

Silicon NPN Power Transistors

2SD1047

DESCRIPTION

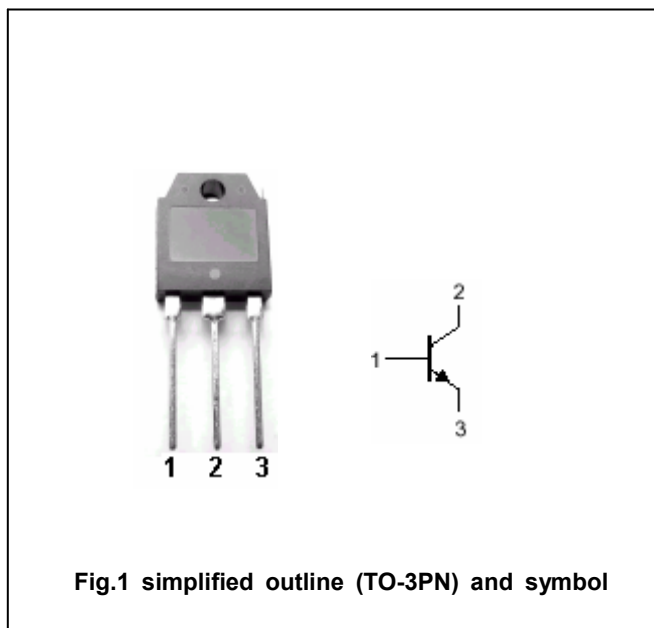
- Complement to type 2SB817
- With TO-3PN package

APPLICATIONS

- Power amplification
- Low frequency and audio band

PINNING

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

**Absolute maximum ratings(Ta=25℃)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	160	V
V _{CEO}	Collector-emitter voltage	Open base	140	V
V _{EBO}	Emitter-base voltage	Open collector	6	V
I _C	Collector current (DC)		12	A
I _{CM}	Collector current-peak		15	A
P _C	Collector power dissipation	T _C =25℃	100	W
T _j	Junction temperature		150	℃
T _{stg}	Storage temperature		-40~150	℃

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CHARACTERISTICS

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=50mA ; I_B=0$	140			V
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=5mA ; I_E=0$	160			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=5mA ; I_C=0$	6			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=5A ; I_B=0.5A$			2.5	V
V_{BE}	Base-emitter on voltage	$I_C=1A ; V_{CE}=5V$			1.5	V
I_{CBO}	Collector cut-off current	$V_{CB}=80V ; I_E=0$			0.1	mA
I_{EBO}	Emitter cut-off current	$V_{EB}=4V ; I_C=0$			0.1	mA
h_{FE-1}	DC current gain	$I_C=1A ; V_{CE}=5V$	60		200	
h_{FE-2}	DC current gain	$I_C=6A ; V_{CE}=5V$	20			
f_T	Transition frequency	$I_C=1A ; V_{CE}=5V$		15		MHz
C_{OB}	Collector output capacitance	$f=1MHz ; V_{CB}=10V$		210		pF

Switching times

t_{on}	Turn-on time	$I_C=1.0A ; I_{B1}=-I_{B2}=0.1A$ $V_{CC}=20V , R_L=20\Omega$		0.26		μs
t_s	Storage time			6.88		μs
t_f	Fall time			0.68		μs

◆ h_{FE-1} Classifications

D	E
60-120	100-200

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PACKAGE OUTLINE

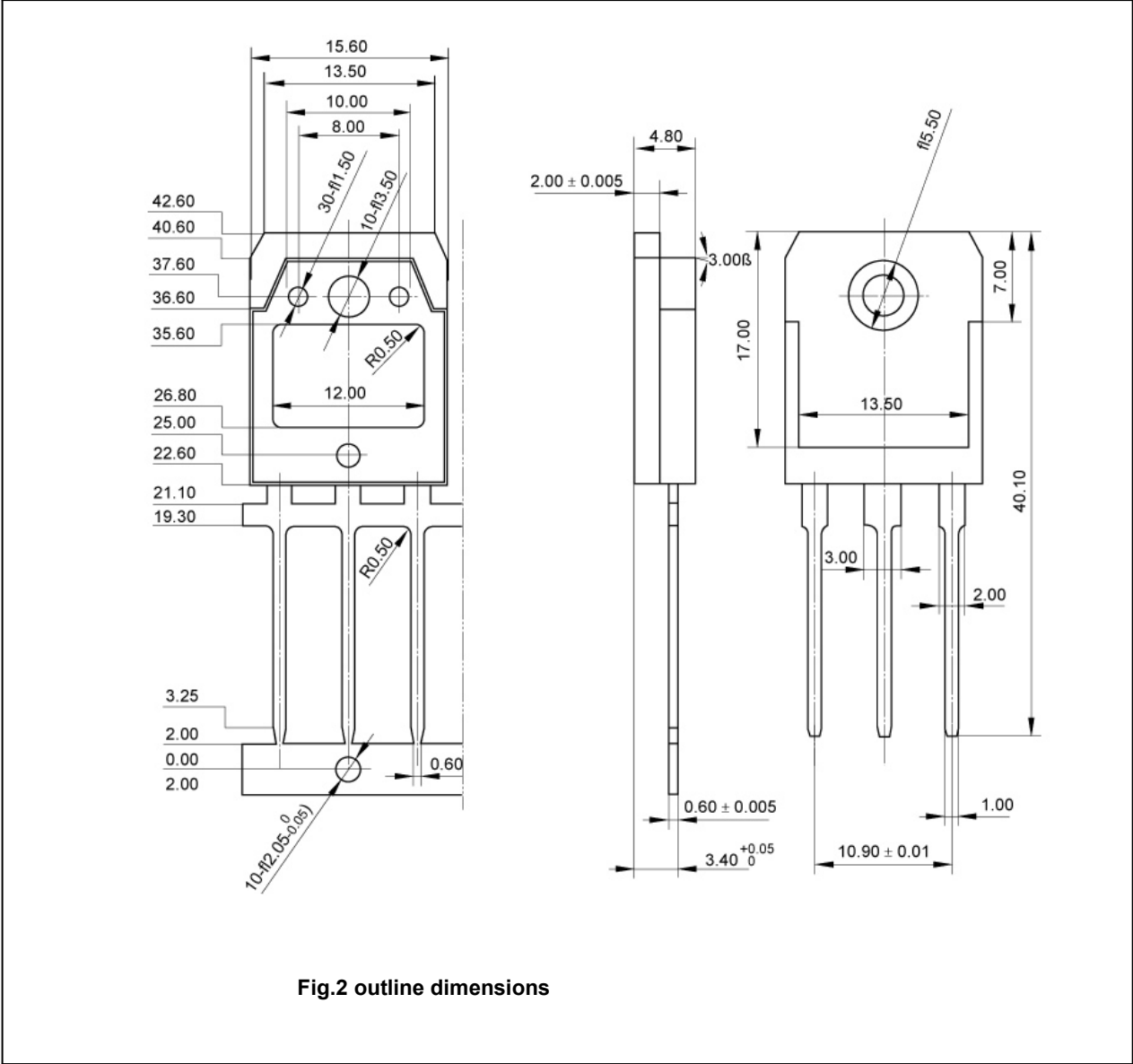


Fig.2 outline dimensions

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