Silicon NPN Power Transistors 2SD553

DESCRIPTION

·With TO-220C package
·Complement to type 2SB553
·Low collector saturation voltage

APPLICATIONS

·High current switching applications
·Power amplifier applications

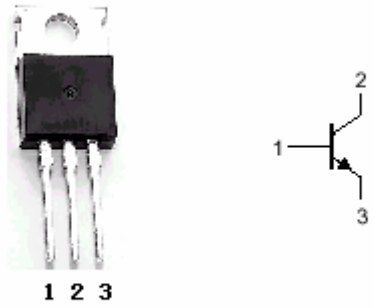

Fig.1 simplified outline (TO-220C) and symbol

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

Absolute maximum ratings(Ta=25□)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	70	V
V_{CEO}	Collector-emitter voltage	Open base	50	V
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current		7	A
I_B	Base current		1	A
P_C	Collector power dissipation	T_C=25□	40	W
		T_a=25□	1.5	
T_j	Junction temperature		150	□
T_{stg}	Storage temperature		-50~150	□

Silicon NPN Power Transistors 2SD553

CHARACTERISTICS

Tj=25□ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	I_C=50mA; I_B=0	50			V
V_{CEsat}	Collector-emitter saturation voltage	I_C=4A; I_B=0.4A		0.2	0.4	V
V_{BEsat}	Base-emitter saturation voltage	I_C=4A; I_B=0.4A		0.9	1.2	V
I_{CBO}	Collector cut-off current	V_{CB}=70V; I_E=0			30	μA
I_{EBO}	Emitter cut-off current	V_{EB}=5V; I_C=0			50	μA
h_{FE-1}	DC current gain	I_C=1A ; V_{CE}=1V	70		240	
h_{FE-2}	DC current gain	I_C=4A ; V_{CE}=1V	30			
C_{OB}	Output capacitance	I_E=0 ; V_{CB}=10V;f=1MHz		250		pF
f_T	Transition frequency	I_C=1A ; V_{CE}=4V		10		MHz
Switching times						
t_{on}	Turn-on time	I_{B1}=- I_{B2}=0.3A R_L=10Ω; V_{CC}=30V		0.2		μs
t_s	Storage time			2.5		μs
t_f	Fall time			0.5		μs

◆ h_{FE-1}Classifications

O	Y
70-140	120-240

PACKAGE OUTLINE

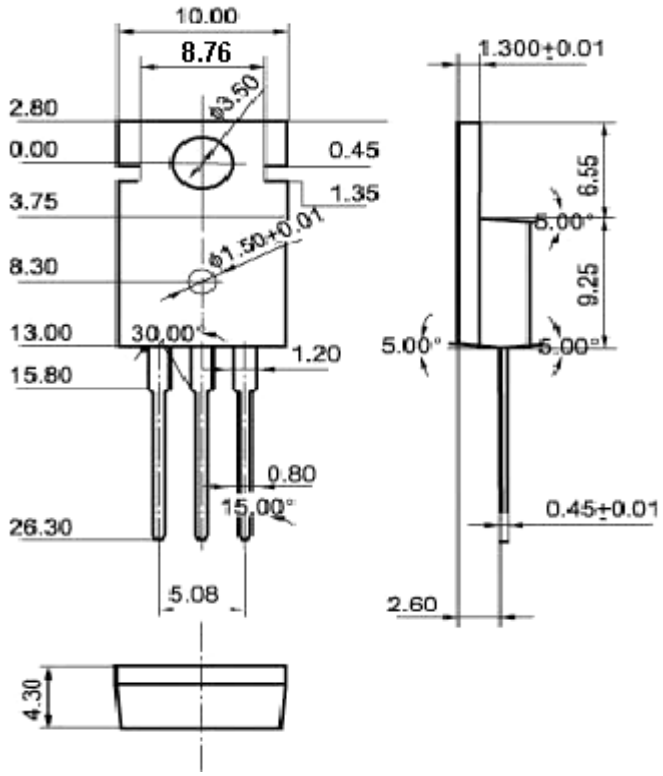

Fig.2 Outline dimensions (unindicated tolerance:±0.10mm)

