Silicon NPN Power Transistors 2SD1589

DESCRIPTION

- With TO-220Fa package
- DARLINGTON
- Complement to type 2SB1098
- Low speed switching

APPLICATIONS

- Low frequency power amplifier
- Low speed switching industrial use

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

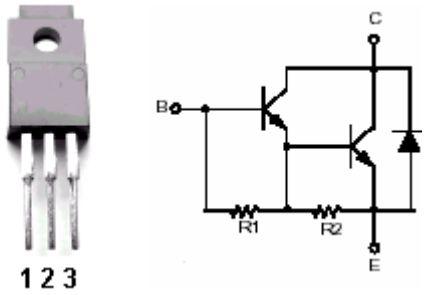

Fig.1 simplified outline (TO-220Fa) and symbol

Absolute maximum ratings(Ta=25℃)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	150	V
V_{CEO}	Collector-emitter voltage	Open base	100	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current (DC)		5	A
I_{CM}	Collector current-Peak		8	A
I_B	Base current (DC)		0.5	A
P_C	Collector power dissipation	T_a=25℃	1.5	W
		T_C=25℃	20	
T_j	Junction temperature		150	℃
T_{stg}	Storage temperature		-55~150	℃

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CHARACTERISTICS

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	I_C=0.1A , I_B=0	60			V
V_{CEsat}	Collector-emitter saturation voltage	I_C=3A ;I_B=3mA			1.5	V
V_{BEsat}	Base-emitter saturation voltage	I_C=3A; I_B=3mA			2.0	V
I_{CBO}	Collector cut-off current	V_{CB}=100V ;I_E=0			1	μA
h_{FE-1}	DC current gain	I_C=3A ; V_{CE}=2V	2000		15000	
h_{FE-2}	DC current gain	I_C=5A ; V_{CE}=2V	500			

Switching times

t_{on}	Turn-on time	I_C=3A ;I_{B1}=3mA I_{B2}=-3mA; V_{CC}≈50V R_L=16.7Ω		1.0		μs
t_s	Storage time			3.5		μs
t_f	Fall time			1.2		μs

◆ **h_{FE} Classifications**

R	O	Y
2000-5000	3000-7000	5000-15000

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PACKAGE OUTLINE

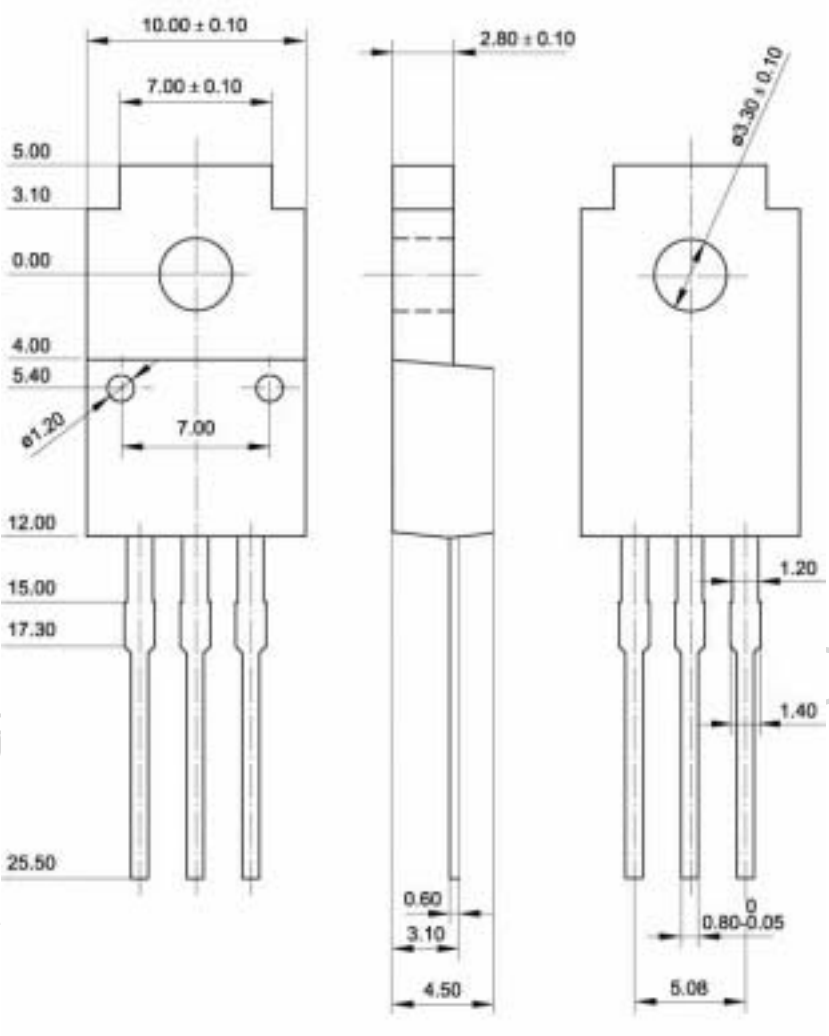

Fig.2 Outline dimensions (unindicated tolerance:±0.15 mm)