

Silicon NPN Power Transistors

2SC4940

DESCRIPTION

- With ITO-220 package
- Switching power transistor

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

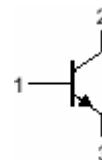


Fig.1 simplified outline (ITO-220) and symbol

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	1200	V
V_{CEO}	Collector-emitter voltage	Open base	550	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current		4	A
I_{CM}	Collector current-Peak		8	A
I_B	Base current		2	A
I_{BM}	Base current-peak		4	A
P_T	Total power dissipation	$T_C=25^\circ\text{C}$	30	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-C}$	Thermal resistance junction case	4.16	$^\circ\text{C/W}$

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CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(SUS)}$	Collector-emitter sustaining voltage	$I_C=0.1A ; I_B=0$	550			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=2A ; I_B=0.4A$			1.0	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=2A ; I_B=0.4A$			1.5	V
I_{CBO}	Collector cut-off current	At rated voltage			0.1	mA
I_{CEO}	Collector cut-off current					
I_{EBO}	Emitter cut-off current	At rated voltage			0.1	mA
h_{FE-1}	DC current gain	$I_C=2A ; V_{CE}=5V$	10			
h_{FE-2}	DC current gain	$I_C=1mA ; V_{CE}=5V$	10			
f_T	Transition frequency	$I_C=0.4A ; V_{CE}=10V$		10		MHz

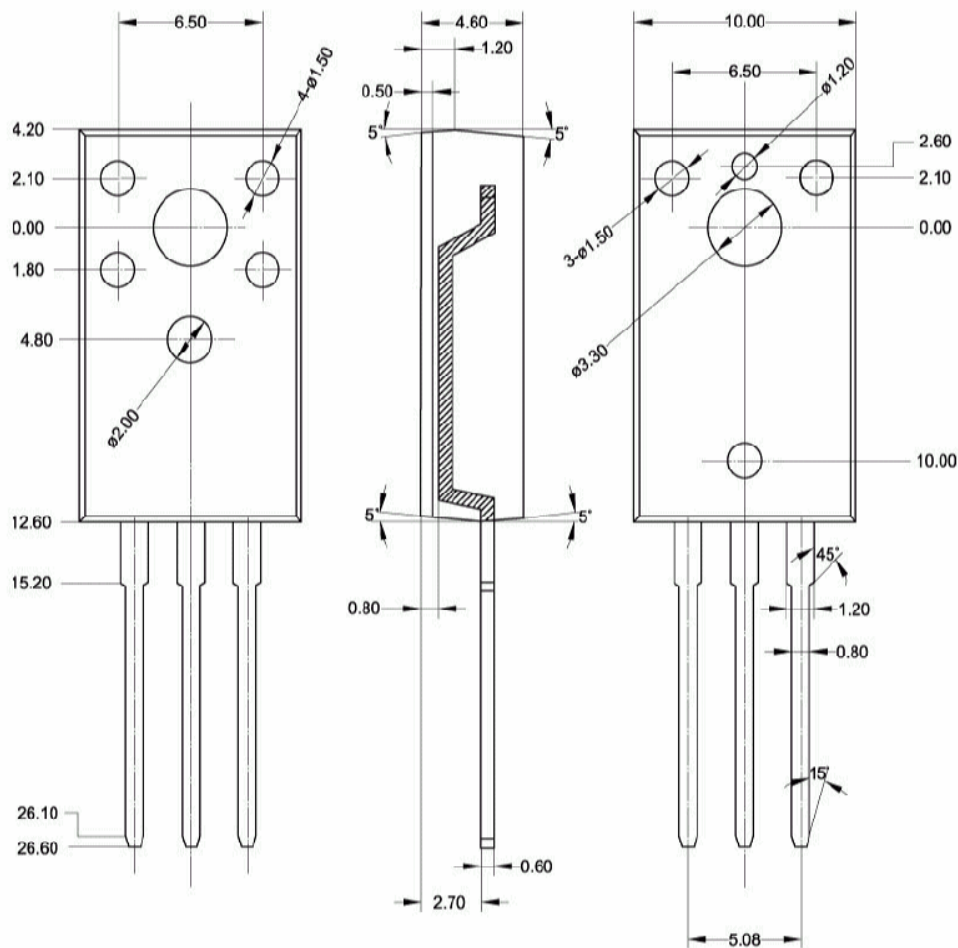
Switching times

t_{on}	Turn-on time	$I_C=2A ; I_{B1}=0.4A$ $I_{B2}=0.8A ; R_L=75\Omega$ $V_{BB2}=4V$			0.8	μs
t_s	Storage time				3.0	μs
t_f	Fall time				0.3	μs

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PACKAGE OUTLINE

Fig.2 Outline dimensions (unindicated tolerance: ± 0.20 mm)