

Silicon NPN Power Transistors

2SC5249

DESCRIPTION

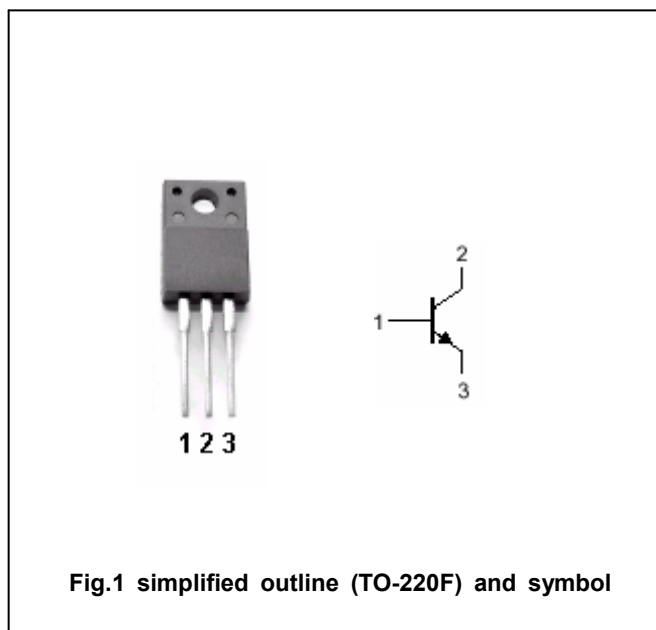
- With TO-220F package
- High voltage switching transistor

APPLICATIONS

- For switching regulator and general purpose applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

Absolute maximum ratings($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	600	V
V_{CEO}	Collector-emitter voltage	Open base	600	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current		3	A
I_{CM}	Collector current-peak		6	A
I_B	Base current		1.5	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	35	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

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CHARACTERISTICS

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 $T_J = 25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C = 10\text{mA}$; $R_{BE} = \infty$	600			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C = 1\text{A}$; $I_B = 0.2\text{A}$			0.5	V
V_{BEsat}	Base-emitter saturation voltage	$I_C = 1\text{A}$; $I_B = 0.2\text{A}$			1.2	V
I_{CBO}	Collector cut-off current	$V_{CB} = 600\text{V}$; $I_E = 0$			100	μA
I_{EBO}	Emitter cut-off current	$V_{EB} = 7\text{V}$; $I_C = 0$			100	μA
h_{FE}	DC current gain	$I_C = 1\text{A}$; $V_{CE} = 4\text{V}$	20		40	
f_T	Transition frequency	$I_E = -0.3\text{A}$; $V_{CE} = 12\text{V}$		6		MHz
C_{OB}	Output capacitance	$V_{CB} = 10\text{V}$; $f = 1\text{MHz}$		50		pF

Switching times

t_{on}	Turn-on time	$I_C = 1\text{A}$; $I_{B1} = 0.1\text{A}$; $I_{B2} = -0.1\text{A}$; $R_L = 200\Omega$; $V_{CC} = 200\text{V}$			1.0	μs
t_{stg}	Storage time				19	μs
t_f	Fall time				1.0	μs

