

Silicon NPN Power Transistors

2SD1830

DESCRIPTION

- With TO-220F package
- Complement to type 2SB1228
- High DC current gain.
- Large current capacity and wide ASO.
- Low saturation voltage.
- DARLINGTON

APPLICATIONS

- Suitable for use in control of motor drivers, printer hammer drivers, relay drivers, and constant-voltage regulators.

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

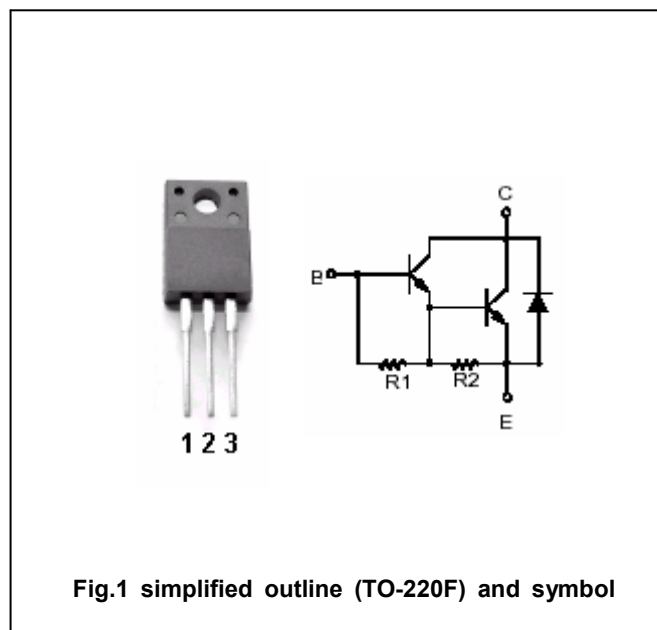


Fig.1 simplified outline (TO-220F) and symbol

Absolute maximum ratings ($T_a=25^\circ\text{C}$)

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		8	A
I_{CM}	Collector current-peak		12	A
P_C	Collector dissipation	$T_C=25^\circ\text{C}$	20	W
			2	
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

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CHARACTERISTICS

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=5mA; I_E=0$	110			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=50mA; R_{BE}=\infty$	100			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=4A; I_B=8mA$		0.9	1.5	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=4A; I_B=8mA$			2.0	V
I_{CBO}	Collector cut-off current	$V_{CB}=80V; I_E=0$			0.1	mA
I_{EBO}	Emitter cut-off current	$V_{EB}=5V; I_C=0$			3.0	mA
h_{FE}	DC current gain	$I_C=4A; V_{CE}=3V$	1500	4000		
f_T	Transition frequency	$I_C=4A; V_{CE}=5V$		20		MHz

Switching times

t_{on}	Turn-on time	$I_C=500I_{B1}=-500I_{B2}=4A$ $V_{CC}=50V, R_L=12.5\Omega$		0.6		μs
t_{stg}	Storage time			4.8		μs
t_f	Fall time			1.6		μs

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PACKAGE OUTLINE

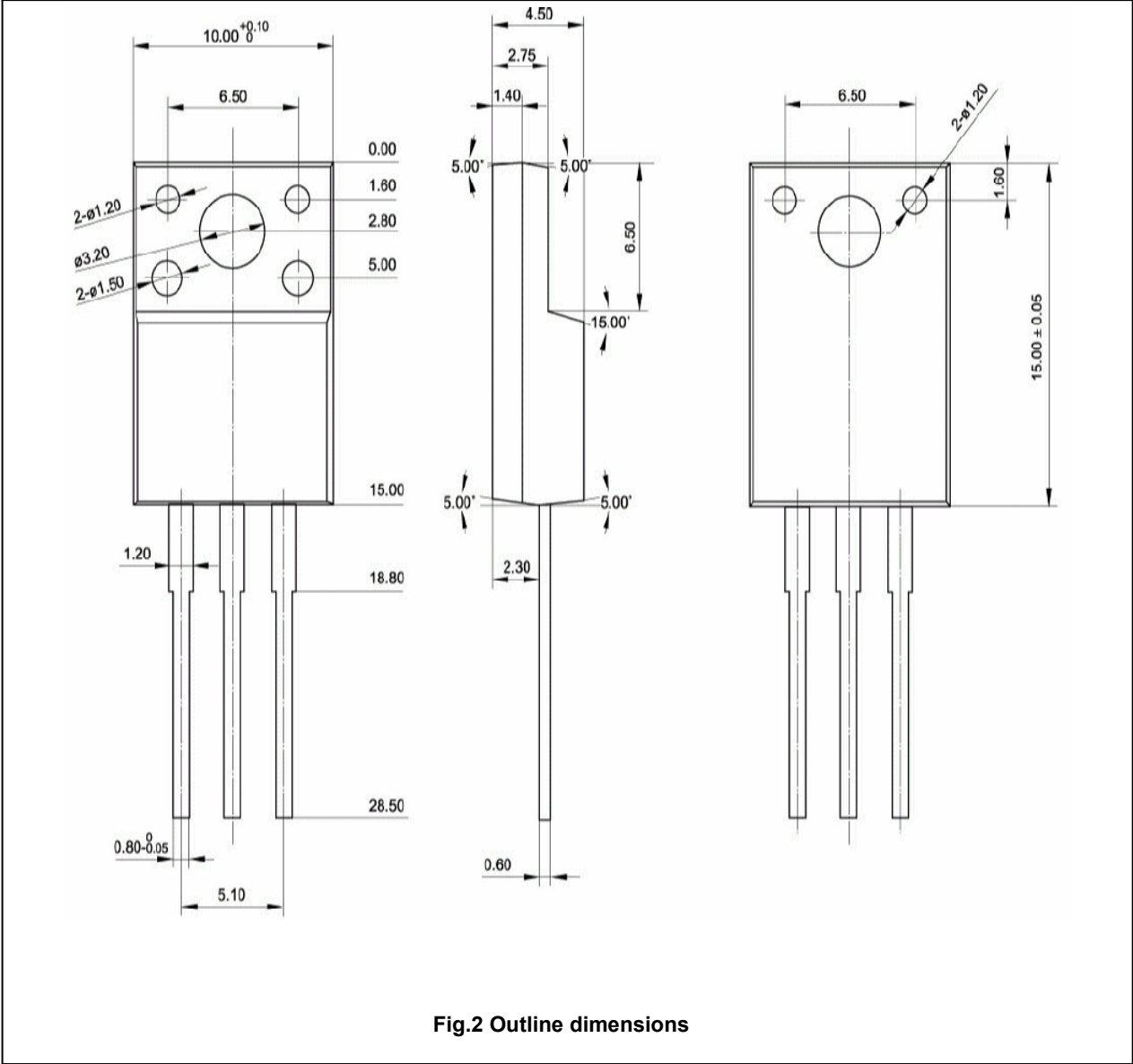


Fig.2 Outline dimensions