

Silicon NPN Power Transistors

2SC5439

DESCRIPTION

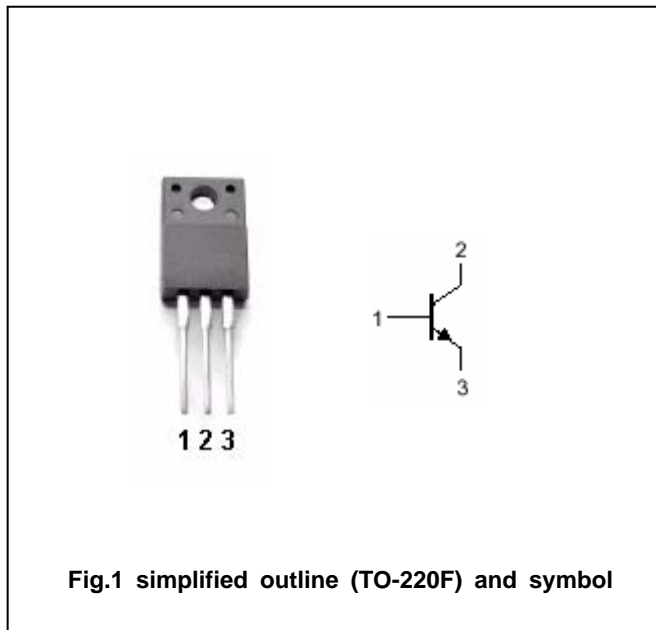
- With TO-220F package
- High collector breakdown voltage
- Excellent switching times

APPLICATIONS

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

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



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

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	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} 200V; R _L =62.5		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

