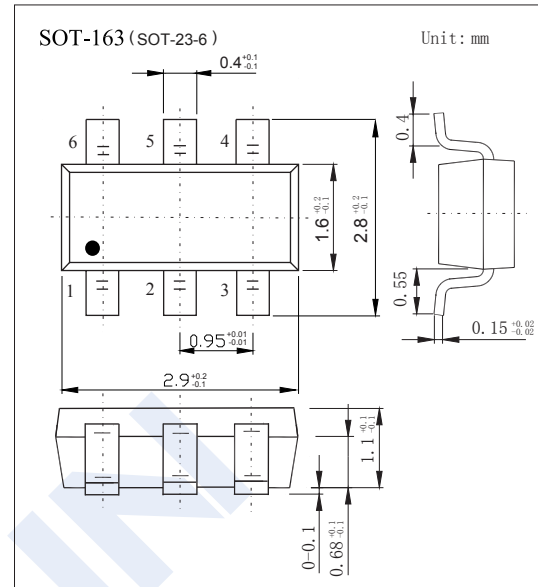
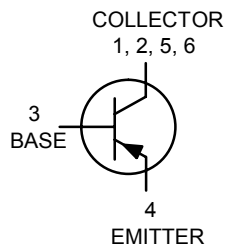


## PNP Transistors

### SBT5853PT1G

#### ■ Features

- Collector Current Capability  $I_C = -2A$
- Collector Emitter Voltage  $V_{CE0} = -35V$



#### ■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CB0}$	-55	V
Collector - Emitter Voltage	$V_{CE0}$	-35	
Emitter - Base Voltage	$V_{EB0}$	-5	
Collector Current - Continuous	$I_C$	-2	A
Peak Collector Current	$I_{CM}$	-5	
Collector Power Dissipation (Note.1) (Note.2) Single Pulse < 10 sec (Note.2)	$P_C$	625	mW
		1	W
		1.75	
Thermal Resistance From Junction To Ambient (Note.1) (Note.2)	$R_{\theta JA}$	200	$^\circ C/W$
		120	
Thermal Resistance From Junction To Lead	$R_{\theta JL}$	80	
Junction Temperature	$T_J$	150	$^\circ C$
Storage Temperature range	$T_{stg}$	-55 to 150	

Note.1:FR-4 @ Minimum Pad

Note.2:FR-4 @ 1.0 X 1.0 inch Pad

## PNP Transistors

### SBT5853PT1G

#### ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V <sub>CBO</sub>	I <sub>C</sub> = -100 μA, I <sub>E</sub> =0	-55			V
Collector- emitter breakdown voltage	V <sub>CEO</sub>	I <sub>C</sub> = -10mA, I <sub>B</sub> =0	-35			
Emitter - base breakdown voltage	V <sub>EB0</sub>	I <sub>E</sub> = -100 μ A, I <sub>C</sub> =0	-5			
Collector-base cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> = -35 V, I <sub>E</sub> =0			-100	nA
Collector- emitter cut-off current	I <sub>CES</sub>	V <sub>CE</sub> = -35V, I <sub>E</sub> =0			-100	
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = -4V, I <sub>C</sub> =0			-100	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-800 mA, I <sub>B</sub> =-80mA		-0.12	-0.16	V
		I <sub>C</sub> =-1.2A, I <sub>B</sub> =-120mA		-0.14	-0.2	
		I <sub>C</sub> =- 2A, I <sub>B</sub> =-200mA (Note.1)		-0.23	-0.3	
I <sub>C</sub> =-1.2A, I <sub>B</sub> =-120mA (Note.1)		-0.68	-0.85			
Base - emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =-1.2A, I <sub>B</sub> =-120mA (Note.1)		-0.68	-0.85	
Base-Emitter Turn-on Voltage	V <sub>BE(on)</sub>	V <sub>CE</sub> = -1.2V, I <sub>C</sub> = -500mA (Note.1)		-0.81	-0.875	
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> = -1.2V, I <sub>C</sub> = -500 mA	200			
Turn-on time	t <sub>on</sub>	V <sub>CC</sub> = -10 V, I <sub>B1</sub> = -100 mA, I <sub>C</sub> = -1A, R <sub>L</sub> = 3Ω		35		ns
Turn-off time	t <sub>off</sub>	V <sub>CC</sub> = -10 V, I <sub>B1</sub> = I <sub>B2</sub> = -100 mA, I <sub>C</sub> = 1A, R <sub>L</sub> = 3Ω		255		
Collector input capacitance	C <sub>ib</sub>	V <sub>EB</sub> = -0.5V, f=1MHz		600	650	pF
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = -3V,f=1MHz		85	100	
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = -5V, I <sub>C</sub> = -100mA,f=100MHz	100			MHz

Note.1: Pulsed Condition: Pulse Width = 300us, Duty Cycle ≤ 2%

#### ■ Marking

Marking	G5
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# PNP Transistors

