



SSCP3906GS6

PNP Switching Transistor

➤ Features

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

➤ Description

The PNP Transistor is designed for use in linear and switching applications. The device is housed in the SOT-23 package, which is designed for telephony and professional communication equipment.

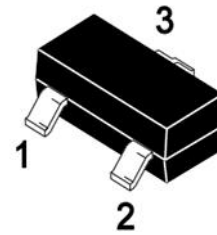
➤ Applications

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

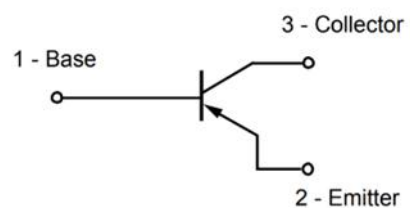
➤ Ordering Information

Device	Package	Shipping
SSCP3906GS6	SOT-23	3000/Reel

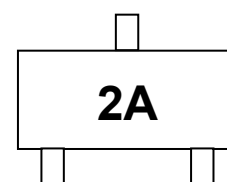
➤ Pin configuration



SOT-23



Circuit Diagram



Marking(Top View)

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

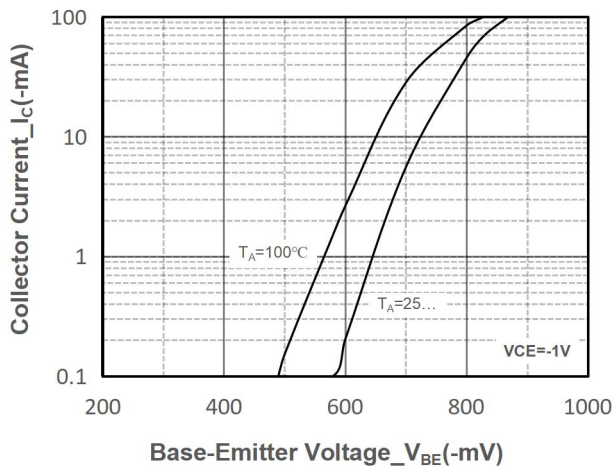
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-40	V
Collector- Emitter Voltage	V_{CEO}	-40	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current-Continuous	I_C	-200	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 to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

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

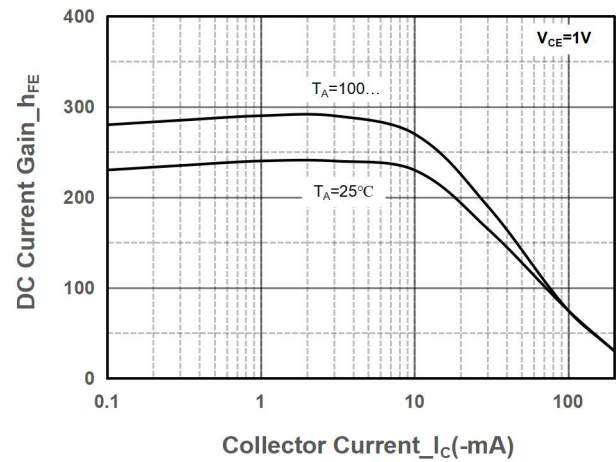
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=-10\mu\text{A}, I_E=0$	-40			V
Collector-emitter Breakdown Voltage	BV_{CEO}	$I_C=-1\text{mA}, I_B=0$	-40			V
Emitter -Base Breakdown Voltage	BV_{EBO}	$I_E=-10\mu\text{A}, I_C=0$	-5			V
Collector Cutoff 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



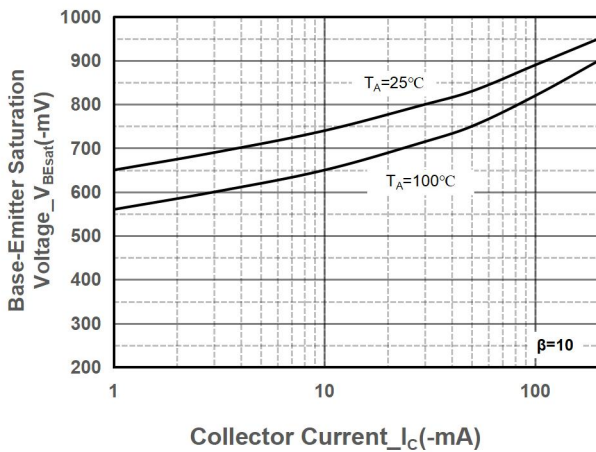
➤ Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)



