



SSCP9012GS6

PNP Switching Transistor

➤ Features

VCB	VCE	VEB	IC
-40V	-25V	-5V	-500mA

➤ 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.

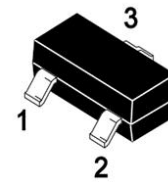
➤ Applications

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

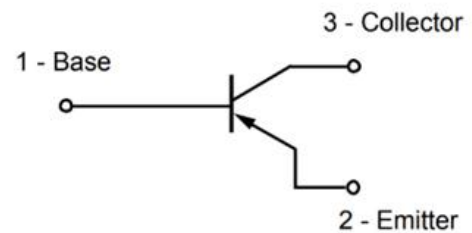
➤ Ordering Information

Device	Package	Shipping
SSCP9012GS6	SOT-23	3000/Reel

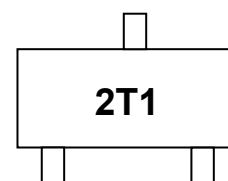
➤ Pin configuration



SOT-23



Circuit Diagram



Marking (Top View)



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

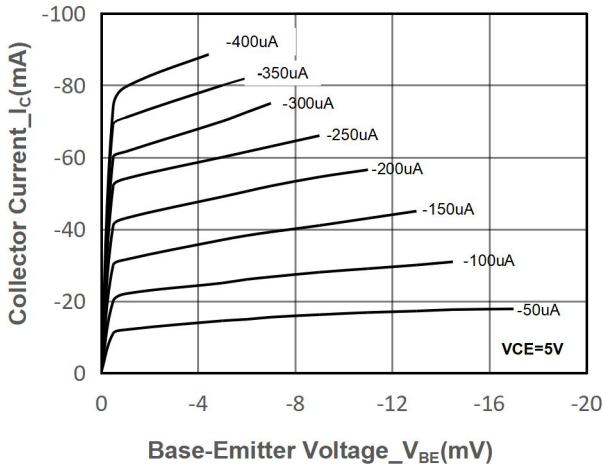
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CB0}	-40	V
Collector- Emitter Voltage	V_{CEO}	-25	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current-Continuous	I_C	-500	mA
Collector Power Dissipation	P_C	300	mW
Junction Temperature	T_J	-55 to 150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 to 150	$^\circ\text{C}$

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

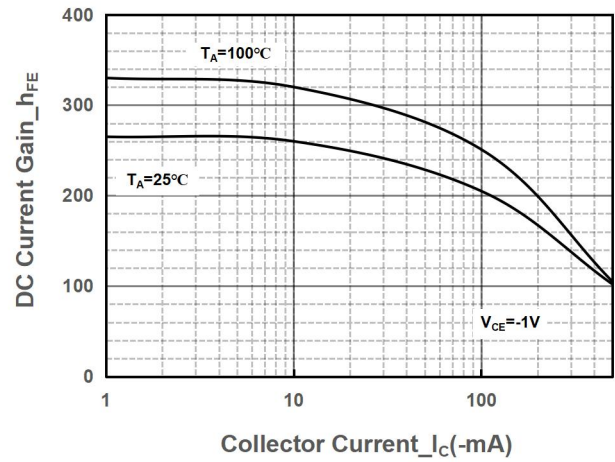
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	BV_{CB0}	$I_C = -100\mu\text{A}, I_E = 0$	-40			V
Collector-emitter Breakdown Voltage	BV_{CEO}	$I_C = -0.1\text{mA}, I_B = 0$	-25			V
Emitter -Base Breakdown Voltage	BV_{EBO}	$I_E = -100\mu\text{A}, I_C = 0$	-5			V
Collector Cutoff Current	I_{CB0}	$V_{CB} = -40\text{V}, I_E = 0$			-0.1	μA
Collector Cutoff Current	I_{CEO}	$V_{CE} = -20\text{V}, I_B = 0$			-0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$			-0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = -1\text{V}, I_C = -50\text{mA}$	120		400	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -500\text{mA}, I_B = -50\text{mA}$			-0.6	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -500\text{mA}, I_B = -50\text{mA}$			-1.2	V
Transition frequency	f_T	$V_{CE} = -6\text{V}, I_C = -20\text{mA}$ $f = 30\text{MHz}$	150			MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10\text{V}, I_E = 0,$ $f = 1\text{MHz}$			5	pF



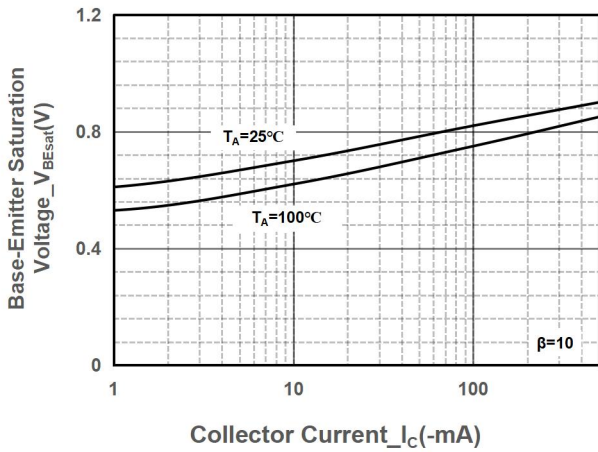
Typical Performance Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)



