Silicon NPN Power Transistors 2SC4304

DESCRIPTION

·With TO-220F package
·High voltage
·High speed switching

APPLICATIONS

·For switching regulator and general purpose applications

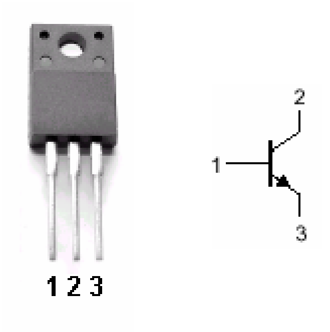

Fig.1 simplified outline (TO-220F) and symbol

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	900	V
V_{CEO}	Collector-emitter voltage	Open base	800	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 dissipation	T_C=25□	35	W
T_j	Junction temperature		150	□
T_{stg}	Storage temperature		-55~150	□

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	800			V
V_{CEsat}	Collector-emitter saturation voltage	I_C=0.7A ;I_B=0.14A			0.5	V
V_{BEsat}	Base-emitter saturation voltage	I_C=0.7A ;I_B=0.14A			1.2	V
I_{CBO}	Collector cut-off current	V_{CB}=800V; I_E=0			100	μA
I_{EBO}	Emitter cut-off current	V_{EB}=7V; I_C=0			100	μA
h_{FE}	DC current gain	I_C=0.7A ; V_{CE}=4V	10		30	
C_{OB}	Output capacitance	I_E=0; V_{CB}=10V;f=1MHz		50		pF
f_T	Transition frequency	I_E=-0.3A ; V_{CE}=12V		15		MHz

Switching times

t_{on}	Turn-on time	I_C=0.7A; I_{B1}=0.1A I_{B2}=-0.35A V_{CC}=250V ,R_L=357Ω			0.7	μs
t_s	Storage time				4.0	μs
t_f	Fall time				0.7	μs

