

Silicon NPN Power Transistors

2SD2093

DESCRIPTION

- With TO-3PML package
- DARLINGTON
- Complement to type 2SB1388
- High DC current gain
- Low saturation voltage
- Large current capacity and large ASO

APPLICATIONS

- Motor drivers
- Printer hammer drivers
- Relay drivers,
- Voltage regulator control

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

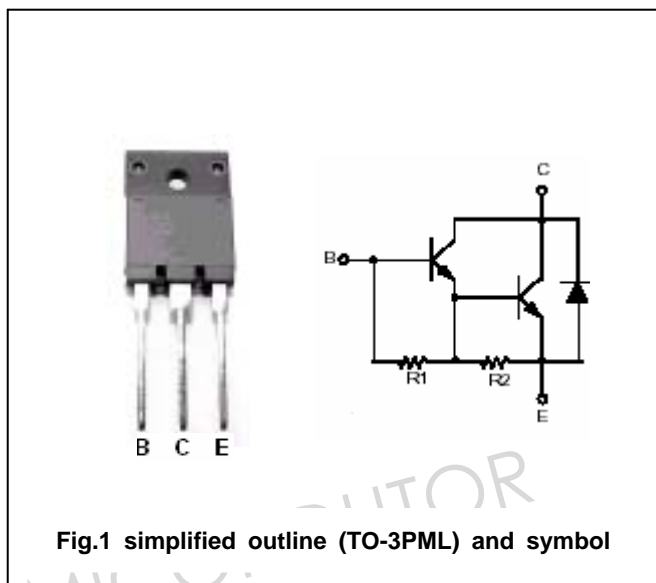


Fig.1 simplified outline (TO-3PML) and symbol

Absolute maximum ratings(Ta=25)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	110	V
V _{CEO}	Collector-emitter voltage	Open base	100	V
V _{EBO}	Emitter-base voltage	Open collector	6	V
I _C	Collector current		10	A
I _{CM}	Collector current-peak		15	A
P _C	Collector power dissipation	T _C =25	45	W
			3.0	
T _j	Junction temperature		150	
T _{stg}	Storage temperature		-55~150	

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CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEsat}	Collector-emitter saturation voltage	I _C =5A; I _B =10m A		0.9		V
V _{BEsat}	Base-emitter saturation voltage	I _C =5A; I _B =10m A			2.0	V
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =5mA; I _B =0	110			V
V _{(BR)CBO}	Collector-base breakdown voltage	I _C =50mA; R _{BE} =	100			V
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			3.0	mA
I _{CBO}	Collector cut-off current	V _{CB} =80V; I _E =0			0.1	mA
h _{FE}	DC current gain	I _C =5 A ; V _{CE} =3V	1500	4000		
f _T	Transition frequency	I _C =5 A ; V _{CE} =5V		20		MHz
Switching times						
t _{on}	Turn-on time	I _C =5A I _{B1} =-I _{B2} =10mA V _{CC} =50V ,R _L =10		0.6		μs
t _s	Storage time			4.8		μs
t _f	Fall time			1.6		μs

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PACKAGE OUTLINE

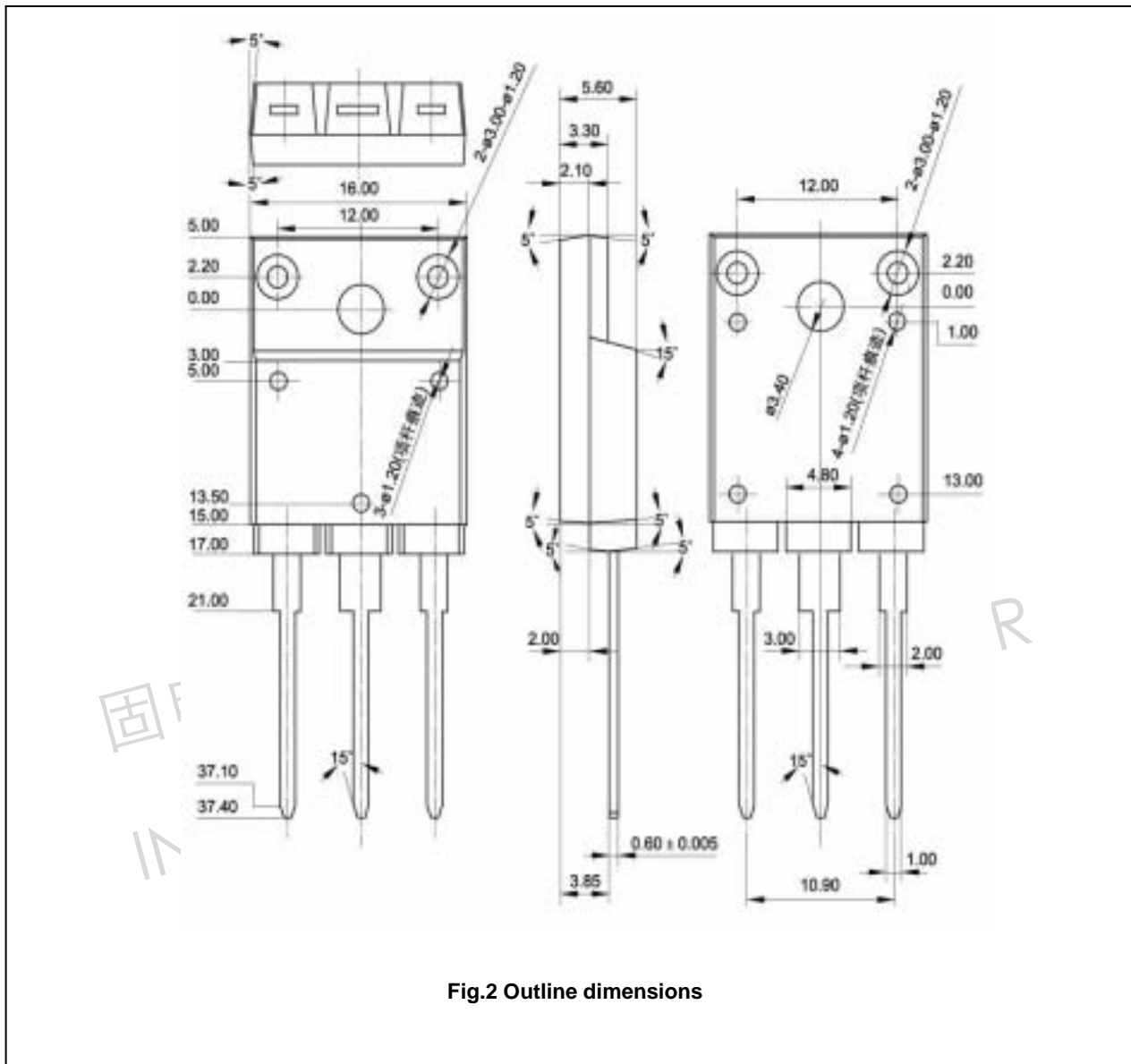


Fig.2 Outline dimensions