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PACKAGE OUTLINE

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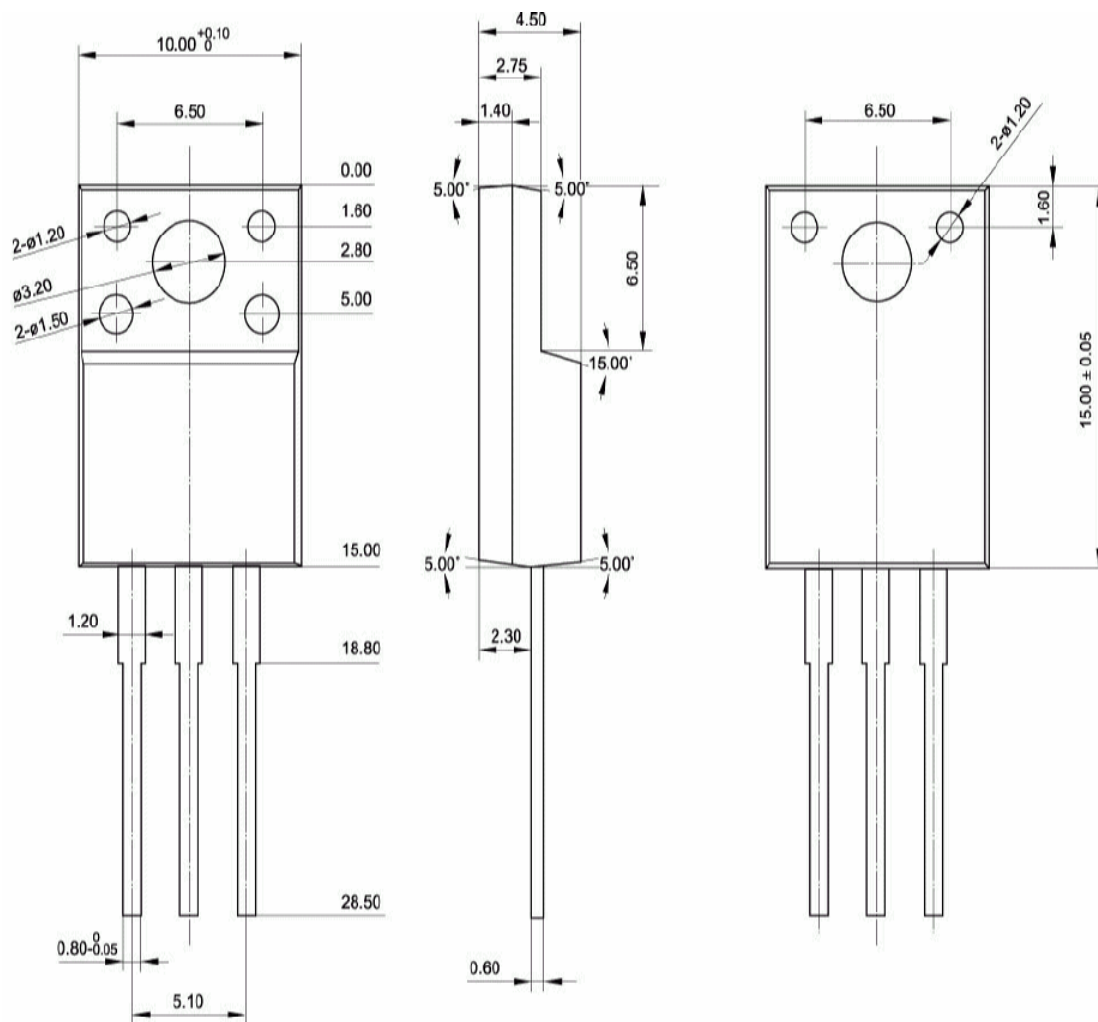


Fig.2 Outline dimensions

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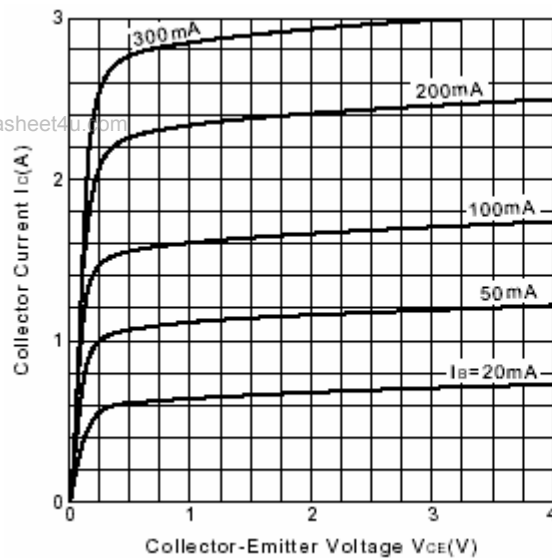


