

Silicon NPN Power Transistors

2SC3752

DESCRIPTION

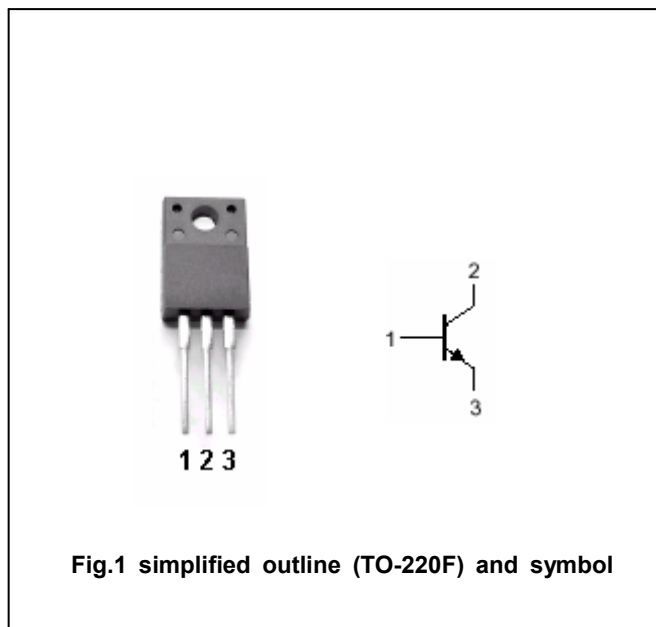
- With TO-220F package
- High breakdown voltage and high reliability.
- Fast switching speed.
- Wide ASO(Safe Operating Area)

APPLICATIONS

- 800V/3A switching regulator 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	1100	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		10	A
I_B	Base current		1.5	A
P_C	Collector dissipation	$T_C=25^\circ\text{C}$	30	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

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CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=5mA ; R_{BE}=\infty$	800			V
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=1mA ; I_E=0$	1100			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=1mA ; I_C=0$	7			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=1.5A ; I_B=0.3A$			2.0	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=1.5A ; I_B=0.3A$			1.5	V
I_{CBO}	Collector cut-off current	$V_{CB}=800V ; I_E=0$			10	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=5V ; I_C=0$			10	μA
h_{FE-1}	DC current gain	$I_C=0.2A ; V_{CE}=5V$	10		40	
h_{FE-2}	DC current gain	$I_C=1A ; V_{CE}=5V$	8			
f_T	Transition frequency	$I_C=0.2A ; V_{CE}=10V$		15		MHz
C_{OB}	Collector output capacitance	$f=1MHz ; V_{CB}=10V$		60		pF

Switching times

t_{on}	Turn-on time	$I_C=2.0A ; I_{B1}=0.4A ; I_{B2}=-0.8A$ $V_{CC}=400V , R_L=200\Omega$			0.5	μs
t_{stg}	Storage time				3.0	μs
t_f	Fall time				0.3	μs

