

Silicon NPN Power Transistors

2SC3974

DESCRIPTION

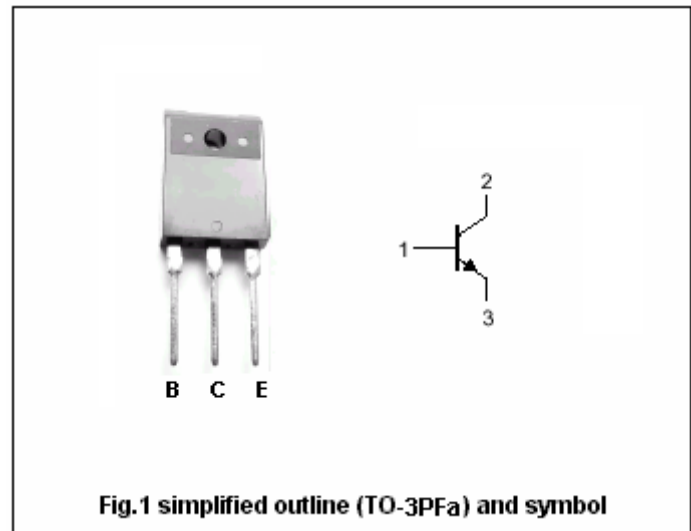
- With TO-3PFa package
- High voltage
- High speed switching
- Wide area of safe operation

APPLICATIONS

- For high voltage, and high speed Switching 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	800	V
V_{CEO}	Collector-emitter voltage	Open base	500	V
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current (DC)		7	A
I_{CP}	Collector current (Pulse)		15	A
I_B	Base Collector current (DC)		4	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	80	W
		$T_a=25^\circ\text{C}$	3	
T_j	Max.operating junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

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CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =10mA ; I _B =0	500			V
V _{CE(sat)}	Collector-emitter saturation voltage	I _C =4A ; I _B =0.8A			1.0	V
V _{BE(sat)}	Base-emitter saturation voltage	I _C =4A ; I _B =0.8A			1.5	V
I _{CBO}	Collector cut-off current	V _{CB} =800V; I _E =0			0.1	mA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			0.1	mA
h _{FE-1}	DC current gain	I _C =0.1A ; V _{CE} =5V	15			
h _{FE-2}	DC current gain	I _C =4A ; V _{CE} =5V	8			
f _T	Transition frequency	I _C =0.5A ; V _{CE} =10V, f=1MHz	20			MHz

Switching times

t _{on}	Turn-on time	I _C =4A ; I _{B1} =0.8A , I _{B2} =-1.6A V _{CC} =200V			1.0	μ s
t _s	Storage time				3.0	μ s
t _f	Fall time				0.3	μ s

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PACKAGE OUTLINE

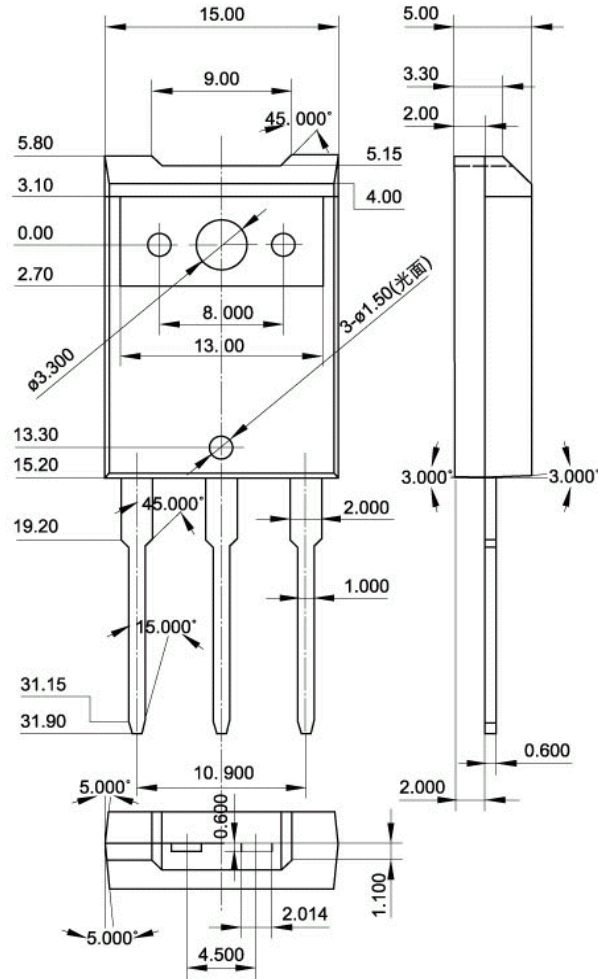


Fig.2 Outline dimensions (unindicated tolerance: $\pm 0.30\text{mm}$)