

## Silicon NPN Power Transistors

## 2SC3043

## DESCRIPTION

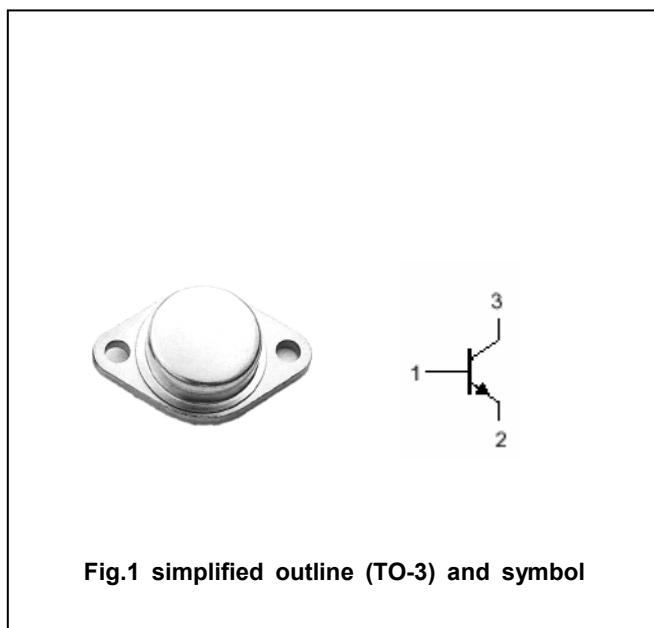
- With TO-3 package
- Fast switching speed
- Wide area of safe operation
- High breakdown voltage

## APPLICATIONS

- For switching regulator applications

## PINNING(see Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	500	V
$V_{CEO}$	Collector-emitter voltage	Open base	400	V
$V_{EBO}$	Emitter-base voltage	Open collector	7	V
$I_C$	Collector current		12	A
$I_{CP}$	Collector current-pulse	$PW \leq 300\mu\text{s}, \text{Duty cycle} \leq 10\%$	25	A
$I_B$	Base current		4	A
$P_C$	Collector power dissipation	$T_C=25^\circ\text{C}$	120	W
$T_j$	Junction temperature		150	$^\circ\text{C}$
$T_{stg}$	Storage temperature		-55~150	$^\circ\text{C}$

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## CHARACTERISTICS

T<sub>j</sub>=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =10mA ; R <sub>BE</sub> =∞	400			V
V <sub>(BR)CBO</sub>	Collector-base breakdown voltage	I <sub>C</sub> =1mA; I <sub>E</sub> =0	500			V
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =1mA; I <sub>C</sub> =0	7			V
V <sub>CE(sat)</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =8A; I <sub>B</sub> =1.6A			1.0	V
V <sub>BE(sat)</sub>	Base-emitter saturation voltage	I <sub>C</sub> =8A; I <sub>B</sub> =1.6A			1.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =400V; I <sub>E</sub> =0			10	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			10	μA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =1.6A ; V <sub>CE</sub> =5V	15			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =8A ; V <sub>CE</sub> =5V	8			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =1.6A ; V <sub>CE</sub> =10V		20		MHz
C <sub>ob</sub>	Output capacitance	I <sub>E</sub> =0; V <sub>CB</sub> =10V, f=1MHz		160		pF

PACKAGE OUTLINE



Fig.2 outline dimensions (unindicated tolerance:±0.1mm)