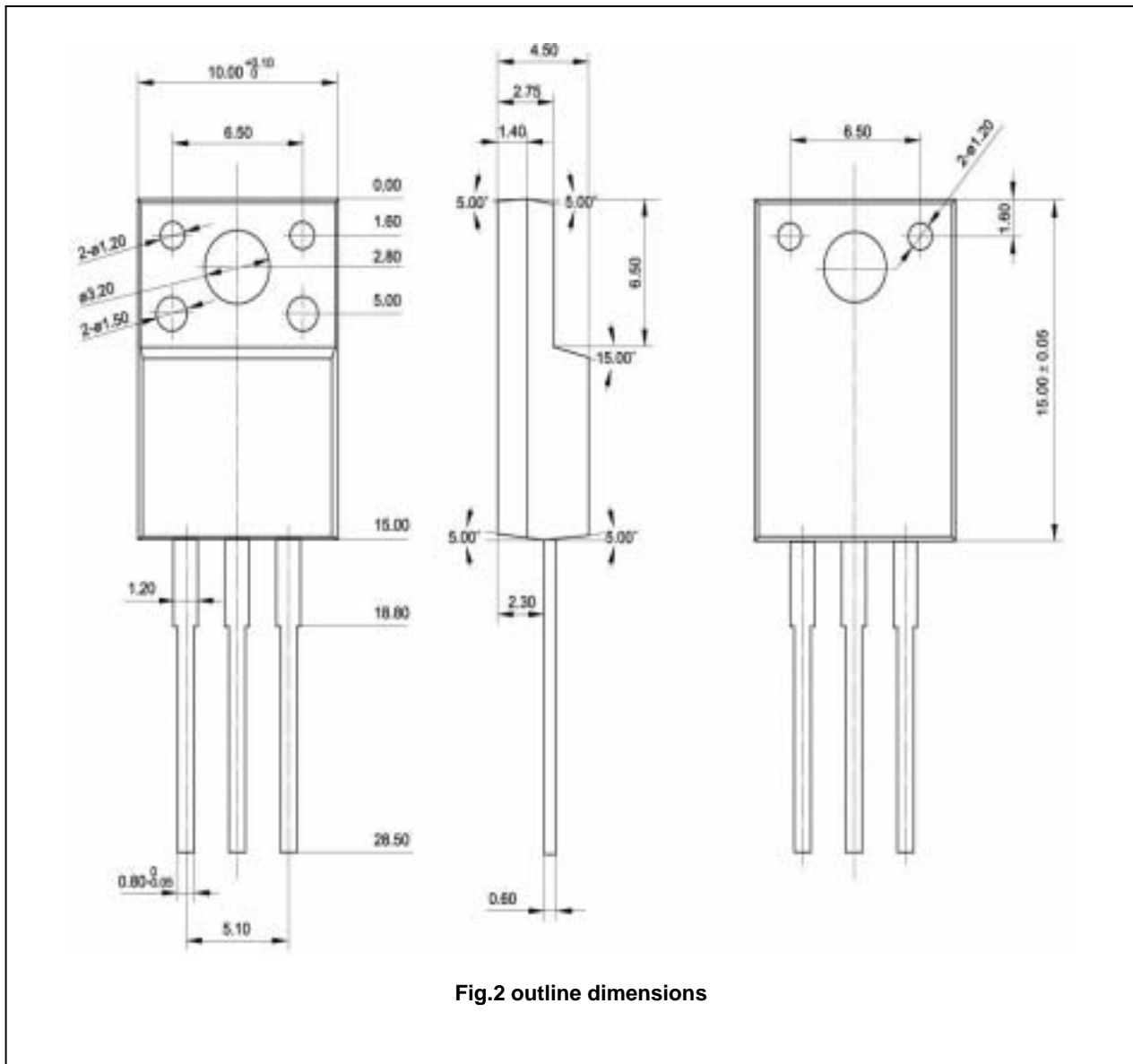


Fig.2 outline dimensions

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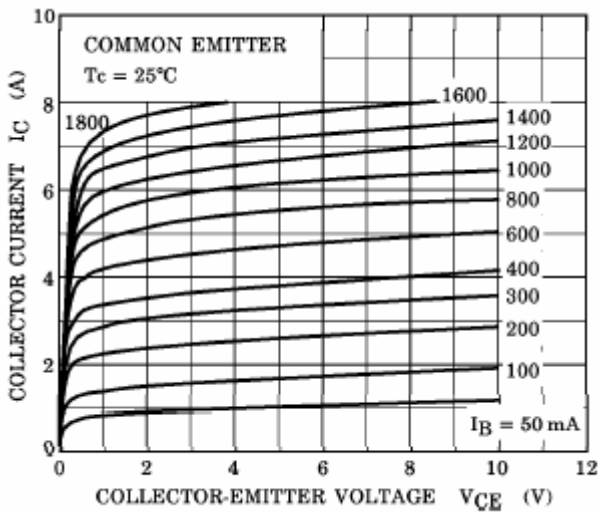


Fig.3 Static Characteristic

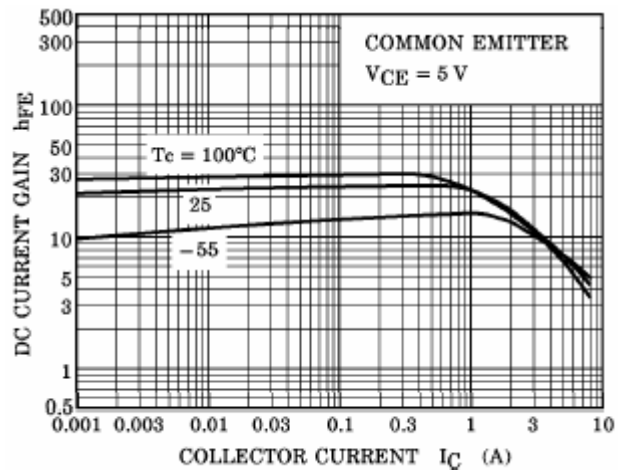


Fig.4 DC current Gain

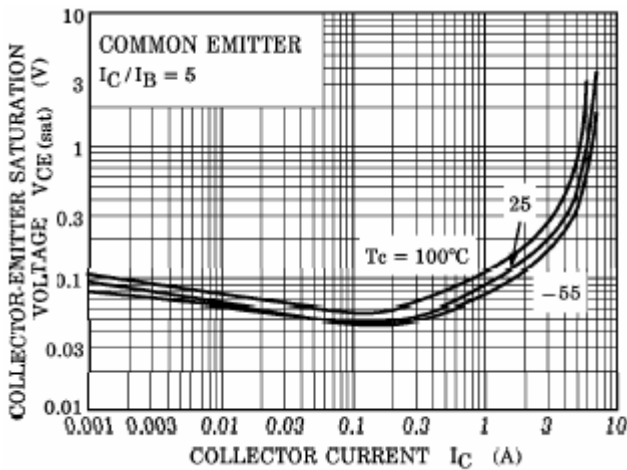


Fig.5 Collector-Emitter Saturation Voltage

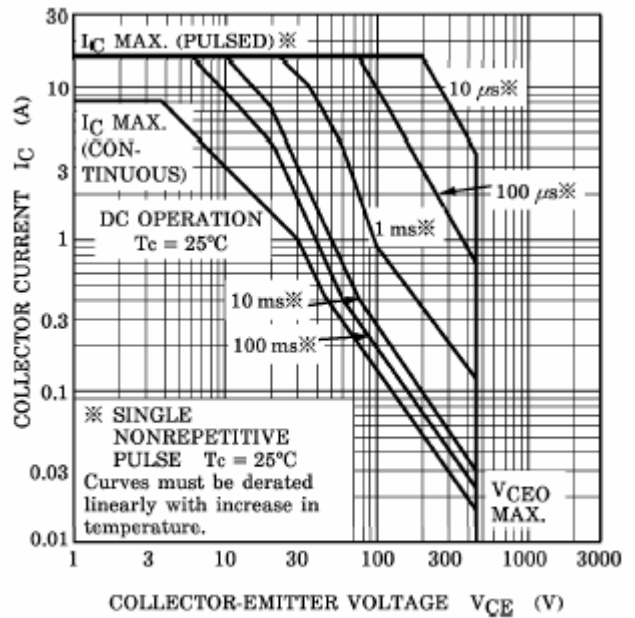


Fig.7 Safe Operating Area

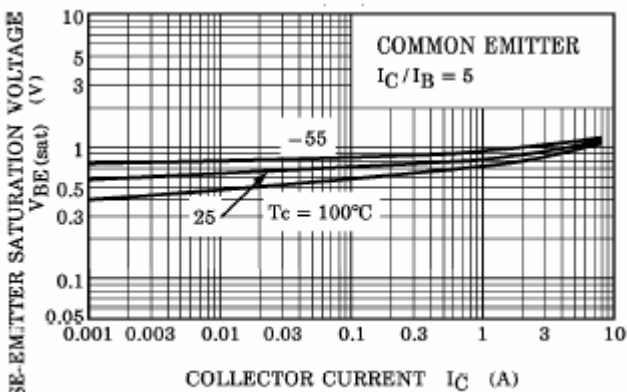


Fig.6 Base-Emitter Saturation Voltage