Silicon NPN Power Transistors 2SD553

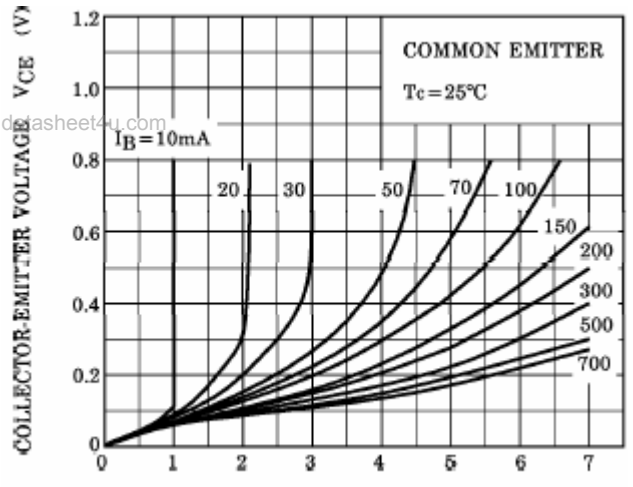

Fig.3 Static Characteristic

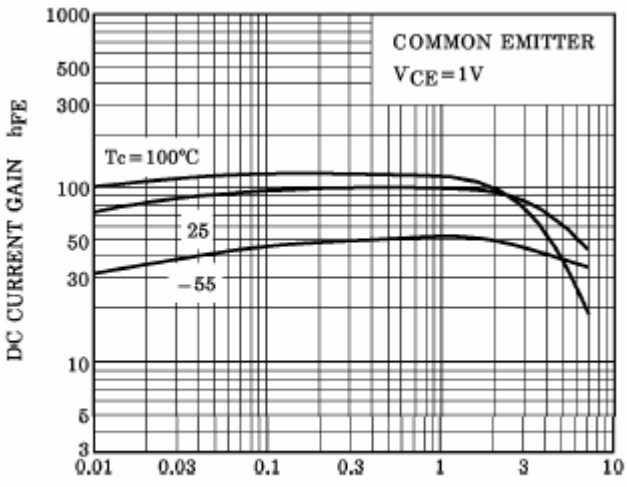

Fig.4 DC current Gain

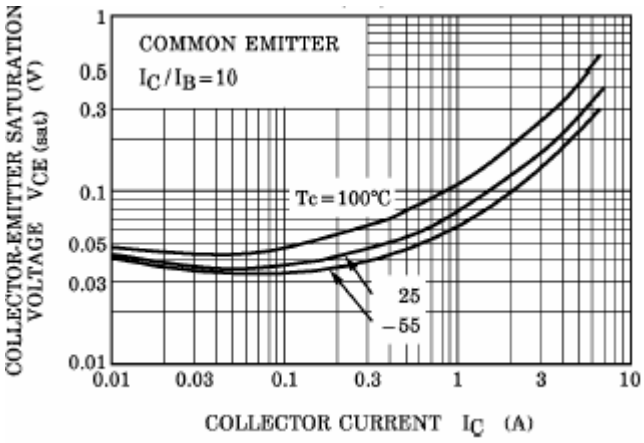

Fig.5 Collector-Emitter Saturation Voltage

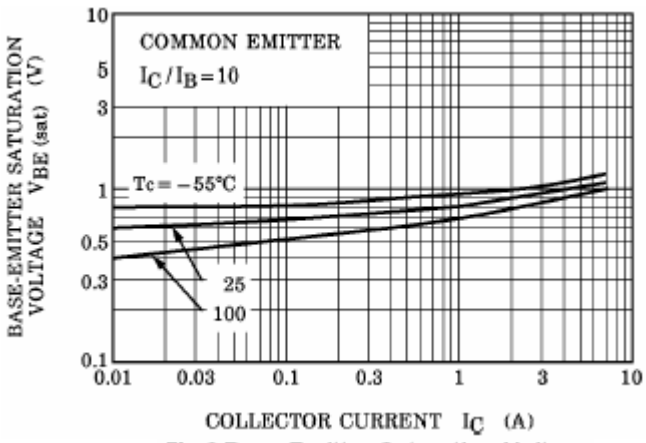

Fig.6 Base-Emitter Saturation Voltage

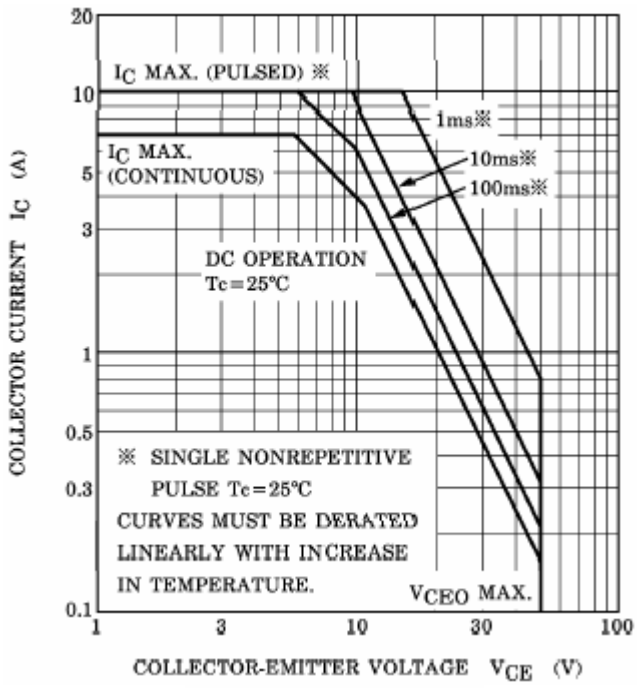

Fig.7 Safe Operating Area