## SBT5853PT1G

■ Typical Characteristics

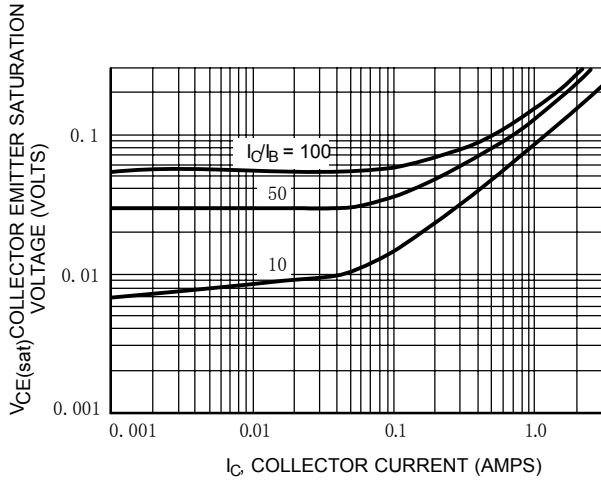


Figure 1. Collector Emitter Saturation Voltage versus Collector Current

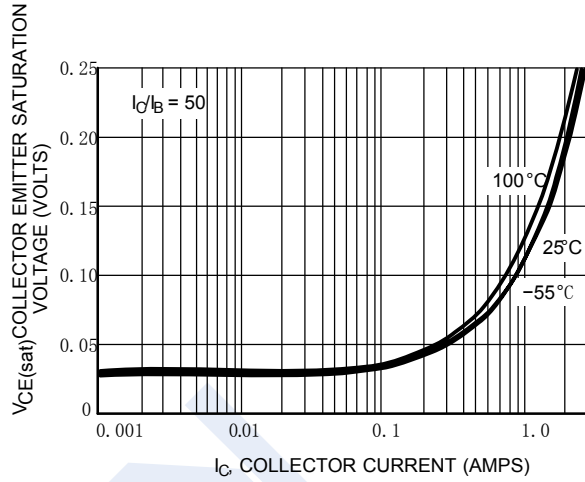


Figure 2. Collector Emitter Saturation Voltage versus Collector Current

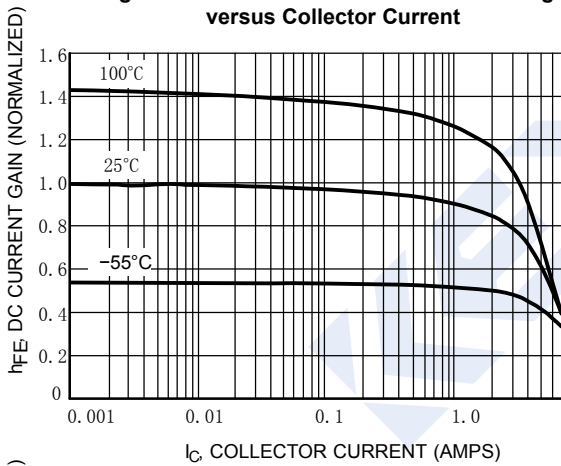


Figure 3. DC Current Gain versus Collector Current

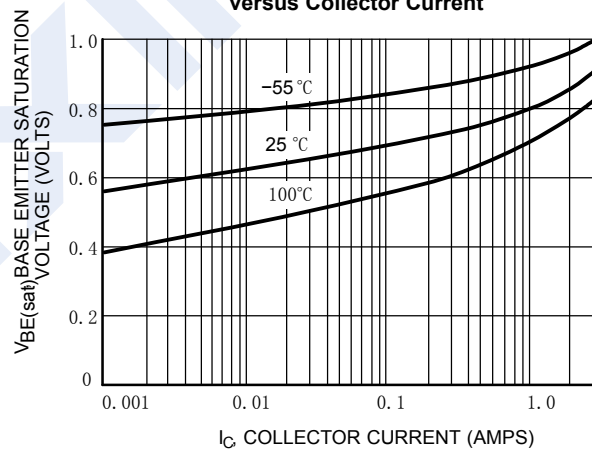


Figure 4. Base Emitter Saturation Voltage versus Collector Current

