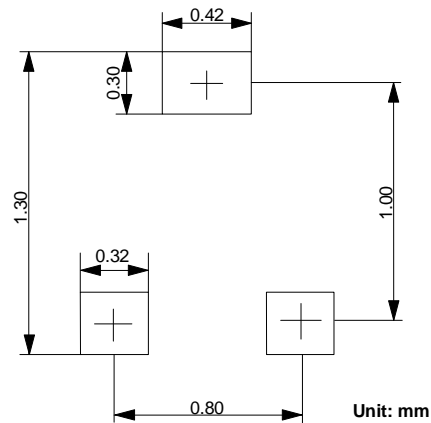


## ➤ Package Information



DIM	Millimeters		
	Min.	Typ.	Max.
A	0.43	-	0.55
A1	0.00	-	0.05
b1	0.27		0.37
b	0.17	-	0.27
c	0.08	0.13	0.18
D	1.15	1.20	1.25
E	1.15	1.20	1.25
E1	0.75	0.8	0.85
e	0.80Ref.		
L	0.15	0.2	0.25
$\theta$	7°Ref.		

## ➤ Suggested Pad Layout





## ➤ History Version

V1.0	First edition	2022-08-08
V1.1	1. Modify package size 2. Add suggested pad layout	2023-12-19

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