

Silicon NPN Power Transistors

2SD1049

DESCRIPTION

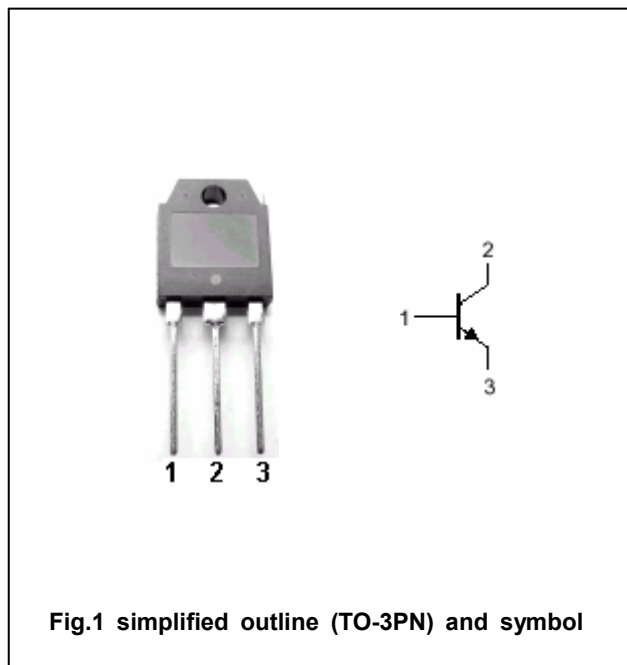
- With TO-3PN package
- High current,
- High speed switching
- High reliability

APPLICATIONS

- Switching regulators
- Motor controls
- High frequency inverters
- General purpose power amplifiers

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	120	V
V_{CEO}	Collector-emitter voltage	Open base	80	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current		25	A
I_B	Base current		5	A
P_C	Collector power dissipation	$T_c=25^\circ\text{C}$	80	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	CHARACTERISTICS	MAX	UNIT
$R_{\theta jc}$	Thermal resistance junction to case	1.55	$^\circ\text{C}/\text{W}$

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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	$I_C = 10\text{mA}$; $I_B = 0$	80			V
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C = 0.1\text{mA}$; $I_E = 0$	120			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E = 0.1\text{mA}$; $I_C = 0$	7			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C = 25\text{A}$; $I_B = 2.5\text{A}$			1.5	V
V_{BEsat}	Base-emitter saturation voltage	$I_C = 25\text{A}$; $I_B = 2.5\text{A}$			2.0	V
I_{CBO}	Collector cut-off current	$V_{CB} = 120\text{V}$; $I_E = 0$			0.1	mA
I_{EBO}	Emitter cut-off current	$V_{EB} = 7\text{V}$; $I_C = 0$			0.1	mA
h_{FE}	DC current gain	$I_C = 25\text{A}$; $V_{CE} = 5\text{V}$	20			

Switching times

t_{on}	Turn-on time	$I_C = 25\text{A}$ $I_{B1} = -I_{B2} = 2.5\text{A}$ $R_L = 3\Omega$; $P_W = 20\mu\text{s}$; Duty $\leq 2\%$			1.0	μs
t_{stg}	Storage time				2.5	μs
t_f	Fall time				0.4	μs

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PACKAGE OUTLINE

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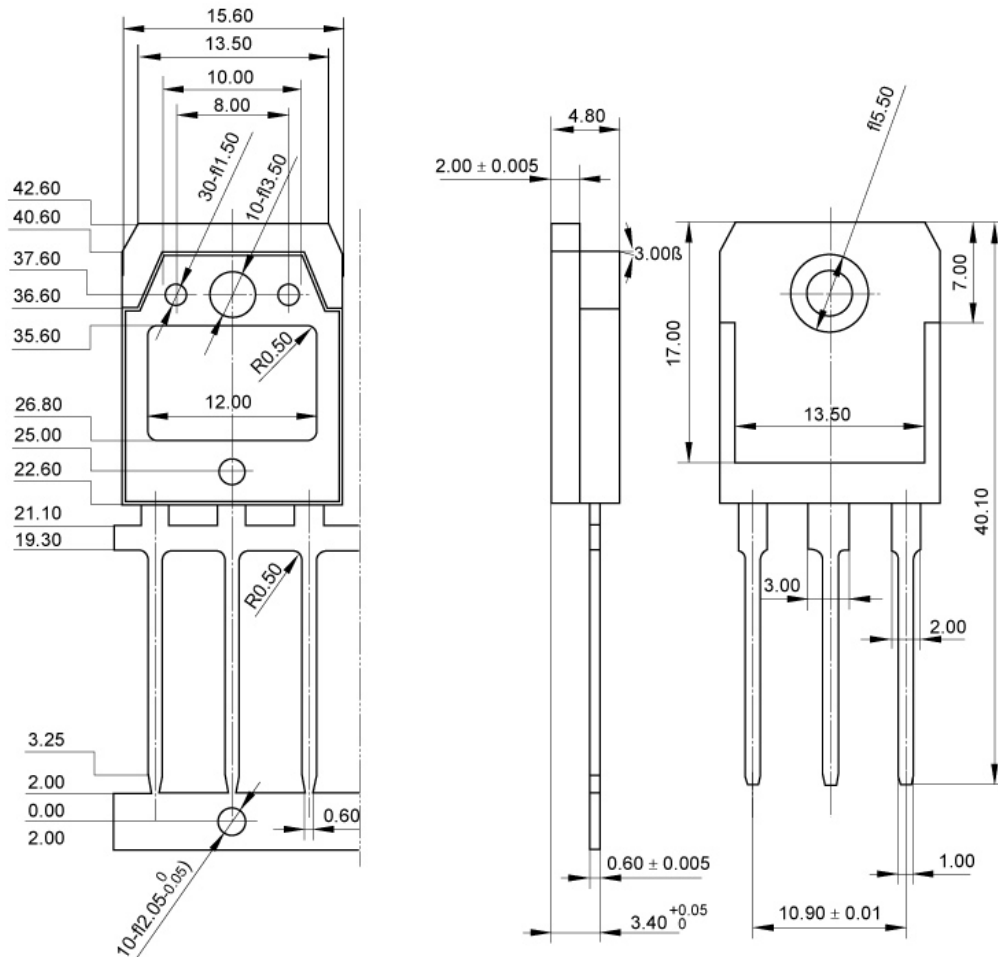


Fig.2 outline dimensions