

Silicon NPN Power Transistors

2SD553

DESCRIPTION

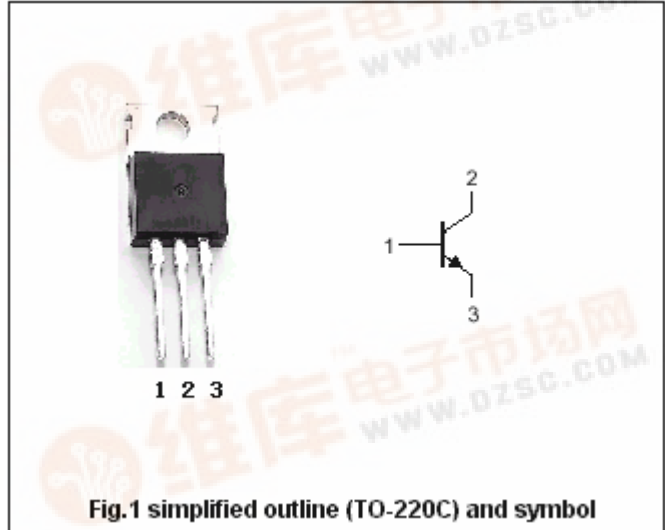
- With TO-220C package
- Complement to type 2SB553
- Low collector saturation voltage

APPLICATIONS

- High current switching applications
- Power amplifier applications

PINNING

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



Absolute maximum ratings(Ta=25°C)

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°C	40	W
		T _a =25°C	1.5	
T _j	Junction temperature		150	°C
T _{stg}	Storage temperature		-50~150	°C

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CHARACTERISTICS

T_j=25°C 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	μ A
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			50	μ A
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		μ s
t _s	Storage time			2.5		μ s
t _f	Fall time			0.5		μ s

◆ h_{FE-1} Classifications

O	Y
70-140	120-240

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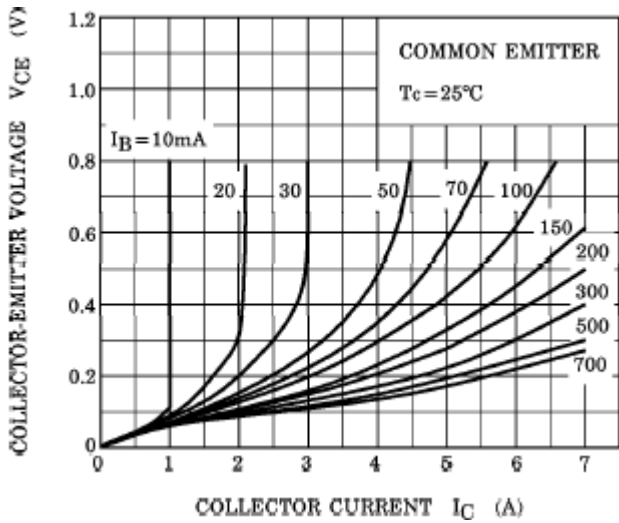


Fig.3 Static Characteristic

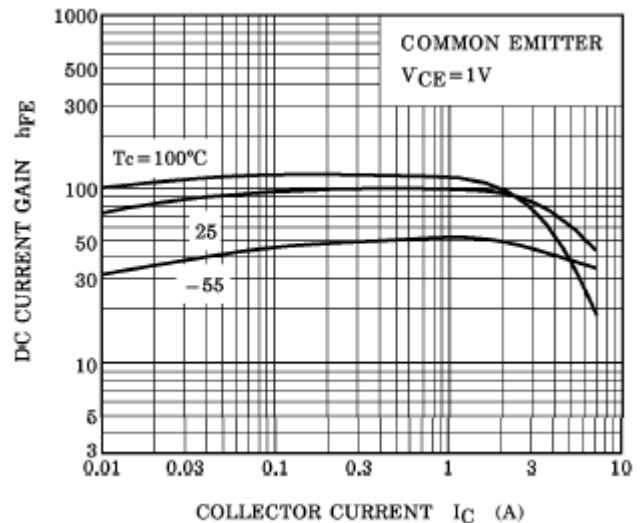


Fig.4 DC current Gain

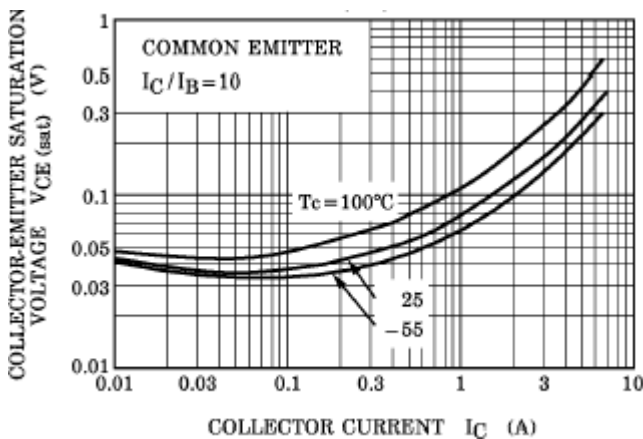


Fig.5 Collector-Emmitter Saturation Voltage

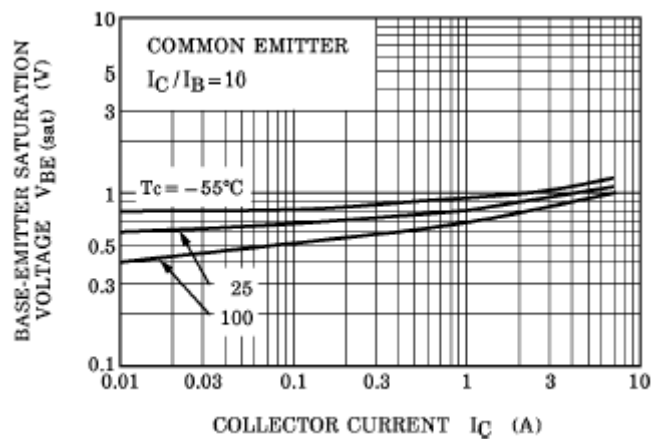


Fig.6 Base-Emmitter Saturation Voltage

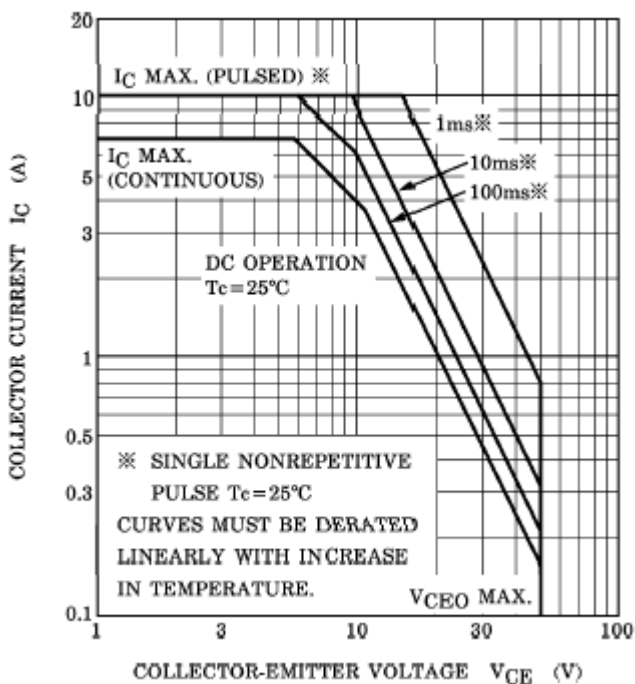


Fig.7 Safe Operating Area