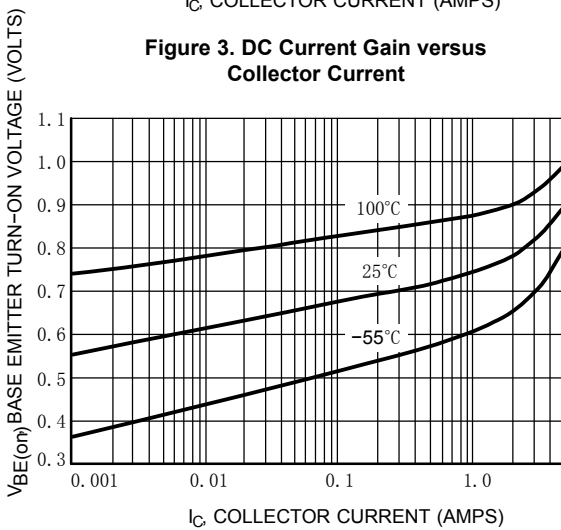


Figure 5. Base Emitter Turn-On Voltage versus Collector Current

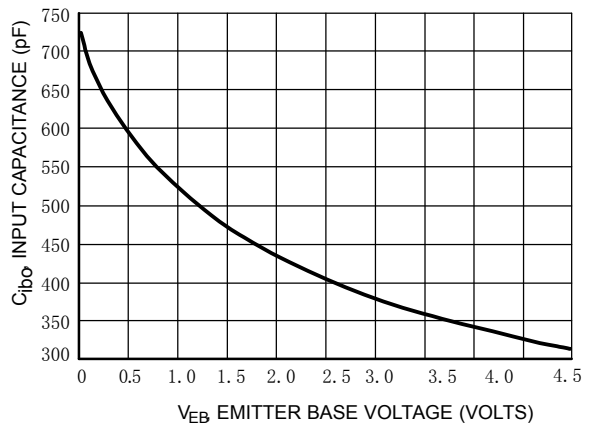


Figure 6. Input Capacitance

## PNP Transistors SBT5853PT1G

■ Typical Characteristics

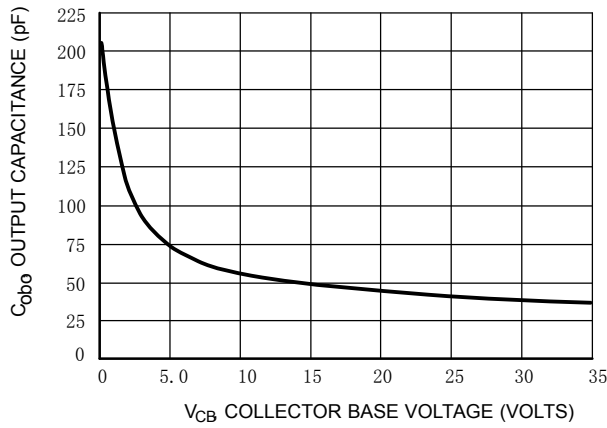


Figure 7. Output Capacitance

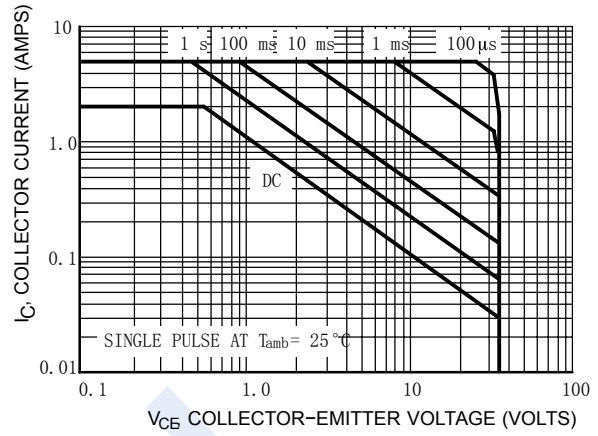


Figure 8. Safe Operating Area

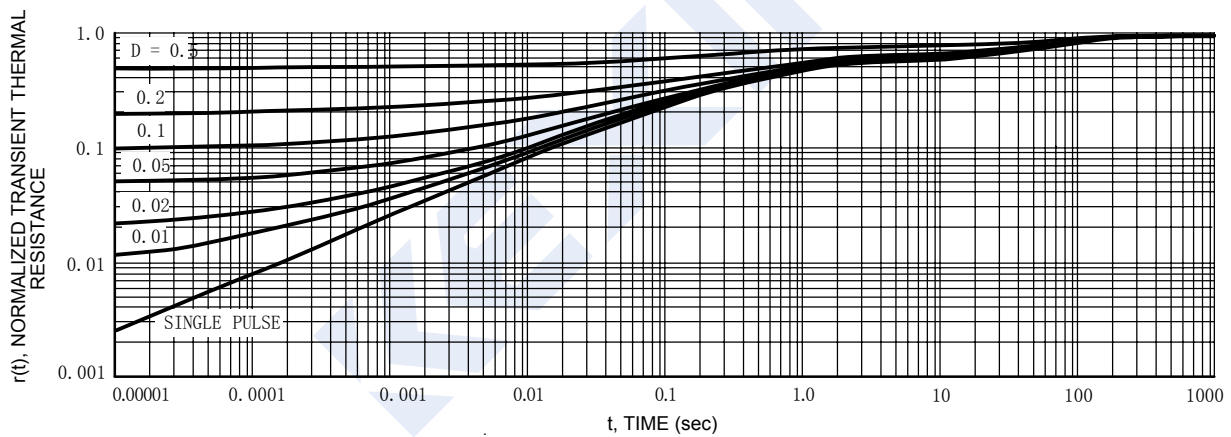


Figure 9. Normalized Thermal Response