

Silicon NPN Power Transistors

2SC3979

DESCRIPTION

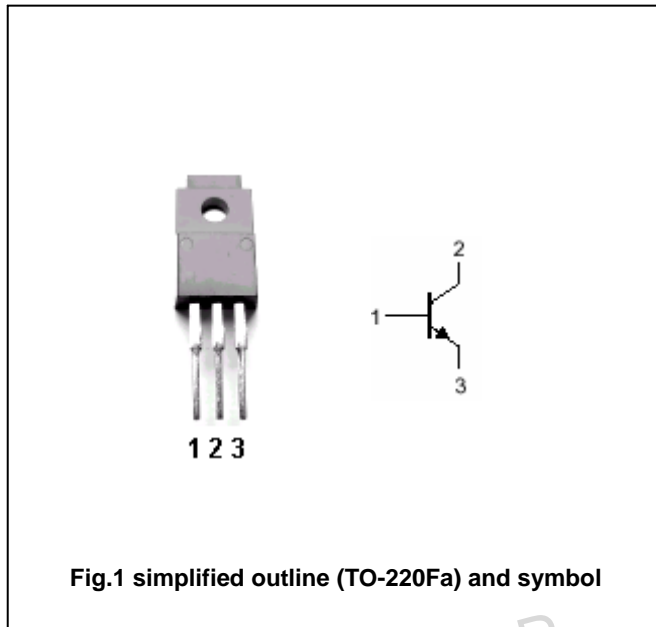
- With TO-220Fa package
- High breakdown voltage
- High speed switching
- Wide area of safe operation

APPLICATIONS

- For high breakdown voltage high-speed switching applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



ABSOLUTE MAXIMUM RATINGS AT Ta=25

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	900	V
V_{CEO}	Collector-emitter voltage	Open base	800	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current (DC)		3	A
I_{CM}	Collector current-peak		5	A
I_B	Base current		1	A
P_C	Collector power dissipation	$T_C=25$	40	W
		$T_a=25$	2	
T_j	Junction temperature		150	
T_{stg}	Storage temperature		-55~150	

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CHARACTERISTICS

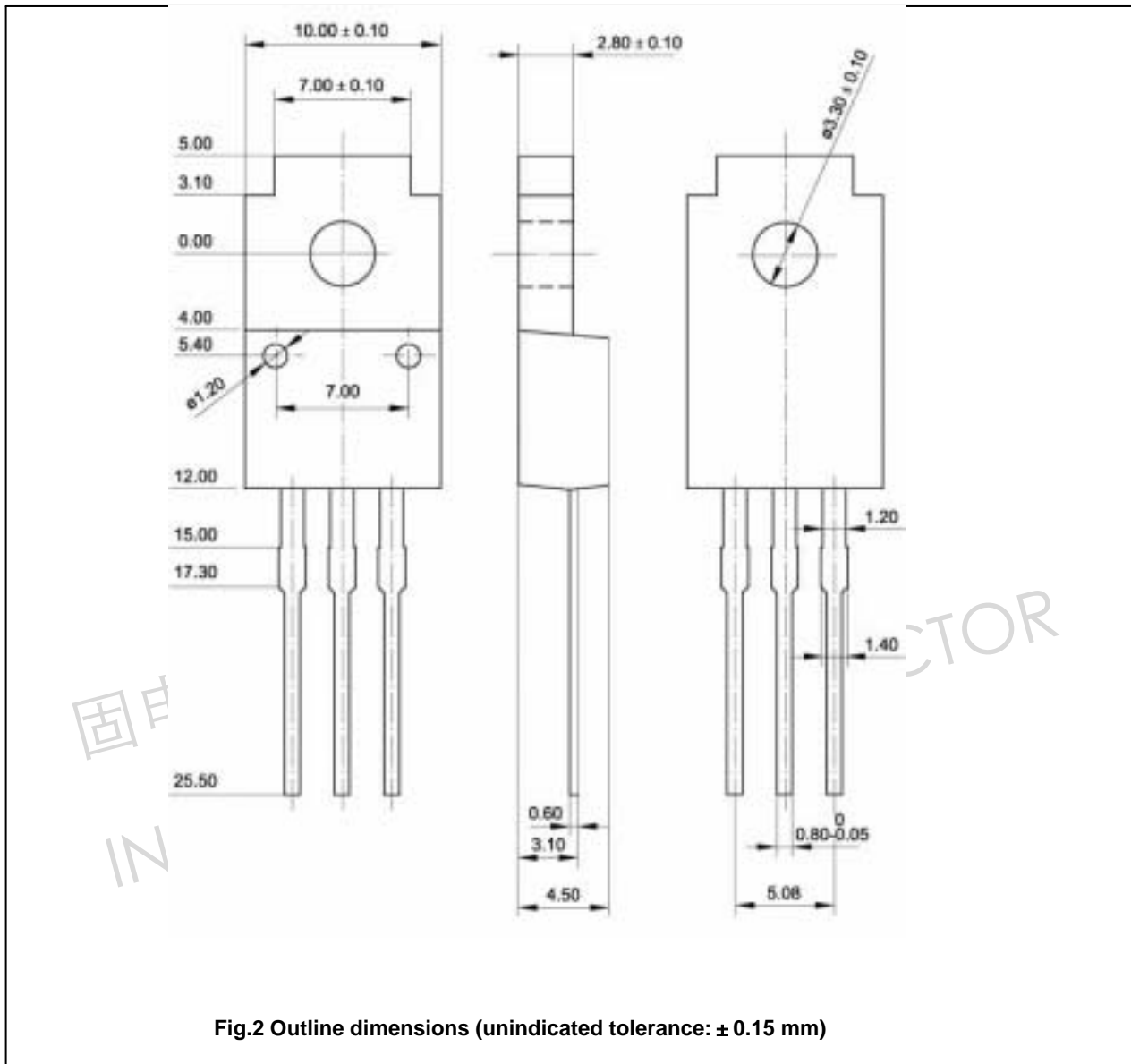
T_j=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =10mA, I _B =0	800			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =0.8A; I _B =0.16A			1.5	V
V _{BEsat}	Base-emitter saturation voltage	I _C =0.8A; I _B =0.16A			1.5	V
I _{CBO}	Collector cut-off current	V _{CB} =900V; I _E =0			50	μA
I _{EBO}	Emitter cut-off current	V _{EB} =7V; I _C =0			50	μA
h _{FE-1}	DC current gain	I _C =0.1A; V _{CE} =5V	8			
h _{FE-2}	DC current gain	I _C =0.8A; V _{CE} =5V	6			
f _T	Transition frequency	I _C =0.15A; V _{CE} =5V		10		MHz