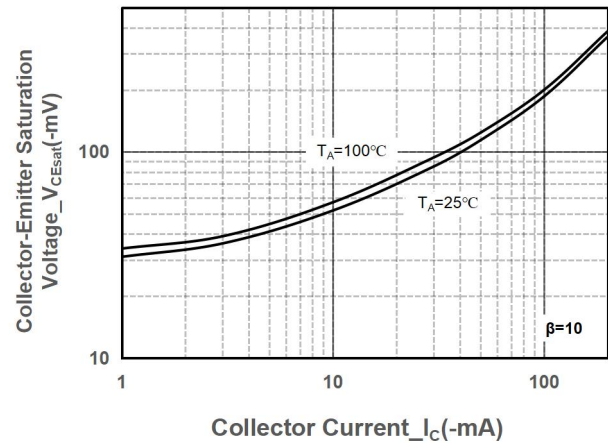
Collector Current vs. Base-Emitter Voltage



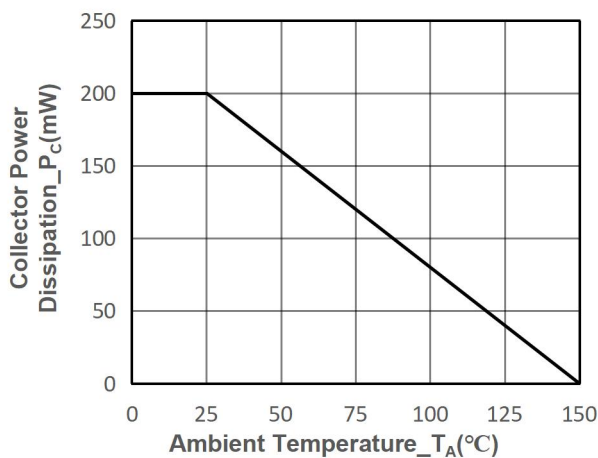
DC Current Gain vs. Collector Current



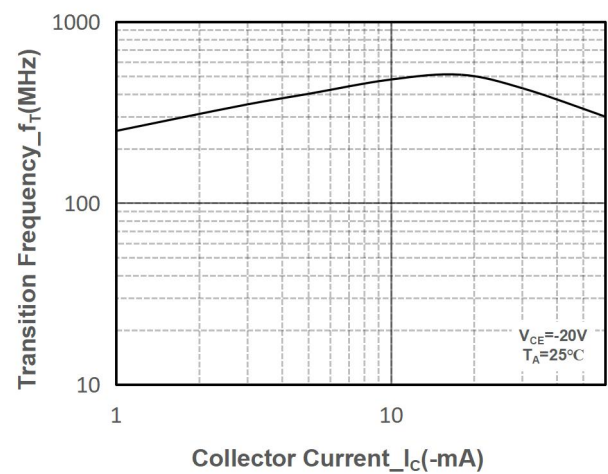
$V_{BE(sat)}$ vs. Collector Current



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



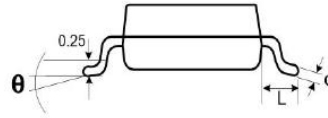
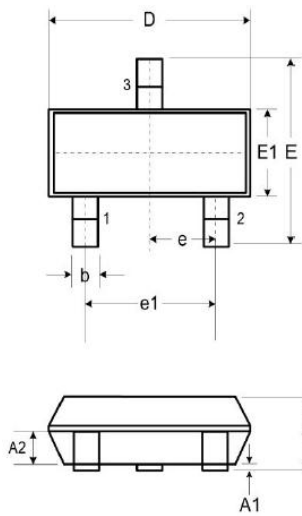
Power derating vs. Ambient temperature