PACKAGE OUTLINE

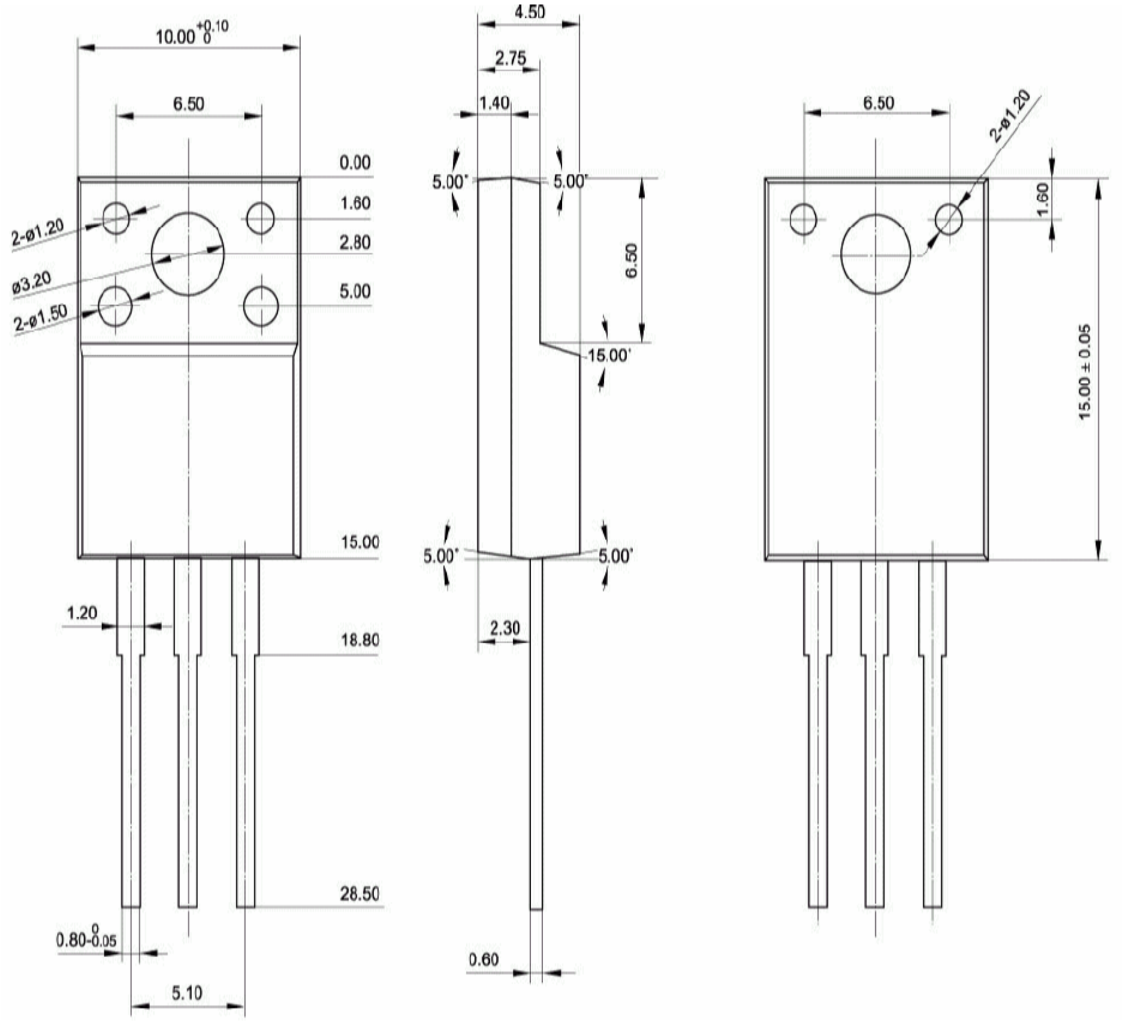

Fig.2 Outline dimensions

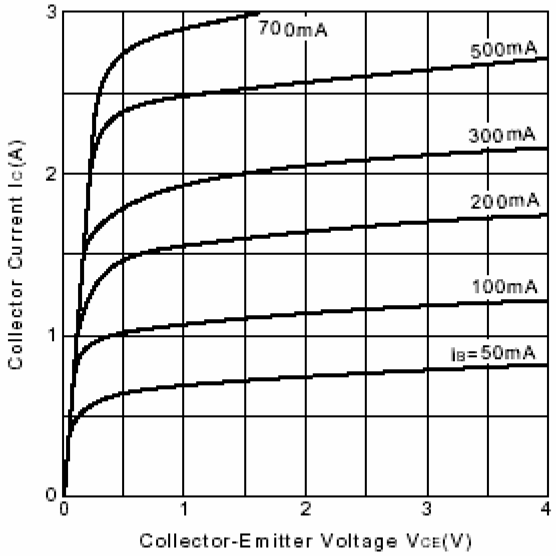

Fig.3 Static Characteristic

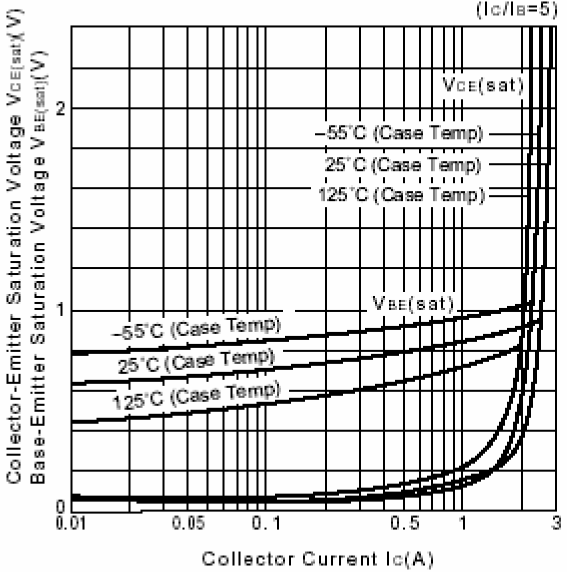

Fig.4 Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

