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

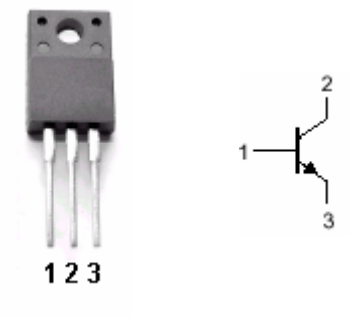

Fig.1 simplified outline (TO-220F) and symbol

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}≈200V;R_L=62.5Ω		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

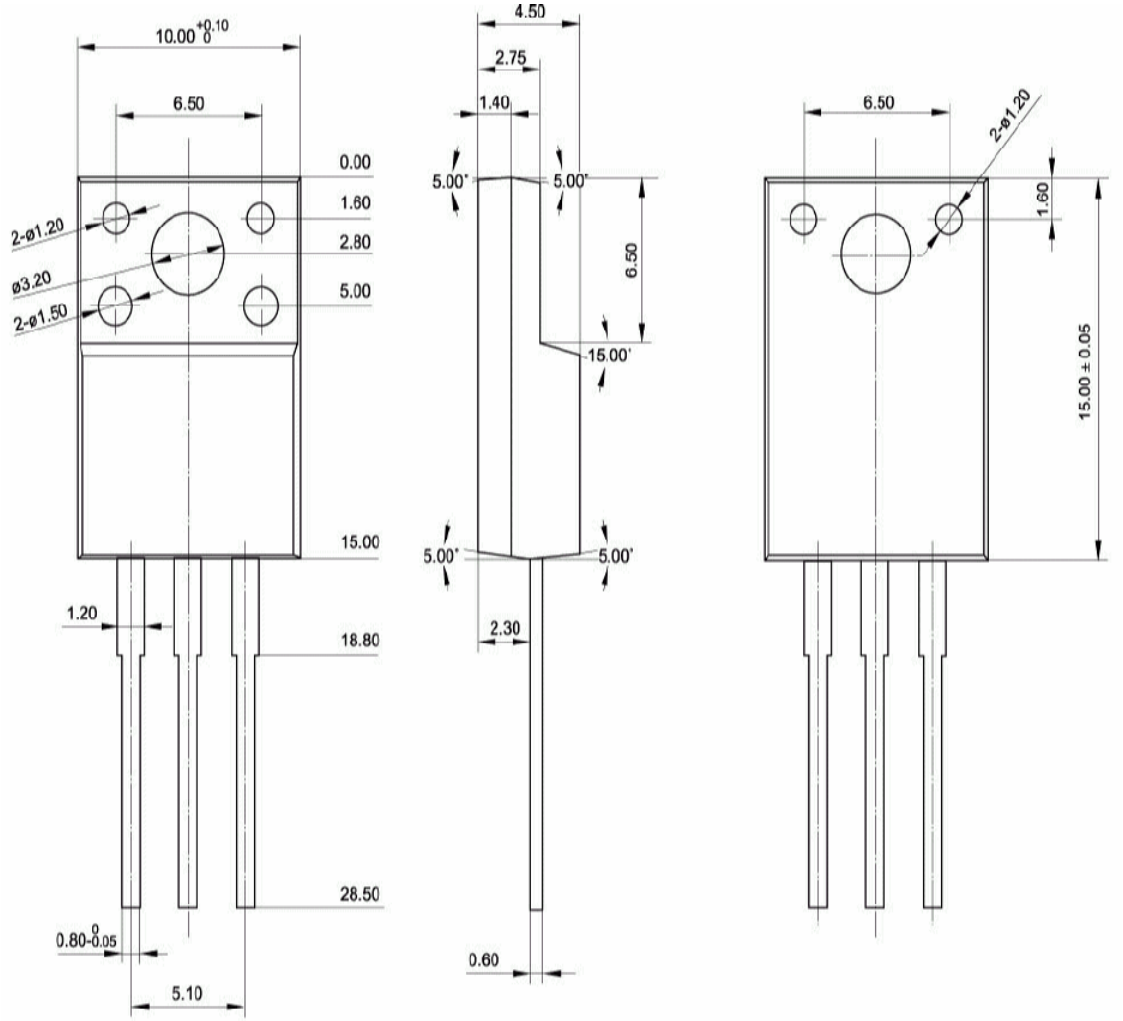

Fig.2 outline dimensions

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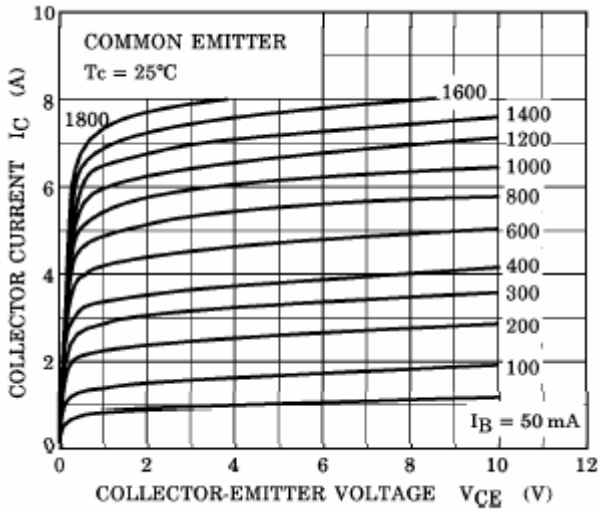

