



SSCN493GS6

NPN Switching Transistor

➤ Features

VCB	VCE	VEB	IC
120V	100V	5V	1A

➤ Description

The NPN 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

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

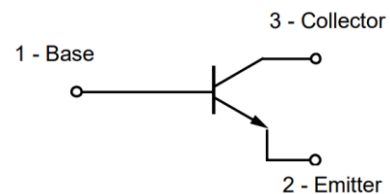
➤ Ordering Information

Device	Package	Shipping
SSCN493GS6	SOT-23	3000/Reel

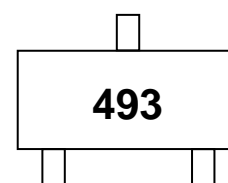
➤ Pin configuration



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}	120	V
Collector- Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current-Continuous	I_C	1	A
Collector Power Dissipation	P_C	250	mW
Thermal Resistance From Junction to Ambient	$R_{\theta JA}$	500	$^{\circ}\text{C}/\text{W}$
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)

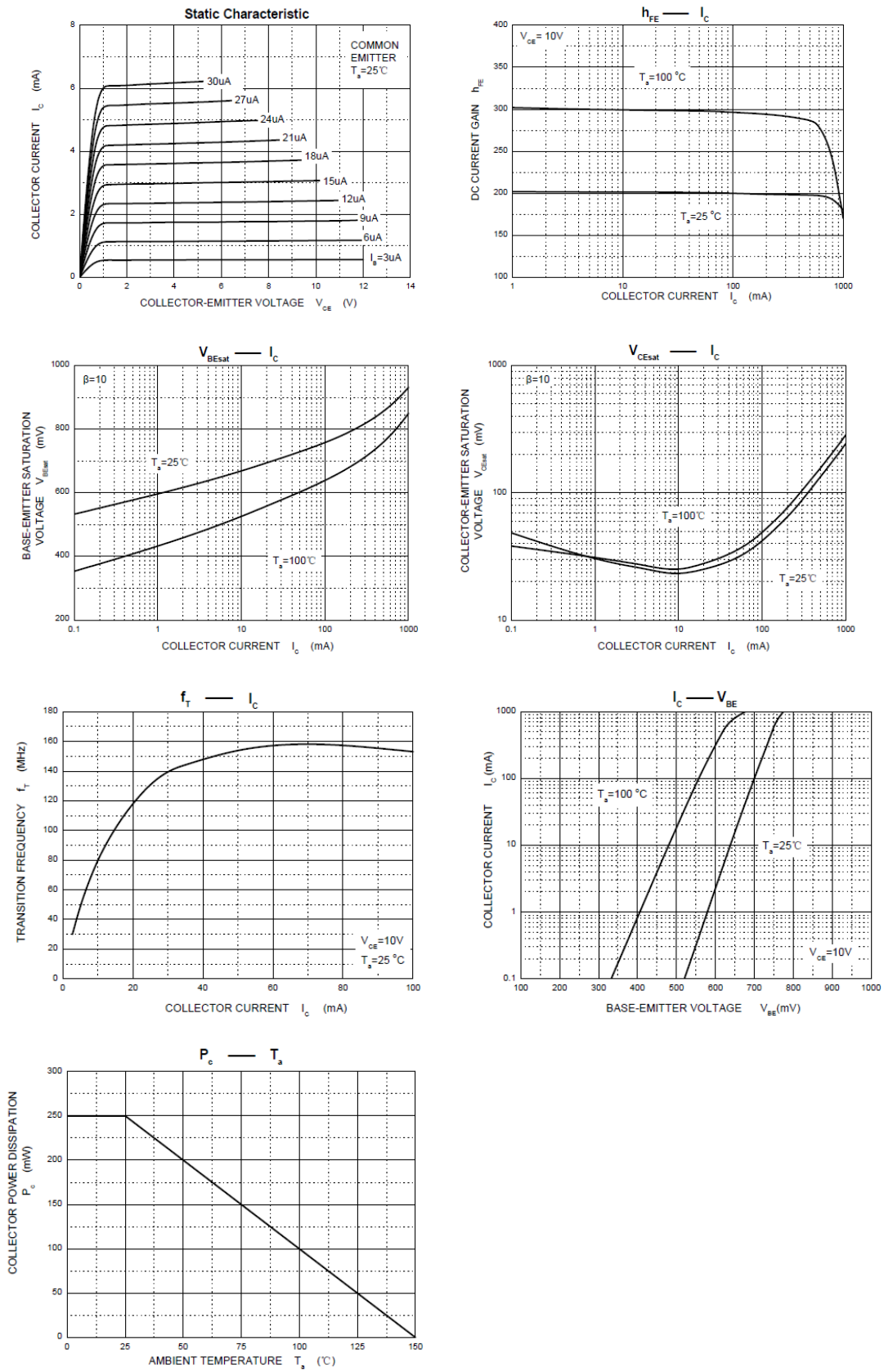
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	BV_{CB0}	$I_C=100\mu\text{A}, I_E=0$	120			V
Collector-emitter Breakdown Voltage	BV_{CEO}	$I_C=10\text{mA}, I_B=0$	100			V
Emitter -Base Breakdown Voltage	BV_{EBO}	$I_E=100\mu\text{A}, I_C=0$	5			V
Collector Cutoff Current	I_{CBO}	$V_{CB}=100\text{V}, I_E=0$			0.1	μA
Collector Cutoff Current	I_{CES}	$V_{CE}=100\text{V}, I_E=0$			0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0$			0.1	μA
DC Current Gain	h_{FE}^1	$V_{CE}=10\text{V}, I_C=1\text{mA}$	100			
		$V_{CE}=10\text{V}, I_C=250\text{mA}$	100		300	
		$V_{CE}=10\text{V}, I_C=0.5\text{A}$	60			
		$V_{CE}=10\text{V}, I_C=1\text{A}$	20			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}^1$	$I_C=500\text{mA}, I_B=50\text{mA}$			0.3	V
		$I_C=1\text{A}, I_B=100\text{mA}$			0.6	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}^1$	$I_C=1\text{A}, I_B=100\text{mA}$			1.15	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=50\text{mA}$ $f=100\text{MHz}$	150			MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, f=1\text{MHz}$			10	pF