Switching times

t _{on}	Turn-on time	I _C =0.8A; I _{B1} =0.16A I _{B2} =-0.32A V _{CC} =250V			0.7	μs
t _s	Storage time				2.5	μs
t _f	Fall time				0.3	μs

PACKAGE OUTLINE



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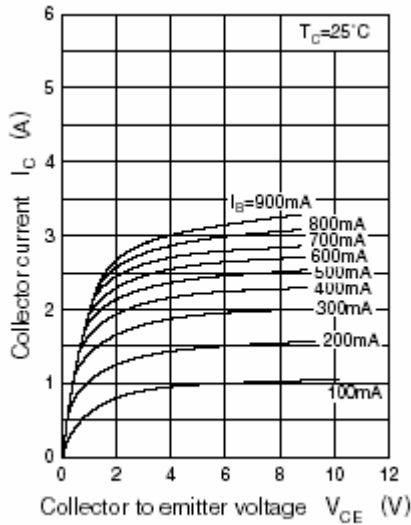


Fig.3 Static Characteristic

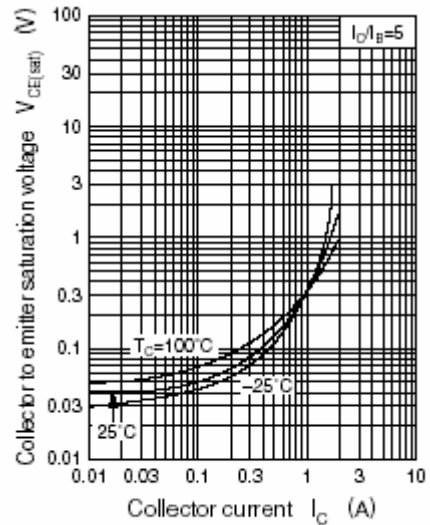


Fig.4 Collector-Emitter Saturation Voltage

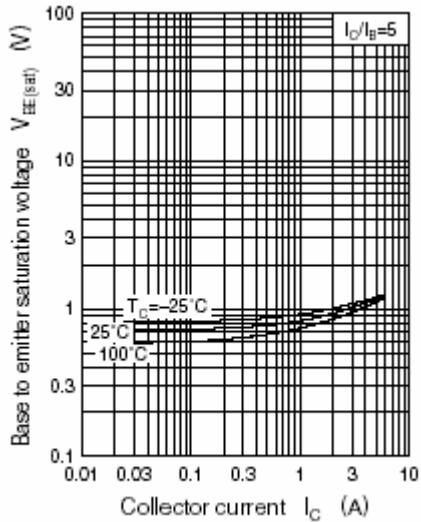


Fig.5 Base-Emitter Saturation Voltage

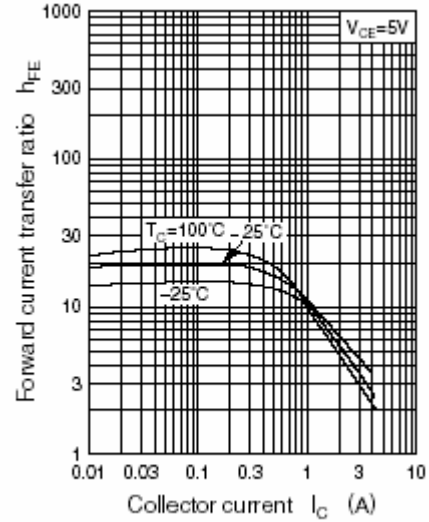


Fig.6 DC current Gain

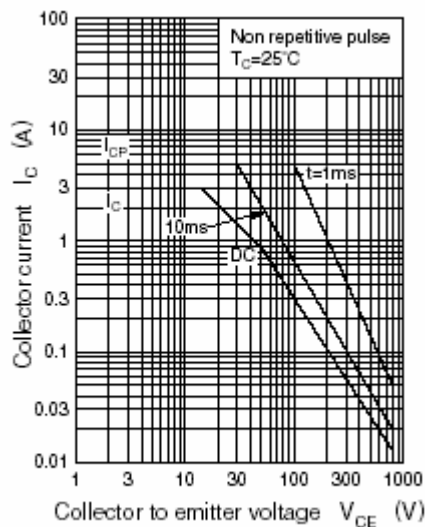


Fig.7 Safe Operating Area