Fig.3 Static Characteristic

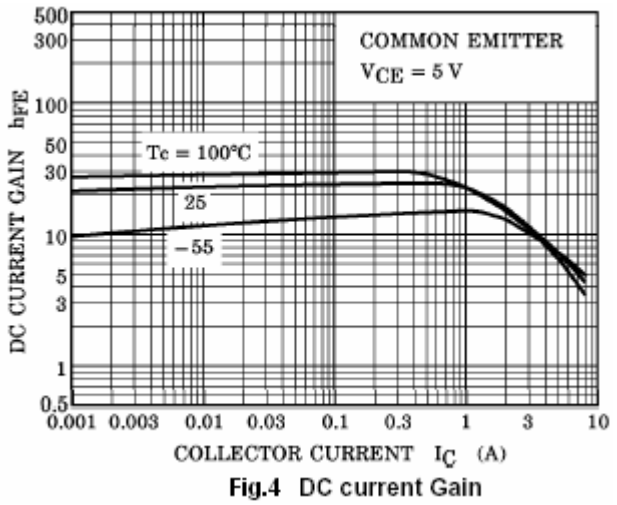

Fig.4 DC current Gain

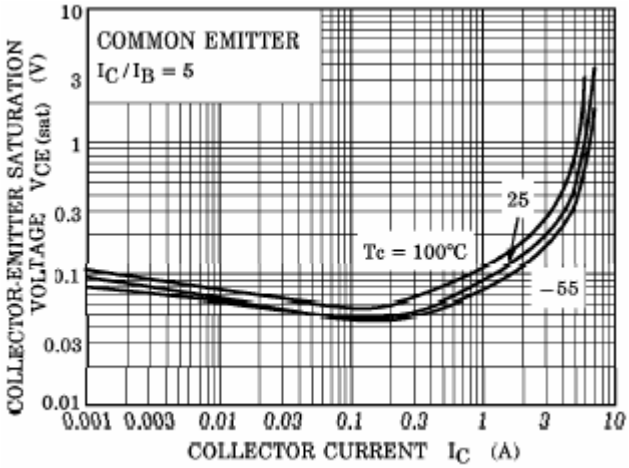

Fig.5 Collector-Emitter Saturation Voltage

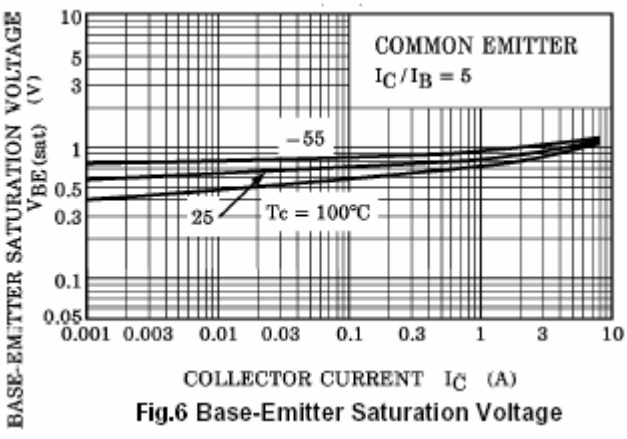

Fig.6 Base-Emitter Saturation Voltage

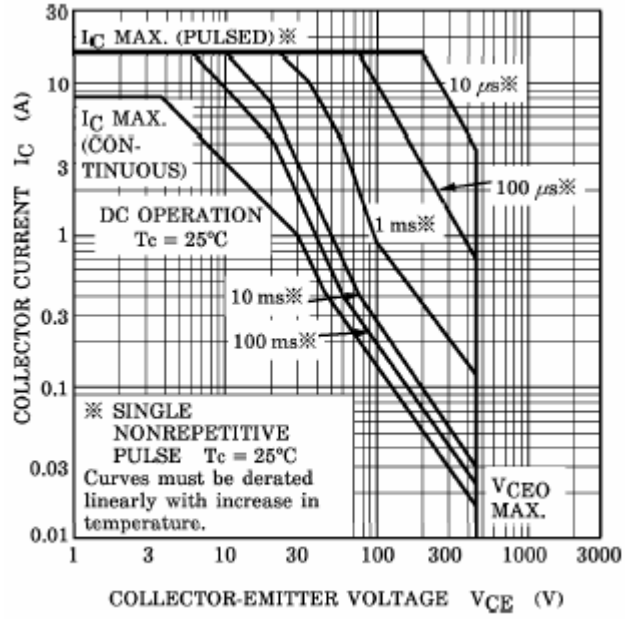

Fig.7 Safe Operating Area