

Silicon NPN Power Transistors

2SD1889

DESCRIPTION

- With TO-220Fa package
- DARLINGTON
- Complement to type 2SB1340
- High DC current gain

APPLICATIONS

- Low frequency power amplification

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

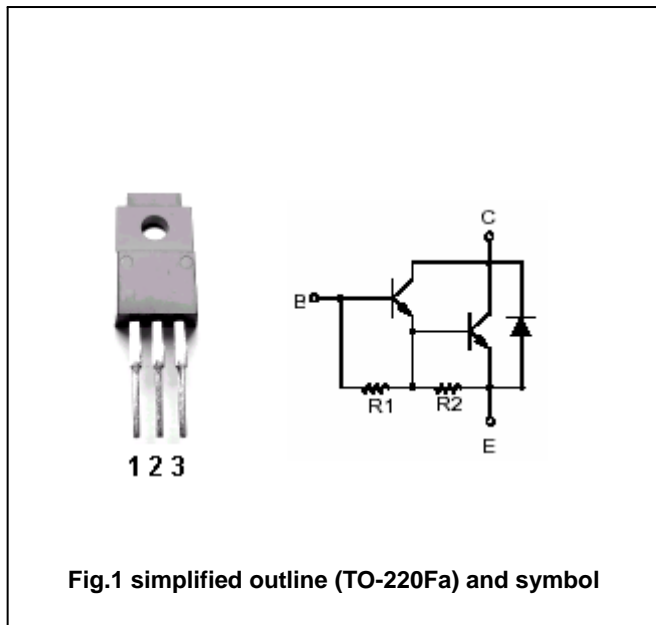


Fig.1 simplified outline (TO-220Fa) and symbol

Absolute maximum ratings(Ta=25 )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	120	V
$V_{CEO}$	Collector -emitter voltage	Open base	120	V
$V_{EBO}$	Emitter-base voltage	Open collector	6	V
$I_C$	Collector current		6	A
$I_{CM}$	Collector current-peak		10	A
$P_C$	Collector power dissipation	$T_C=25$	30	W
		$T_a=25$	2	
$T_j$	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)CBO</sub>	Collector-base breakdown voltage	I <sub>C</sub> =50 μA; I <sub>E</sub> =0	120			V
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =5mA; I <sub>B</sub> =0	120			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =3A ; I <sub>B</sub> =6mA			1.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =120V; I <sub>E</sub> =0			100	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			3.0	mA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =2A ; V <sub>CE</sub> =3V	2000		20000	
f <sub>T</sub>	Transition frequency	I <sub>E</sub> =-0.2A ; V <sub>CE</sub> =5V; f=10MHz		40		MHz
C <sub>OB</sub>	Output capacitance	I <sub>E</sub> =0 ; V <sub>CB</sub> =10V; f=1MHz		50		pF

PACKAGE OUTLINE

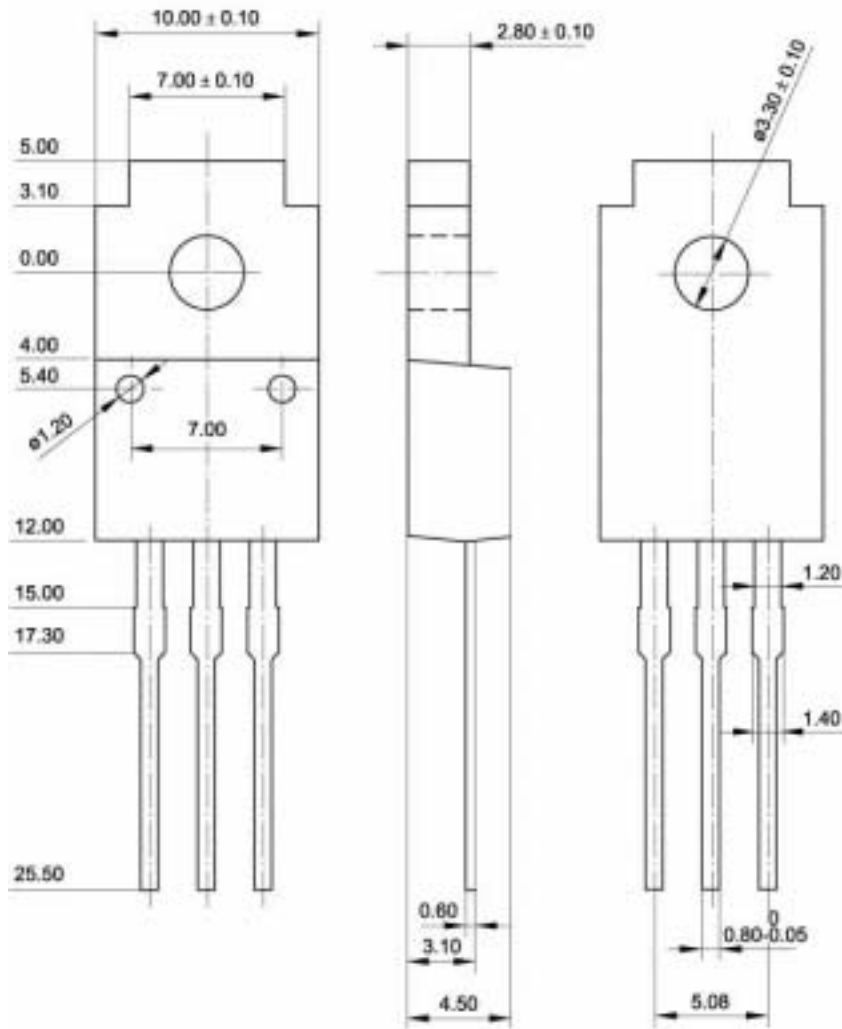


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.15$  mm)