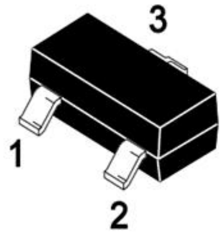
SSCN4401GS6

NPN Switching Transistor

➢ Features

VCB	VCE	VEB	IC
60V	40V	6V	600mA

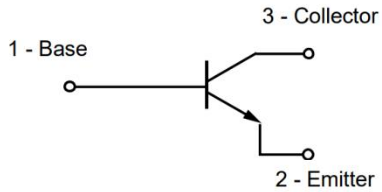
➢ Pin configuration



SOT-23

➢ Description

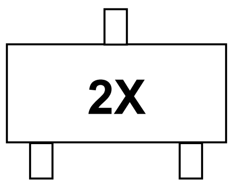
The NPN Transistor is designed for use in linear and switching applications. The device is housed in the SOT-23 package, which is designed for telephony and professional communication equipment.



Circuit Diagram

➢ Applications

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



Marking(Top View)

➢ Ordering Information

Device	Package	Shipping
SSCN4401GS6	SOT-23	3000/Reel

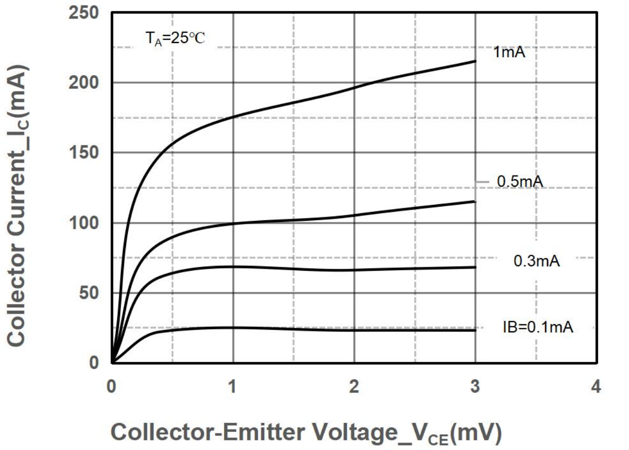
➢ Absolute Maximum Ratings(T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	60	V
Collector- Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current-Continuous	I_C	600	mA
Collector Power Dissipation	P_C	300	mW
Thermal resistance From junction to ambient	$R_{\theta JA}$	417	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55 to 150	℃

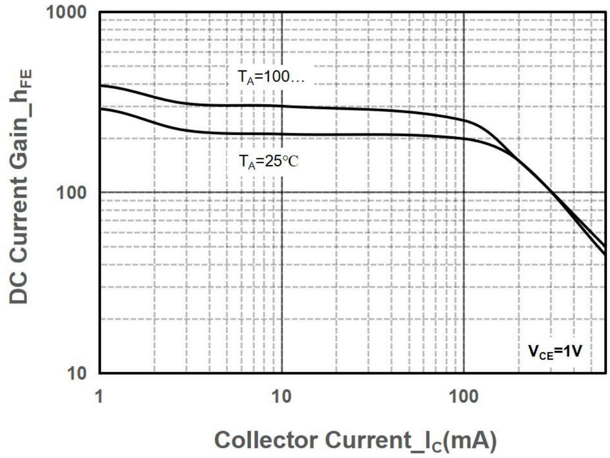
➢ Electrical Characteristics (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=100uA,I_E=0	60			V
Collector-emitter Breakdown Voltage	BV_{CEO}	I_C=1mA,I_B=0	40			V
Emitter -Base Breakdown Voltage	BV_{EBO}	I_E=100uA,I_C=0	6			V
Collector Cutoff Current	I_{CBO}	V_{CB}=50V, I_E=0			0.1	μA
Collector Cutoff Current	I_{CEX}	V_{CE}=35V, $V_{EB(off)}$=0.4V			0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=5V,I_C=0			0.1	μA
DC Current Gain	h_{FE}	V_{CE}=1V,I_C=0.1mA	20			
		V_{CE}=1V,I_C=1mA	40			
		V_{CE}=1V,I_C=10mA	80			
		V_{CE}=1V,I_C=150mA	100		300	
		V_{CE}=1V,I_C=500mA	40			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=150mA,I_B=15mA			0.40	V
		I_C=500mA,I_B=50mA			0.75	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=150mA,I_B=15mA			0.95	V
		I_C=500mA,I_B=50mA			1.20	V
Transition frequency	f_T	V_{CE}=10V,I_C=20mA f=100MHz	250			MHz
Delay time	t_d	V_{CC}=30V, $V_{BE(off)}$=-2V, I_C=150mA, I_{B1}=15mA			15	ns
Rise time	t_r				20	ns
Storage time	t_s	V_{CC}=30V, I_C=150mA, I_{B1}=I_{B2}=15mA			225	ns
Fall time	t_f				60	ns

