

Silicon NPN Power Transistors

2SC5439

DESCRIPTION

- With TO-220F package
- High collector breakdown voltage
- Excellent switching times

APPLICATIONS

- Switching regulator applications
- High voltage switching applications
- DC-DC converter applications
- Inverter lighting applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

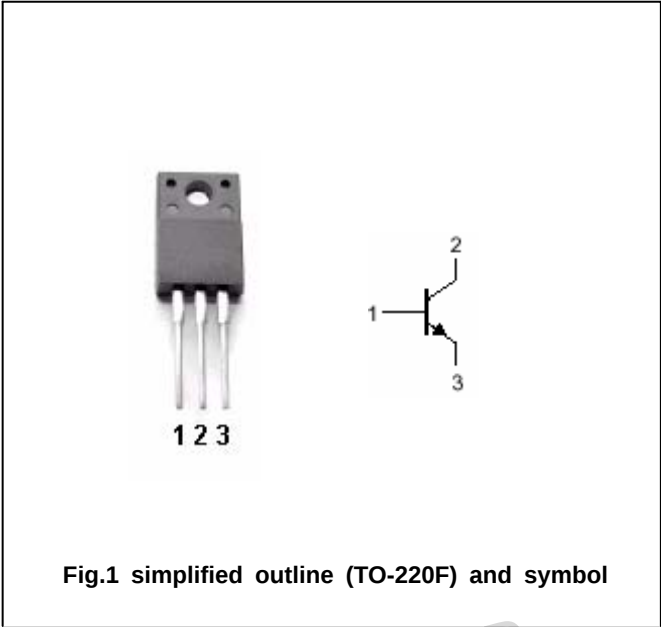


Fig.1 simplified outline (TO-220F) and symbol

Absolute maximum ratings (Ta=25)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	1000	V
V _{CEO}	Collector-emitter voltage	Open base	450	V
V _{EBO}	Emitter-base voltage	Open collector	9	V
I _C	Collector current		8	A
I _{CM}	Collector current-peak		16	A
I _B	Base current		1	A
P _C	Collector power dissipation	T _a =25	2	W
		T _C =25	30	
T _j	Junction temperature		150	
T _{stg}	Storage temperature		-55~150	

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CHARACTERISTICS

Tj=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=10mA; I_B=0$	450			V
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=1mA; I_E=0$	1000			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=3.2A; I_B=0.64 A$			1.0	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=3.2A; I_B=0.64 A$			1.5	V
I_{CBO}	Collector cut-off current	$V_{CB}=1000V; I_E=0$			100	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=7V; I_C=0$			10	μA
h_{FE-1}	DC current gain	$I_C=1mA; V_{CE}=5V$	10			
h_{FE-2}	DC current gain	$I_C=1A; V_{CE}=5V$	14		34	

