

Silicon NPN Power Transistors

2SC2944

DESCRIPTION

- With TO-3PN package
- High voltage,high speed switching
- High reliability
- Low saturation voltage

APPLICATIONS

- Color & B/W TV power supply
- Active power filter
- Industrial use power supply
- General purpose power amplifiers

PINNING

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

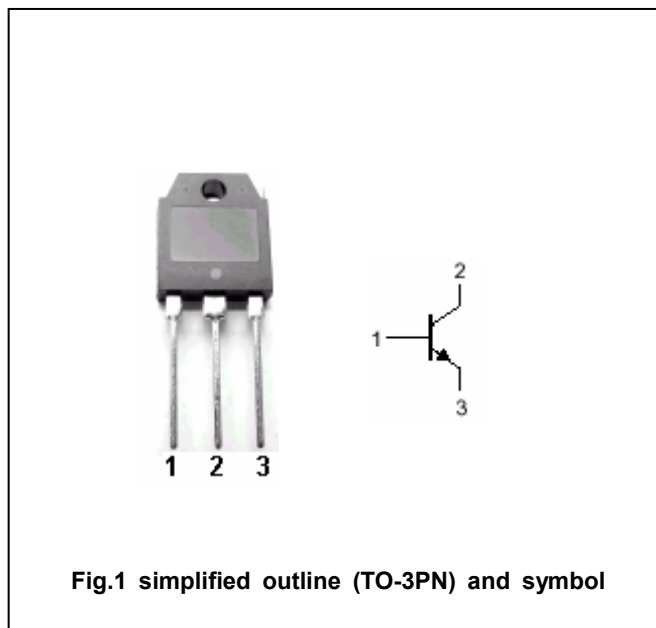


Fig.1 simplified outline (TO-3PN) and symbol

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	250	V
V_{CEO}	Collector-emitter voltage	Open base	200	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current (DC)		15	A
I_B	Base current (DC)		5	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	100	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	1.25	$^\circ\text{C}/\text{W}$

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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	$I_C=10mA ; I_B=0$	200			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=0.1mA ; I_C=0$	7			V
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=0.1mA ; I_E=0$	250			V
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=6A ; I_B=1.2A$			0.8	V
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C=6A ; I_B=1.2A$			1.2	V
I_{CBO}	Collector cut-off current	$V_{CB}=250V ; I_E=0$			0.1	mA
I_{EBO}	Emitter cut-off current	$V_{EB}=7V ; I_C=0$			0.1	mA
h_{FE}	DC current gain	$I_C=2A ; V_{CE}=5V$	20		80	

Switching times

t_{on}	Turn-on time	$I_C=10A ; I_{B1}=-I_{B2}=2A$ $R_L=5\Omega P_w=20\mu s, Duty\leq 2\%$			0.8	μs
t_s	Storage time				1.5	μs
t_f	Fall time				0.4	μs

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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 width: 10.00
- Top inner width: 8.00
- Top hole diameter: $30 - f11.50$
- Top hole diameter: $10 - f13.50$
- Top hole diameter: $R0.50$
- Top hole diameter: 12.00
- Top hole diameter: $R0.50$
- Top hole diameter: $10 - f12.05 \pm 0.05$
- Top hole diameter: 0.60
- Top hole diameter: 3.25
- Top hole diameter: 2.00
- Top hole diameter: 0.00
- Top hole diameter: 2.00

Side View Dimensions:

- Overall height: 40.10
- Top hole diameter: 17.00
- Top hole diameter: 7.00
- Top hole diameter: 13.50
- Top hole diameter: 3.00
- Top hole diameter: 2.00
- Top hole diameter: 1.00
- Top hole diameter: 0.60 ± 0.005
- Top hole diameter: $3.40^{+0.05}_0$
- Top hole diameter: 10.90 ± 0.01

Top View Dimensions:

- Overall width: 15.60
- Inner width: 13.50
- Top width: 10.00
- Top inner width: 8.00
- Top hole diameter: $30 - f11.50$
- Top hole diameter: $10 - f13.50$
- Top hole diameter: $R0.50$
- Top hole diameter: 12.00
- Top hole diameter: $R0.50$
- Top hole diameter: $10 - f12.05 \pm 0.05$
- Top hole diameter: 0.60
- Top hole diameter: 3.25
- Top hole diameter: 2.00
- Top hole diameter: 0.00
- Top hole diameter: 2.00