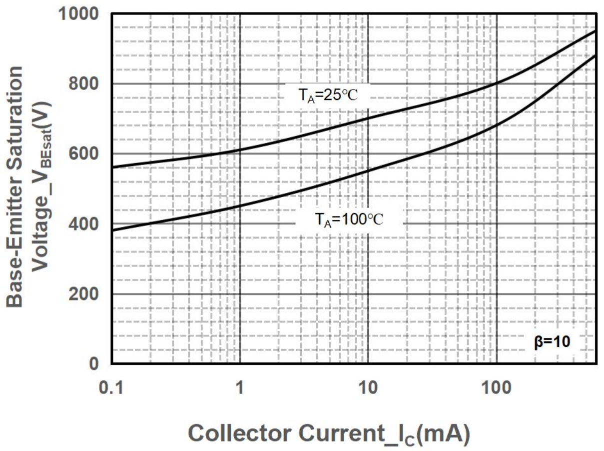
Typical Performance Characteristics (T_A=25℃ unless otherwise noted)



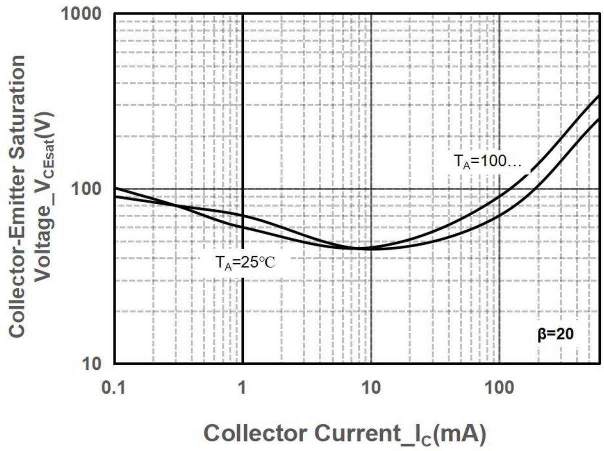
Collector Current vs. Collector-Emitter Voltage