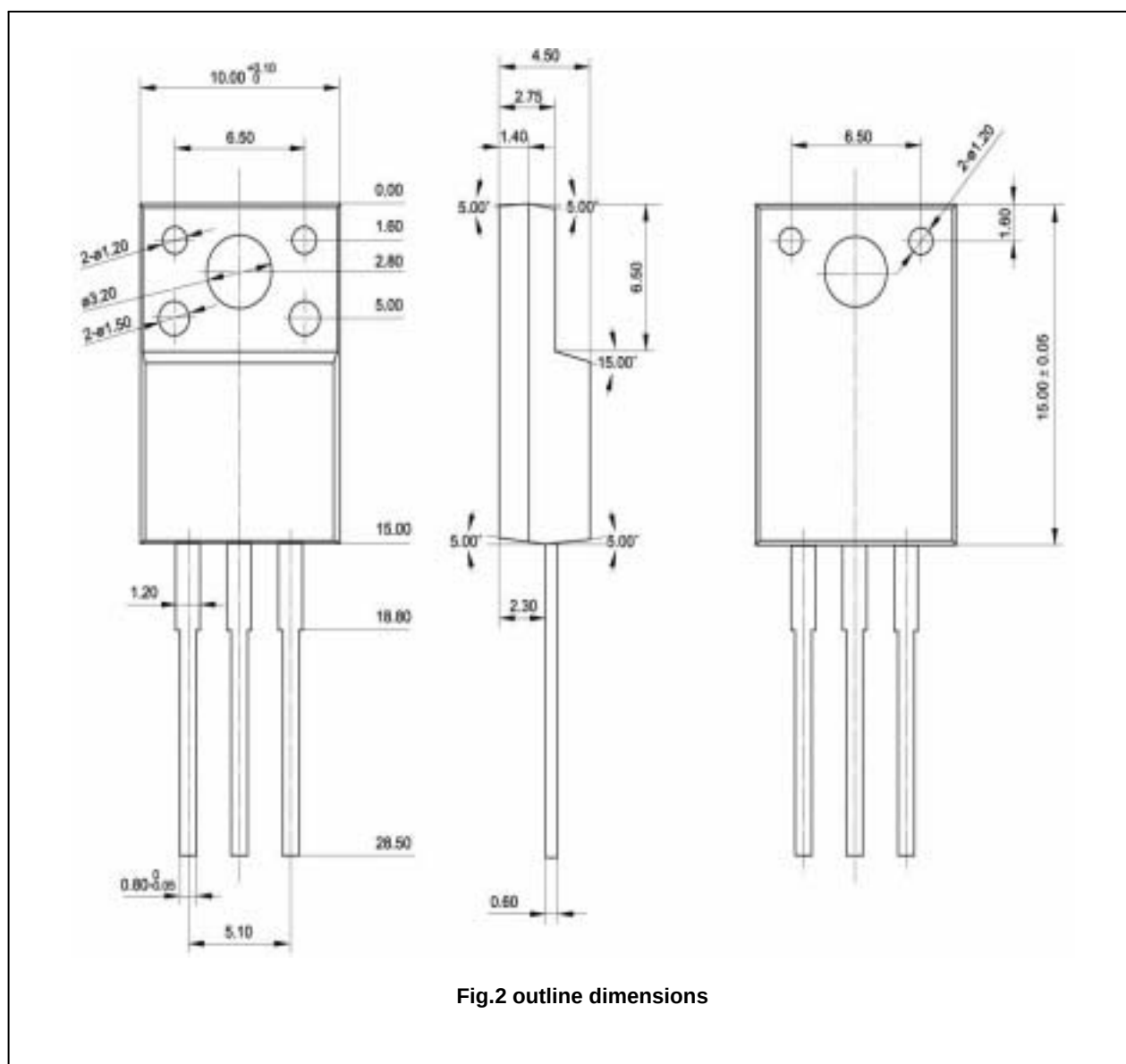
Switching times

t_{on}	Turn-on time	$I_{B1}=0.64A; I_{B2}=1.28A$ $V_{CC} \approx 200V; R_L=62.5\Omega$		0.2		μs
t_s	Storage time			2.0	3.5	μs
t_f	Fall time			0.15		μs

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PACKAGE OUTLINE



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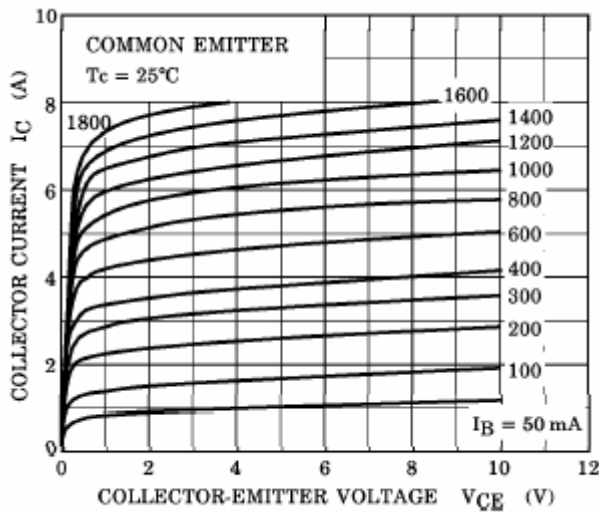