Transition Frequency vs. Collector Current

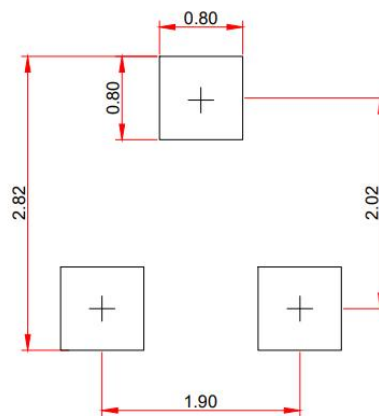


● Package Information



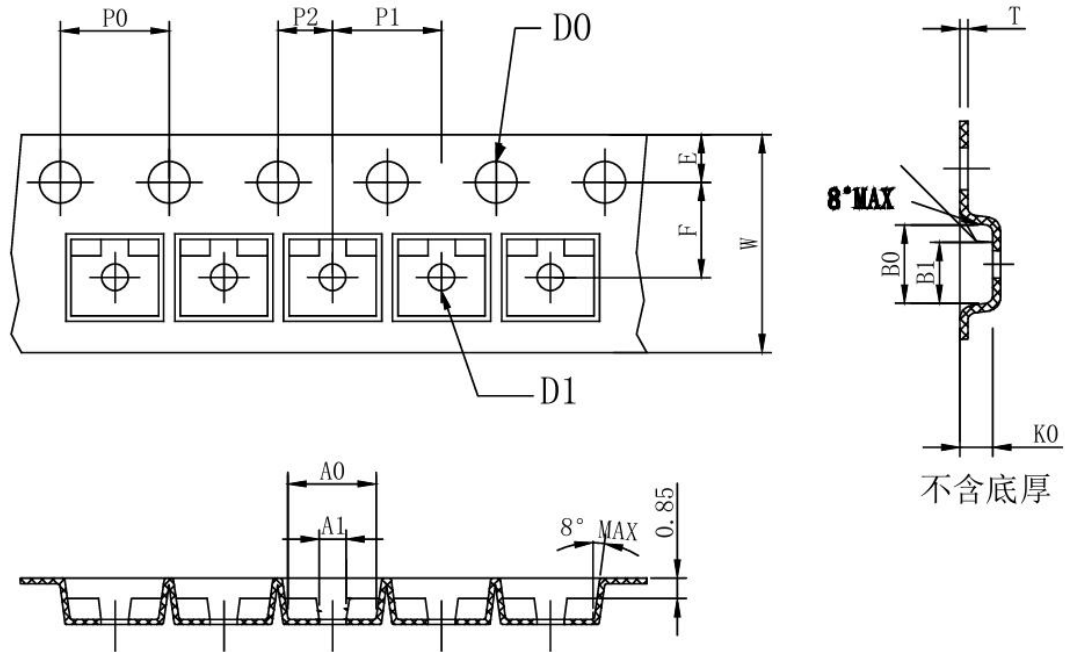
DIM	Millimeters		
	Min.	Typ.	Max.
A	0.89	-	1.12
A1	0.01	-	0.10
A2	0.88	0.95	1.02
b	0.30	-	0.51
c	0.08	-	0.18
D	2.80	2.90	3.04
E	2.10	2.37	2.64
E1	1.20	1.30	1.40
e1	1.90		
e	0.95		
L	0.40	0.50	0.60
L1	0.55		
N	3		
θ	0°	-	8°

Recommended Pad outline (Unit: mm)



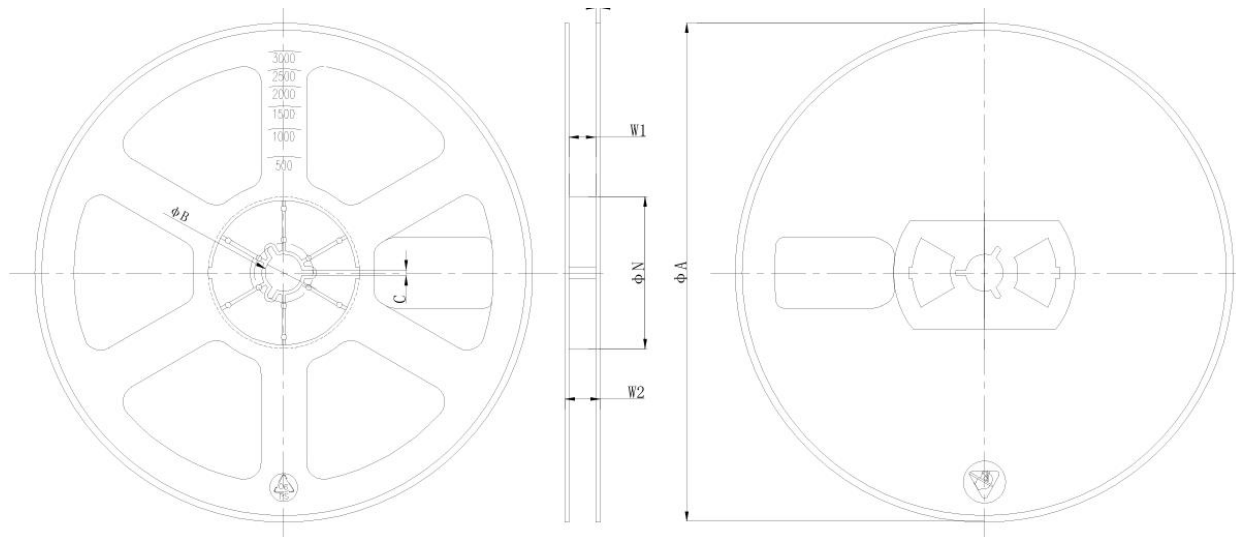


SOT-23 Tape and reel SOT-23 Embossed Carrier Tape



Symbol	A0	A1	B0	B1	K0	D0	D1	P0
Spec	3.15 ± 0.10	1.15 ± 0.10	2.80 ± 0.10	2.15 ± 0.10	1.30 ± 0.10	1.55 ± 0.10	1.10 ± 0.10	4.00 ± 0.10
Symbol	P1	W	E	P2	T	10*P0	F	
Spec	4.00 ± 0.10	7.90-8.00	1.75 ± 0.10	2.00 ± 0.10	0.21 ± 0.02	40.00 ± 0.10	3.50 ± 0.10	

SOT-23 Reel



ΦA	ΦN	ΦB	C	W1	W2	W3
178 ± 2	54 ± 2	$13.2 + 0.3$ $13.2 - 0.2$	2.2 ± 0.3	9.5 ± 1	13MAX	1.4 ± 0.4



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