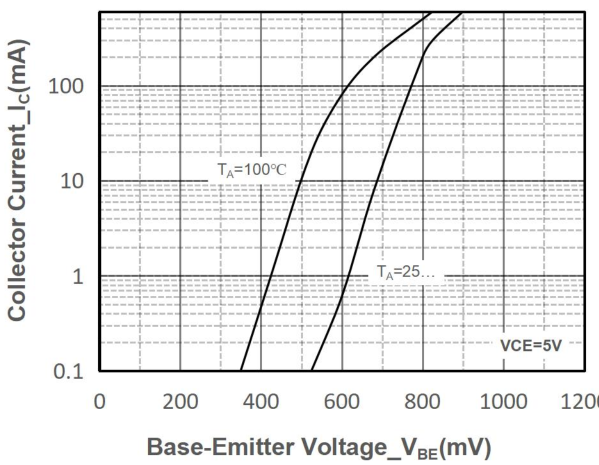
DC Current Gain vs. Collector Current



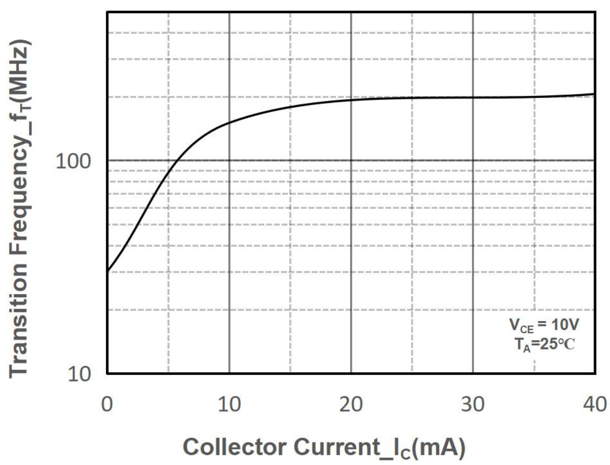
$V_{BE(sat)}$ vs. Collector Current



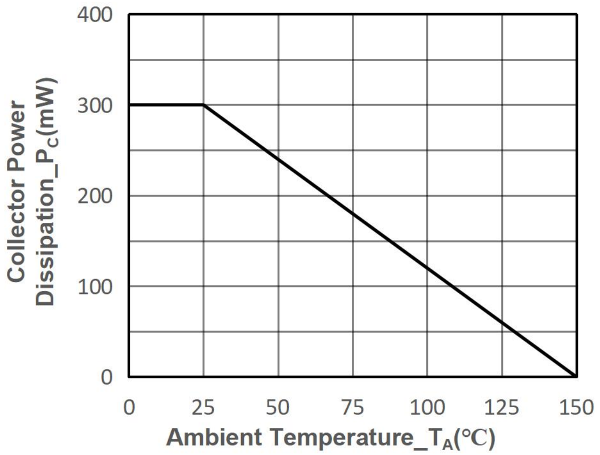
$V_{CE(sat)}$ vs. Collector Current



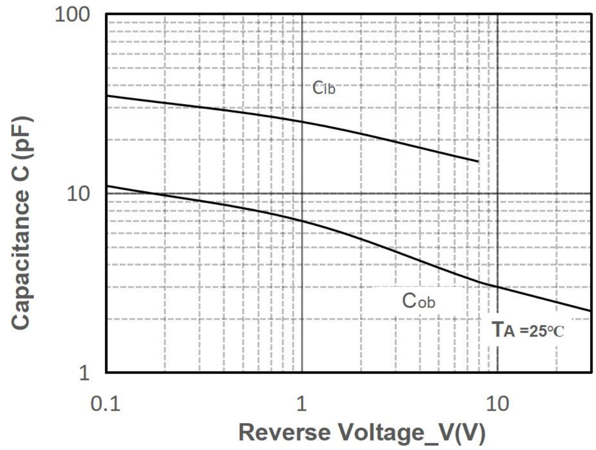
Collector Current vs. Base-Emitter Voltage



Transition Frequency vs. Collector Current

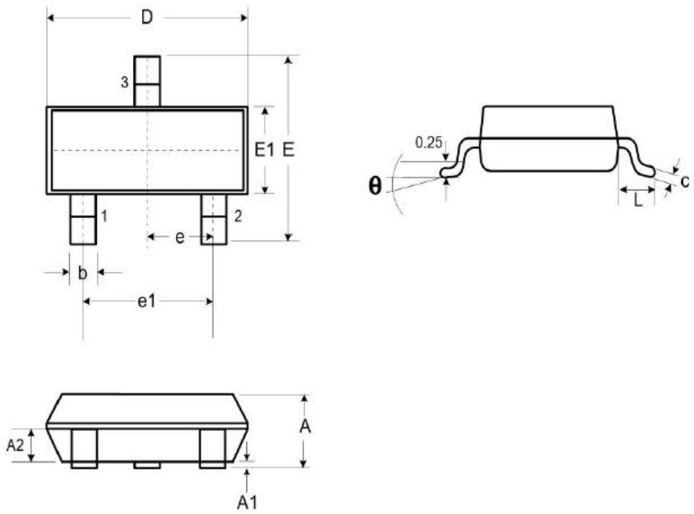


Power derating vs. Ambient temperature



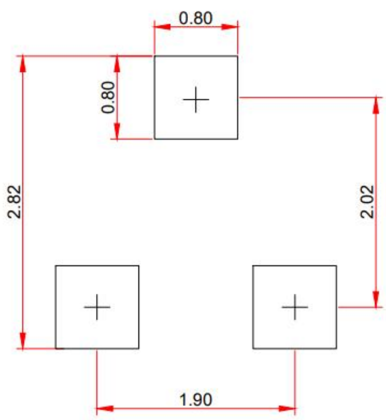
Capacitance vs. Reverse Voltage

- **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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