◆ h_{FE-1} Classifications

K	L	M
10-20	15-30	20-40

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PACKAGE OUTLINE

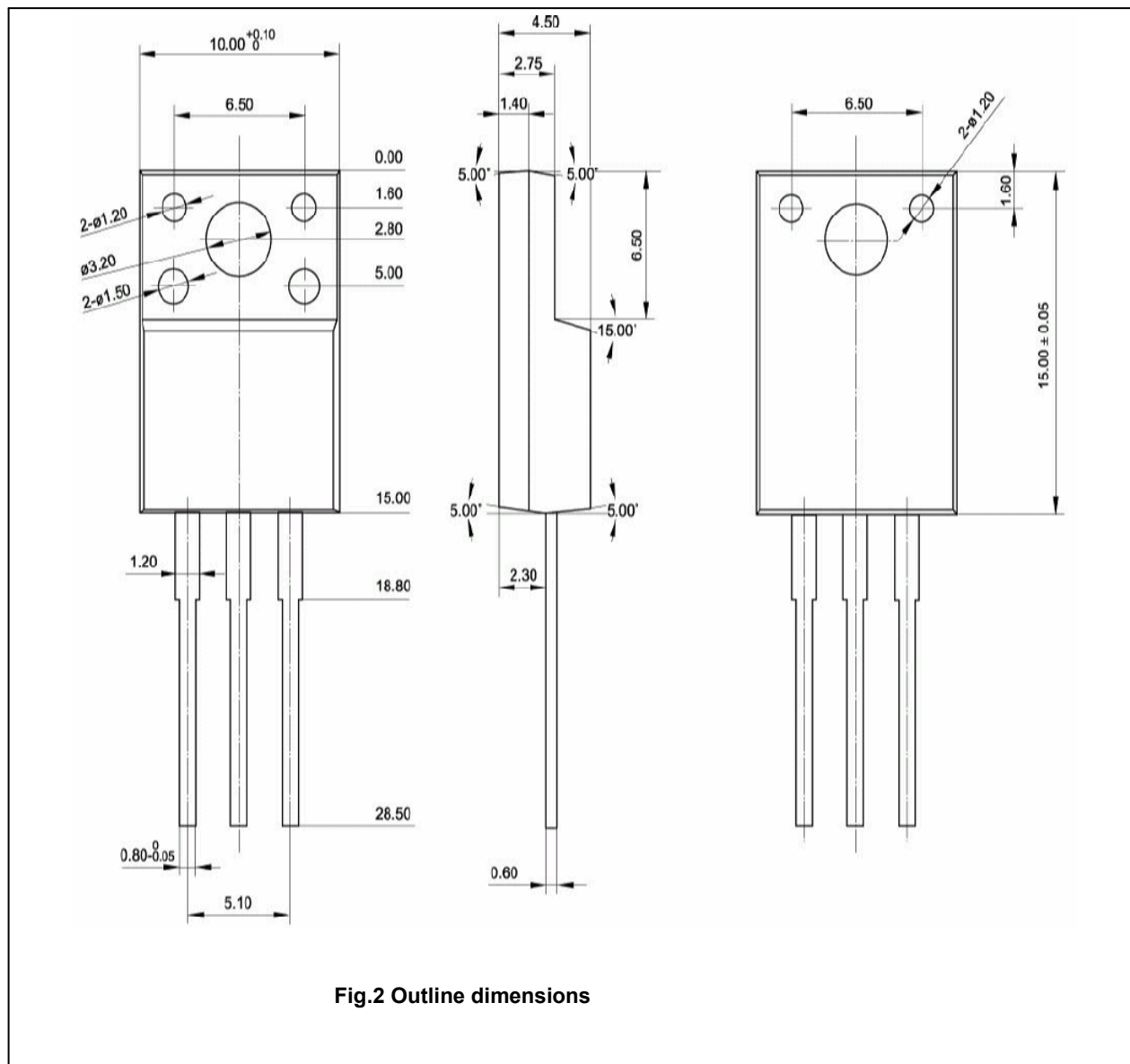


Fig.2 Outline dimensions

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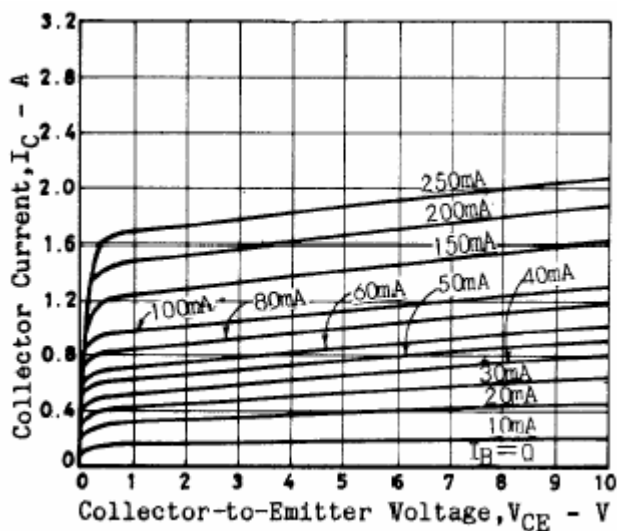