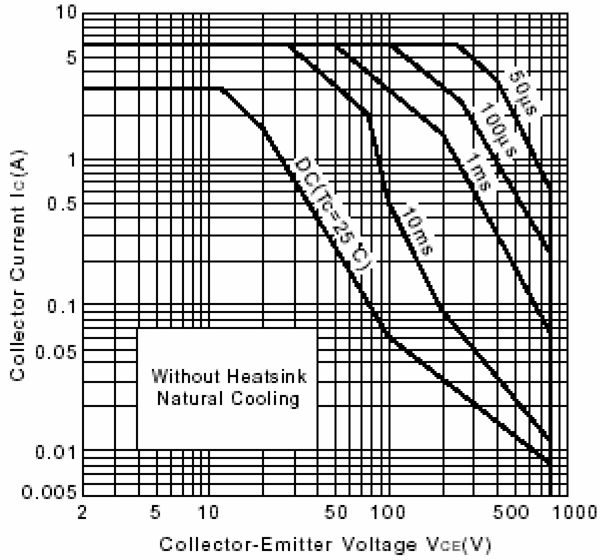

Fig.5 Safe Operating Area

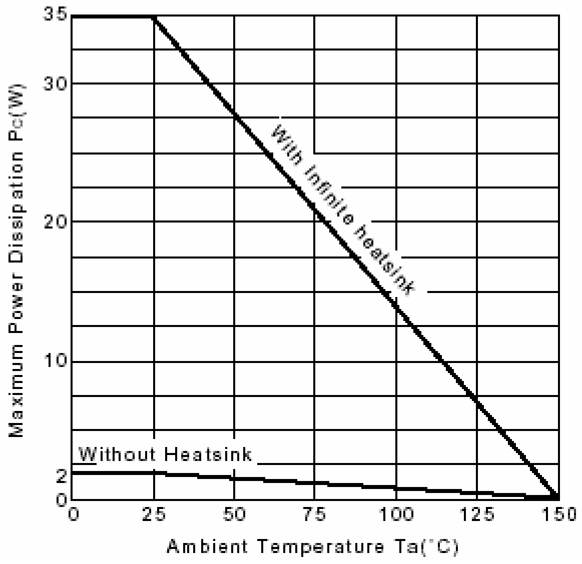

Fig.6 Pc−Ta Derating

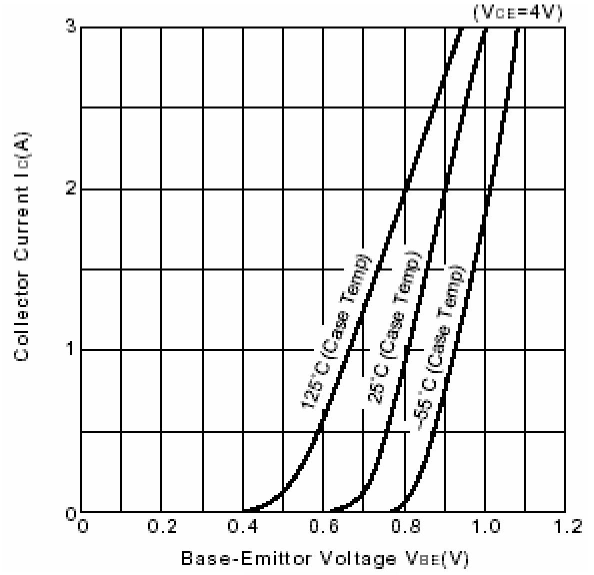

Fig.7 IC−VBE

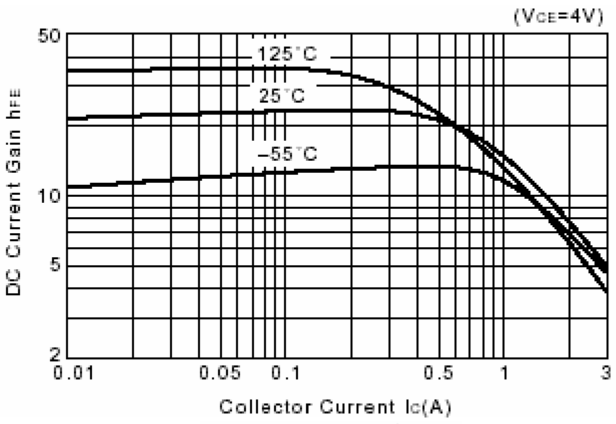

Fig.8 DC current Gain