

Silicon PNP Power Transistors

2SB816

DESCRIPTION

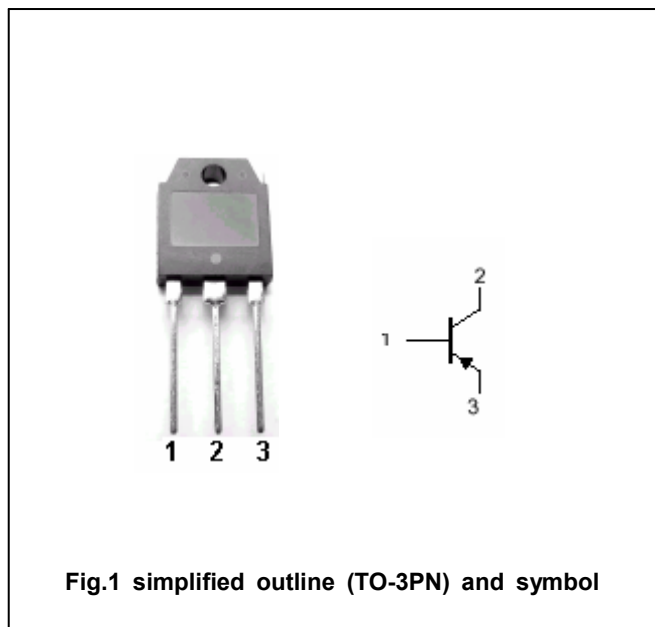
- With TO-3PN package
- Complement to type 2SD1046
- Wide area of safe operation

APPLICATIONS

- For LF Power Amplifier, 50W Output
- Large Power Switching Applications

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	-150	V
V_{CEO}	Collector-emitter voltage	Open base	-120	V
V_{EBO}	Emitter-base voltage	Open collector	-6	V
I_C	Collector current		-8	A
I_{CP}	Collector current-peak		-12	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		-40~150	$^\circ\text{C}$

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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	$I_C = -50mA ; R_{BE} = \infty$	-120			V
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C = -5mA ; I_E = 0$	-150			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E = -5mA ; I_C = 0$	-6			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C = -5A ; I_B = -0.5A$		-1.0	-2.0	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	$I_C = -5A ; V_{CE} = -5V$	20			
f_T	Transition frequency	$I_C = -1A ; V_{CE} = -5V$		15		MHz
C_{OB}	Collector output capacitance	$f = 1MHz ; V_{CB} = -10V$		220		pF

Switching times

t_{on}	Turn-on time	$I_C = -1.0A ; I_{B1} = -I_{B2} = -0.1A$ $V_{CC} = 20V ; R_L = 20\Omega$		0.22		μs
t_{stg}	Storage time			0.93		μs
t_f	Fall time			0.37		μs

◆ h_{FE-1} Classifications

D	E
60-120	100-200

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Technical drawing of a mechanical part showing front, side, and top views with dimensions.

Front View Dimensions:

- Overall width: 15.60
- Inner width: 13.50
- Top flange width: 10.00
- Top flange inner width: 8.00
- Top flange hole diameter: $30\text{-}\phi 1.50$
- Top flange hole diameter: $10\text{-}\phi 3.50$
- Top flange hole diameter: $R0.50$
- Top flange hole diameter: 12.00
- Top flange hole diameter: $R0.50$
- Top flange hole diameter: $10\text{-}\phi 2.05\text{-}0.05$
- Top flange hole diameter: 0.60
- Top flange hole diameter: 3.25
- Top flange hole diameter: 2.00
- Top flange hole diameter: 0.00
- Top flange hole diameter: 2.00
- Top flange hole diameter: 21.10
- Top flange hole diameter: 19.30
- Top flange hole diameter: 26.80
- Top flange hole diameter: 25.00
- Top flange hole diameter: 35.60
- Top flange hole diameter: 36.60
- Top flange hole diameter: 37.60
- Top flange hole diameter: 40.60
- Top flange hole diameter: 42.60

Side View Dimensions:

- Overall height: 40.10
- Top flange height: 7.00
- Top flange width: 13.50
- Top flange hole diameter: 17.00
- Top flange hole diameter: 3.00ϕ
- Top flange hole diameter: 4.80
- Top flange hole diameter: 2.00 ± 0.005
- Top flange hole diameter: 0.60 ± 0.005
- Top flange hole diameter: $3.40^{+0.05}_0$
- Top flange hole diameter: 10.90 ± 0.01
- Top flange hole diameter: 1.00
- Top flange hole diameter: 2.00
- Top flange hole diameter: 3.00
- Top flange hole diameter: $R0.50$

Top View Dimensions:

- Overall width: 15.60
- Inner width: 13.50
- Top flange width: 10.00
- Top flange inner width: 8.00
- Top flange hole diameter: $30\text{-}\phi 1.50$
- Top flange hole diameter: $10\text{-}\phi 3.50$
- Top flange hole diameter: $R0.50$
- Top flange hole diameter: 12.00
- Top flange hole diameter: $R0.50$
- Top flange hole diameter: $10\text{-}\phi 2.05\text{-}0.05$
- Top flange hole diameter: 0.60
- Top flange hole diameter: 3.25
- Top flange hole diameter: 2.00
- Top flange hole diameter: 0.00
- Top flange hole diameter: 2.00
- Top flange hole diameter: 21.10
- Top flange hole diameter: 19.30
- Top flange hole diameter: 26.80
- Top flange hole diameter: 25.00
- Top flange hole diameter: 35.60
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- Top flange hole diameter: 37.60
- Top flange hole diameter: 40.60
- Top flange hole diameter: 42.60

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