Fig.3 Static Characteristic

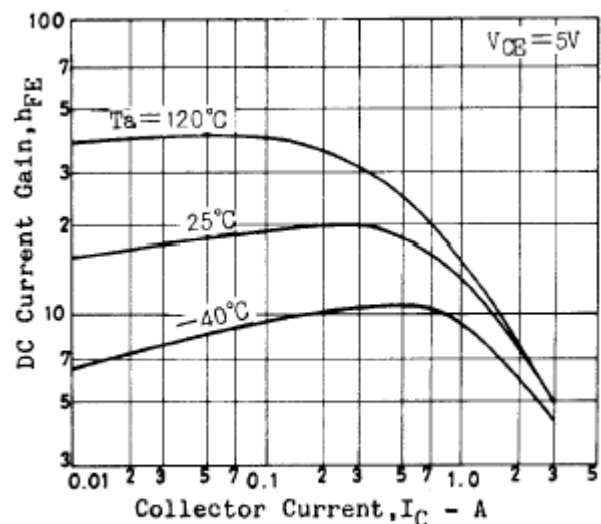


Fig.4 DC current Gain

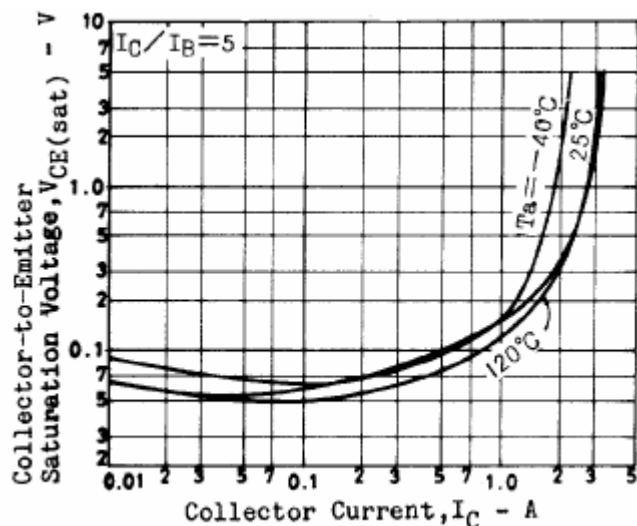


Fig.5 Collector-Emitter Saturation Voltage

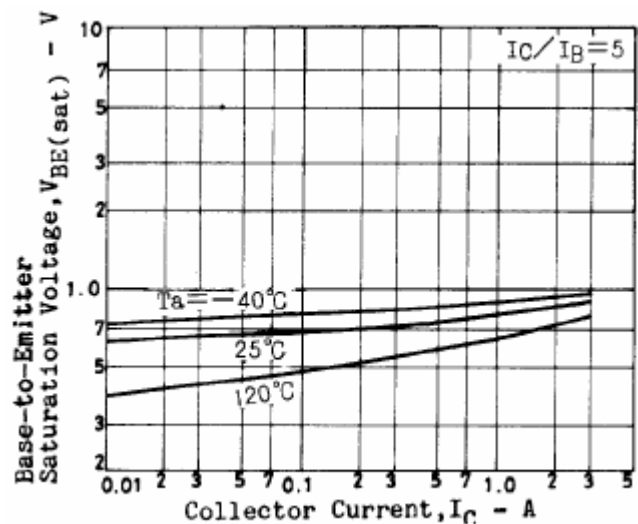


Fig.6 Base-Emitter Saturation Voltage

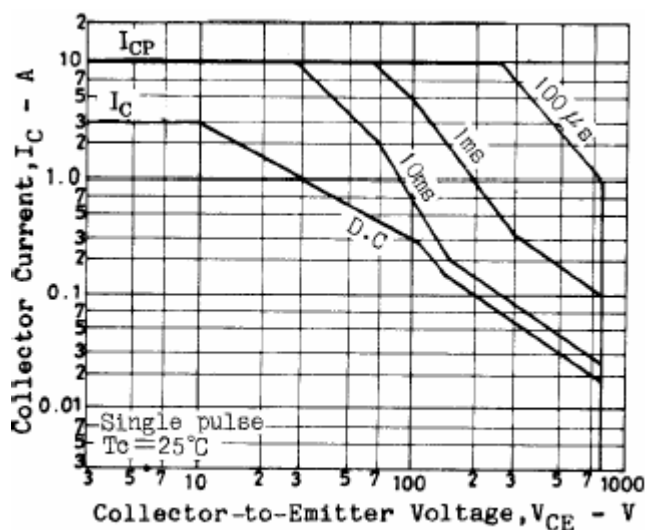


Fig.7 Safe Operating Area