Notes:

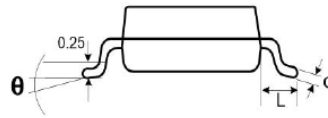
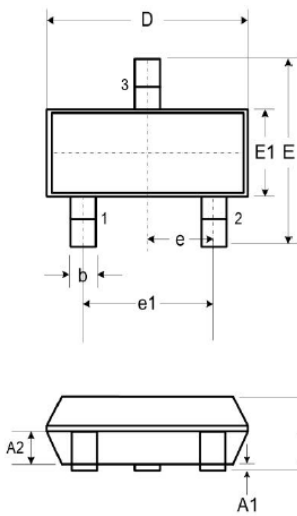
1. Measured under pulsed conditions, Pulse width=300 μs , Duty cycle \leq 2%.



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

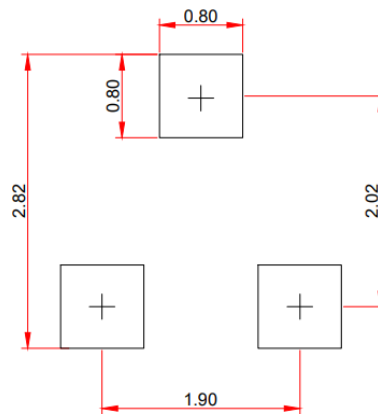


➤ Package Information



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
e	0.95		
e1	1.90		
L	0.40	0.50	0.60
L1	0.55		
N	3		
θ	0°	-	8°

Recommended Pad outline (Unit: mm)





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