

Silicon NPN Power Transistors

2SC4131

**DESCRIPTION**

- With TO-3PML package
- Low collector saturation voltage

**APPLICATIONS**

- For chopper regulator,switch and general purpose applications

**PINNING**

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

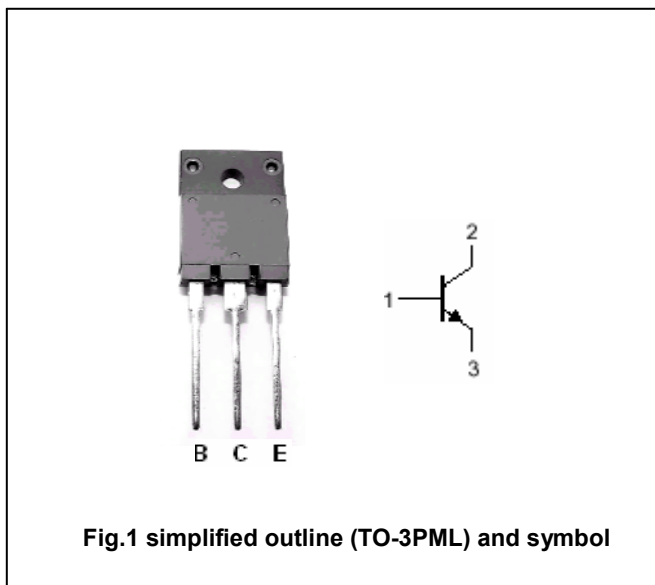


Fig.1 simplified outline (TO-3PML) and symbol

**Absolute maximum ratings(Tc=25°C)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	100	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	50	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	15	V
I <sub>C</sub>	Collector current		15	A
I <sub>CM</sub>	Collector current-peak		25	A
I <sub>B</sub>	Base current		4	A
P <sub>C</sub>	Collector power dissipation	T <sub>c</sub> =25°C	60	W
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-55~150	°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> =25mA; I <sub>B</sub> =0	50			V
V <sub>CE(sat)</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =5 A; I <sub>B</sub> =80m A			0.5	V
V <sub>BE(sat)</sub>	Base-emitter saturation voltage	I <sub>C</sub> =5 A; I <sub>B</sub> =80m A			1.2	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =100V; I <sub>E</sub> =0			10	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =15V; I <sub>C</sub> =0			10	μA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =5A ; V <sub>CE</sub> =1V	50			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =1A ; V <sub>CE</sub> =12V		18		MHz
C <sub>OB</sub>	Output capacitance	I <sub>E</sub> =0; V <sub>CB</sub> =10V; f=1MHz		210		pF

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =5A; R <sub>L</sub> =4Ω I <sub>B1</sub> =-I <sub>B2</sub> =80mA V <sub>CC</sub> =20V		0.5		μs
t <sub>s</sub>	Storage time			2.0		μs
t <sub>f</sub>	Fall time			0.4		μs

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PACKAGE OUTLINE



Fig.2 Outline dimensions