Fig.3 Static Characteristic

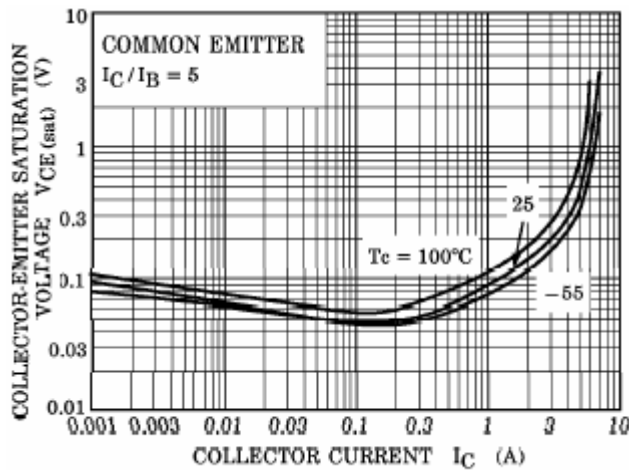


Fig.5 Collector-Emitter Saturation Voltage

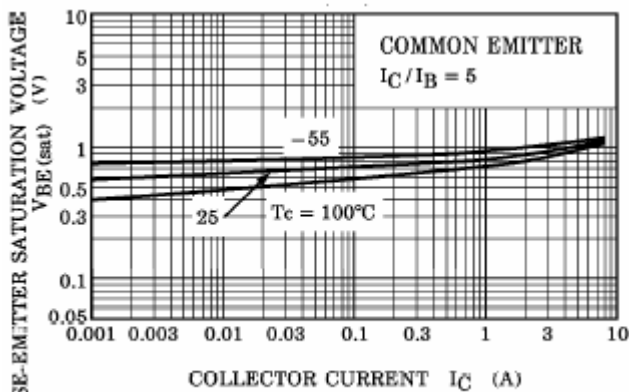


Fig.6 Base-Emitter Saturation Voltage

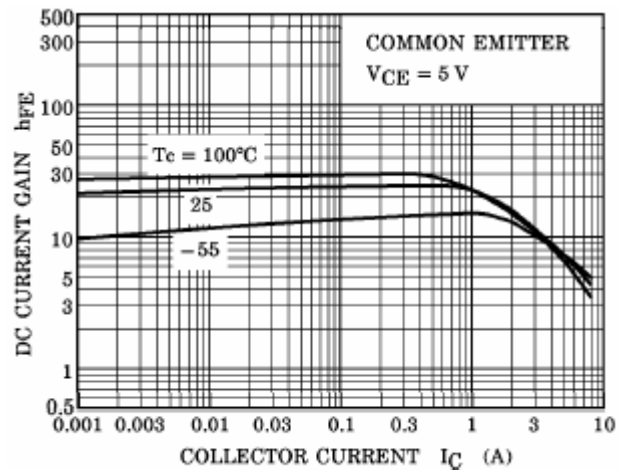


Fig.4 DC current Gain

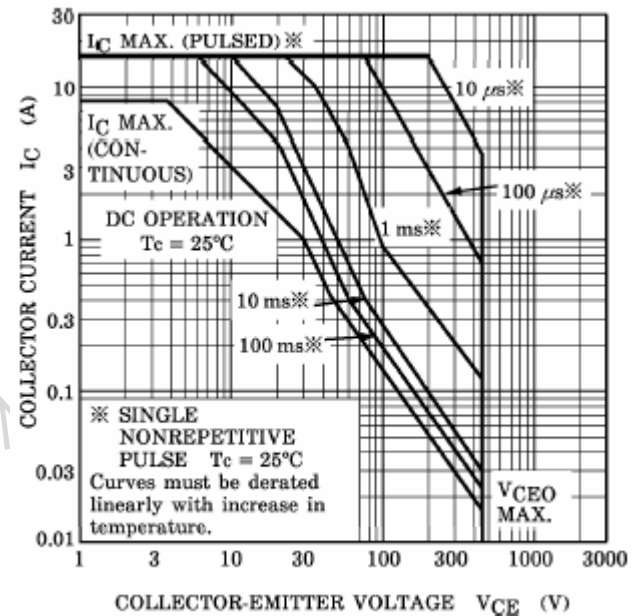


Fig.7 Safe Operating Area