Fig.3 Static Characteristic

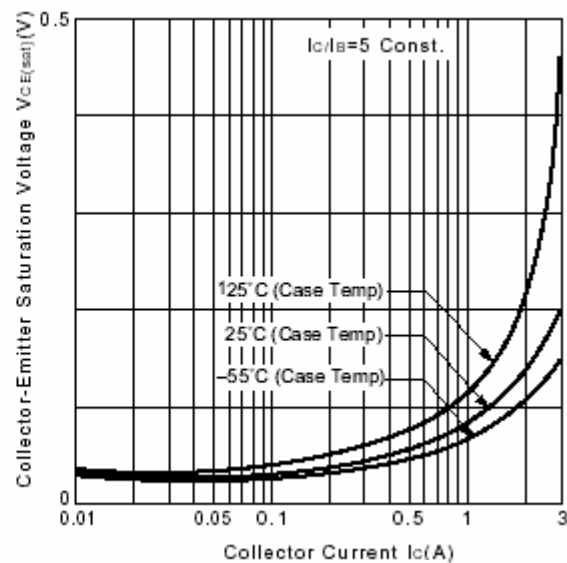
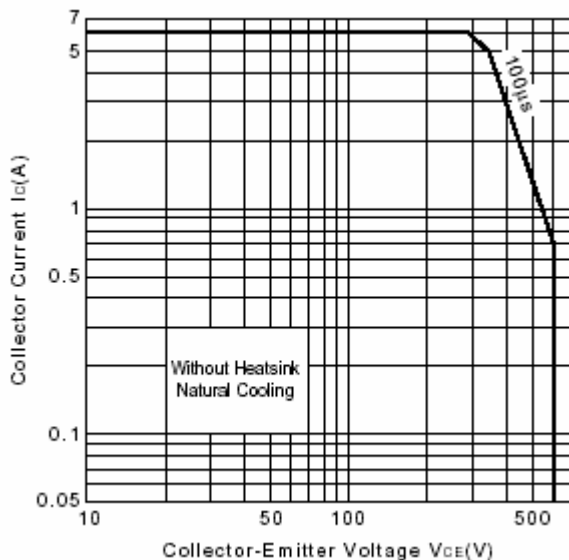
Fig.4 $V_{CE(sat)}-I_C$ 

Fig.5 Safe Operating Area

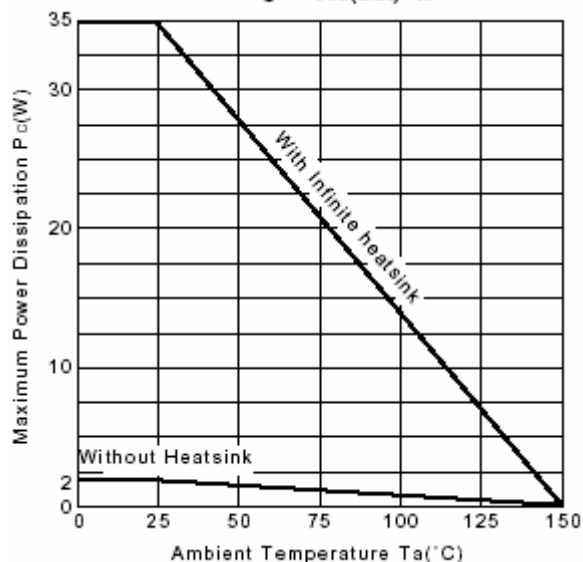


Fig.6 Power Derating

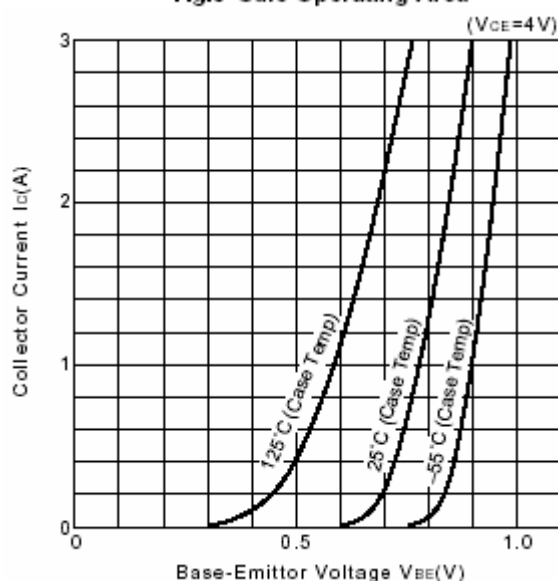
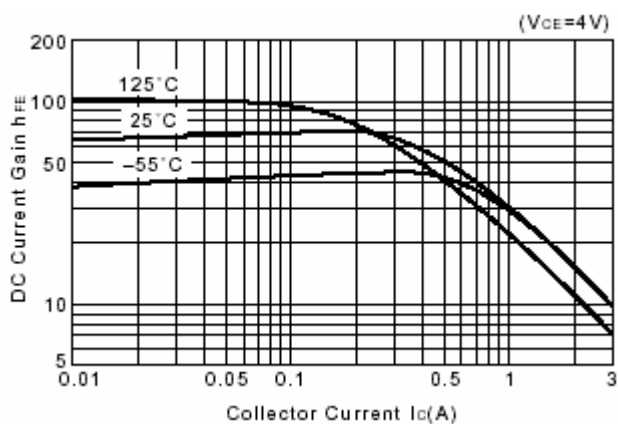
Fig.7 I_C-V_{BE} 

Fig.8 DC current Gain