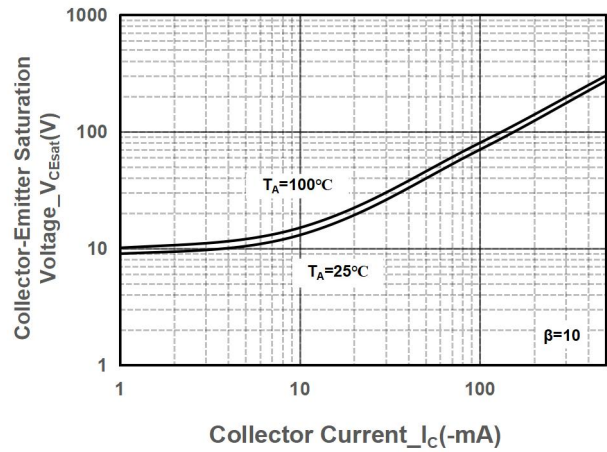
Collector Current vs. Base-Emitter Voltage



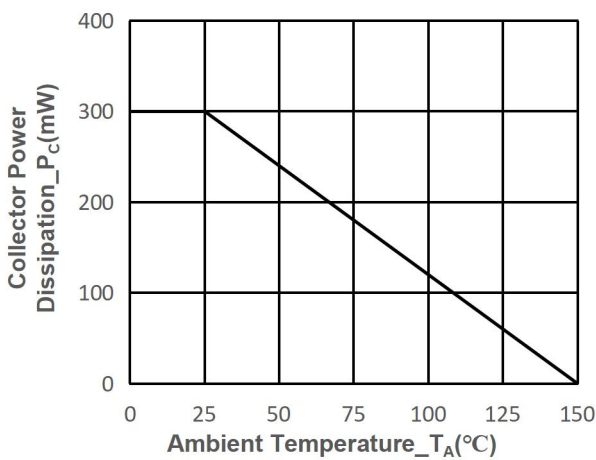
DC Current Gain vs. Collector Current



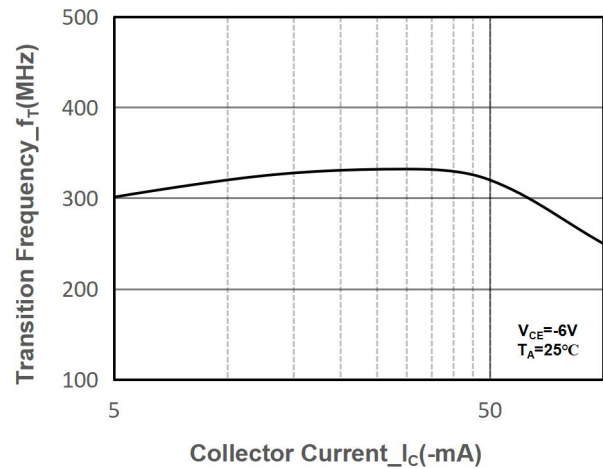
$V_{BE(sat)}$ vs. Collector Current



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



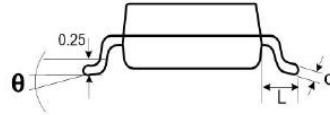
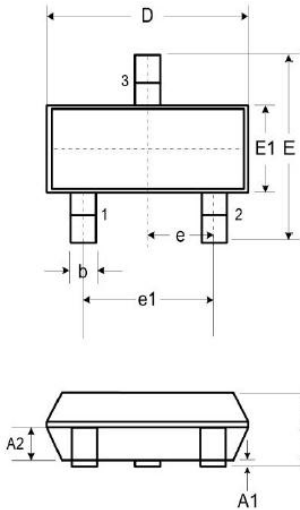
Power derating vs. Ambient temperature



Transition Frequency vs. Collector Current

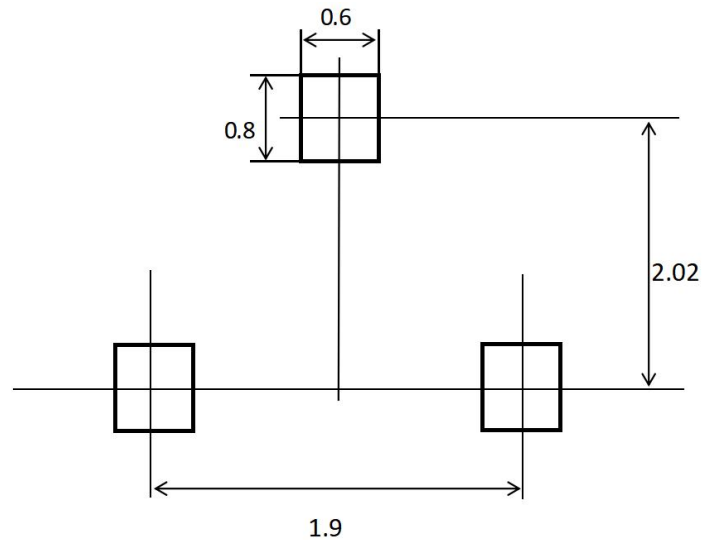
➤ Package Information

SOT-23



DIM	Millimeters		
	Min.	Typ.	Max.
A	0.900	-	1.150
A1	0.00	-	0.100
A2	0.900	-	1.050
b	0.300	-	0.500
c	0.080	-	0.150
D	2.800	-	3.000
E	2.250	-	2.550
E1	1.200	-	1.40
e	0.950		
e1	1.800	-	2.000
L	0.550		
L1	0.300	0.500	
N	3		
θ	0°	-	8°

Recommended Pad outline (Unit: mm)





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