

Silicon NPN Darlington Power Transistors

2SD2439

DESCRIPTION

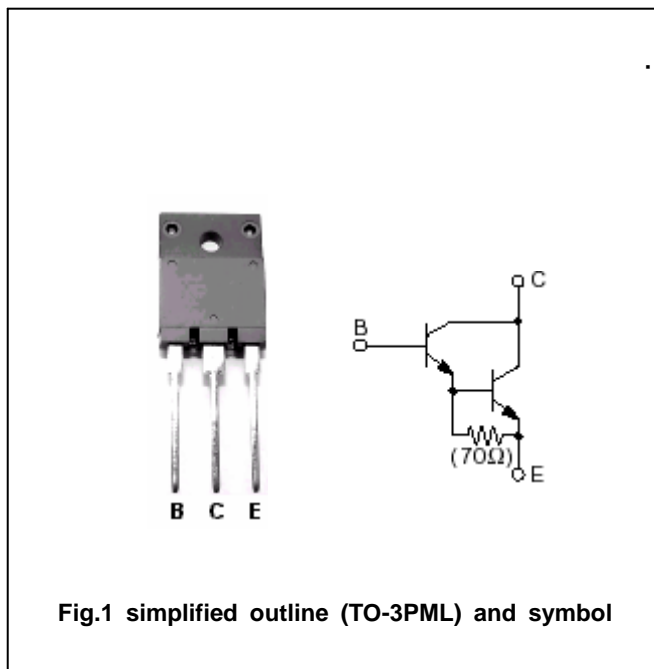
- With TO-3PML package
- Complement to type 2SB1588

APPLICATIONS

- Audio ,series regulator and general purpose applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



Absolute maximum ratings(Tc=25 )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	160	V
$V_{CEO}$	Collector-emitter voltage	Open base	150	V
$V_{EBO}$	Emitter-base voltage	Open collector	5	V
$I_C$	Collector current		10	A
$I_B$	Base current		1	A
$P_C$	Collector power dissipation	$T_C=25$	80	W
$T_j$	Junction temperature		150	
$T_{stg}$	Storage temperature		-55~150	

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =50mA; I <sub>B</sub> =0	150			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =7 A; I <sub>B</sub> =7m A			2.5	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =7 A; I <sub>B</sub> =7m A			3.0	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =160V ; I <sub>E</sub> =0			100	μ A
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			100	μ A
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =7A ; V <sub>CE</sub> =4V	5000			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =2A ; V <sub>CE</sub> =12V		55		MHz
C <sub>OB</sub>	Output capacitance	I <sub>E</sub> =0; V <sub>CB</sub> =10V; f=1MHz		95		pF

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =7A; R <sub>L</sub> =10 I <sub>B1</sub> =-I <sub>B2</sub> =7mA V <sub>CC</sub> =70V	0.5		μ s
t <sub>s</sub>	Storage time		10.0		μ s
t <sub>f</sub>	Fall time		1.1		μ s

◆ h<sub>FE</sub> classifications

O	P	Y
5000-12000	6500-20000	15000-30000

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PACKAGE OUTLINE

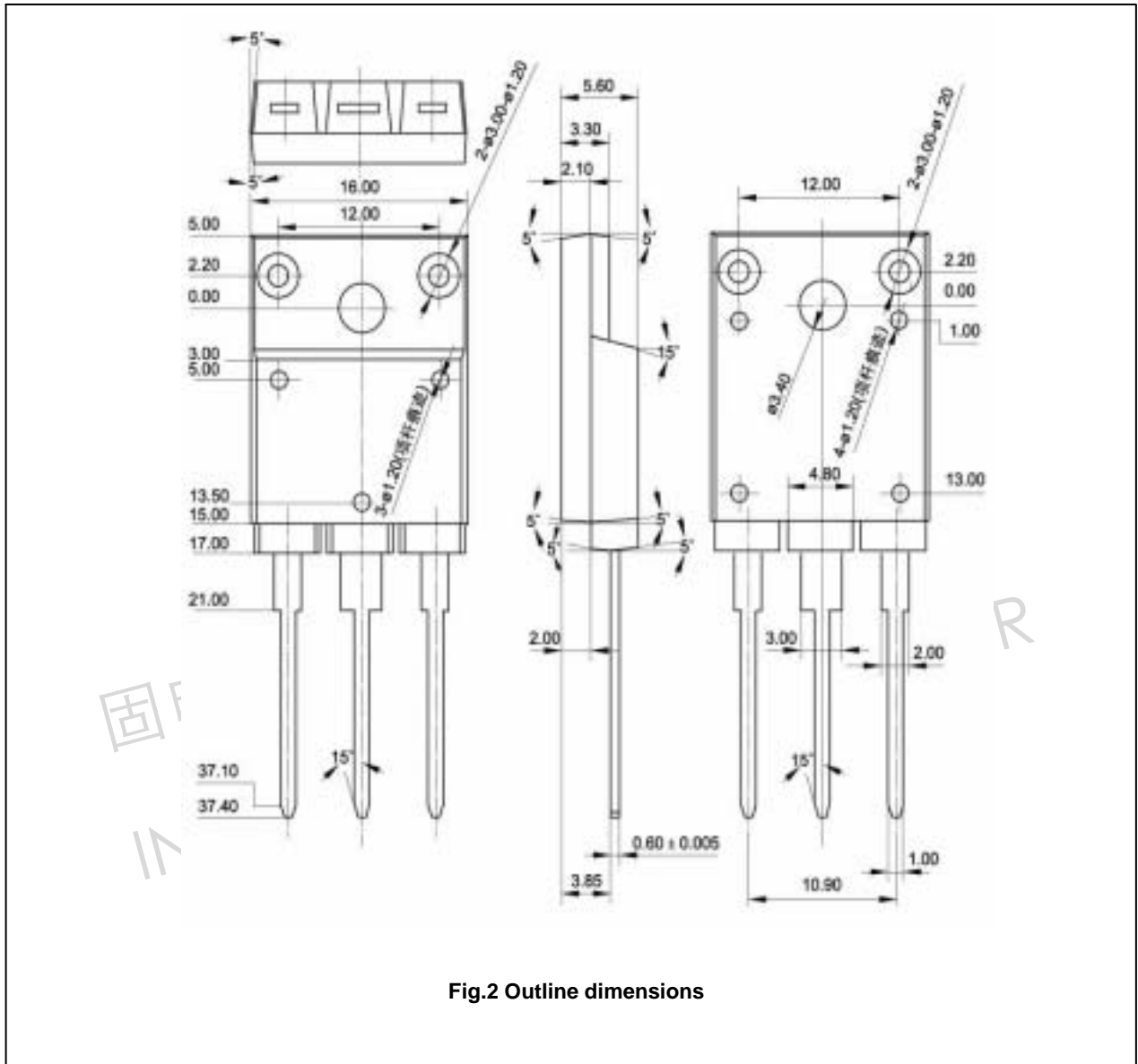


Fig.2 Outline dimensions