

Silicon Power Transistors

2SD1594

DESCRIPTION

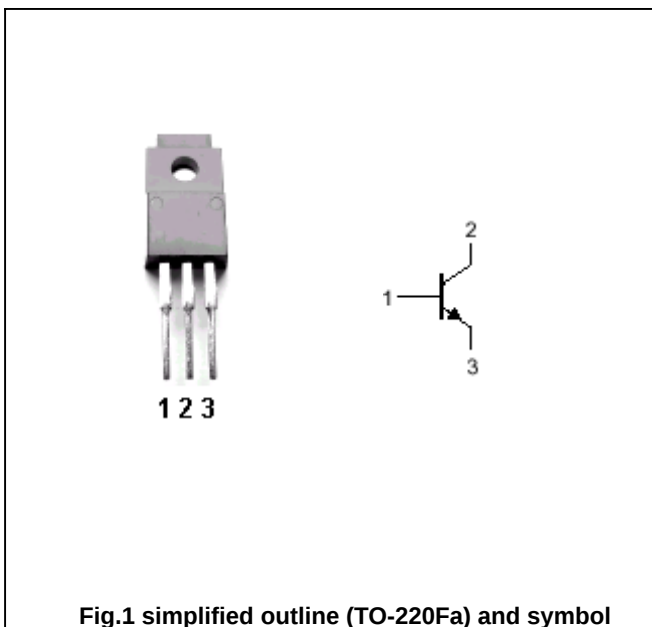
- With TO-220Fa package

APPLICATIONS

- Low frequency power amplifier
- High speed switching industrial use

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

ABSOLUTE MAXIMUM RATINGS AT $T_c=25$

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	150	V
V_{CEO}	Collector-emitter voltage	Open base	100	
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current (DC)		7	A
I_{CM}	Collector current-Peak		15	A
I_B	Base current (DC)		3.5	A
P_C	Collector power dissipation	$T_a=25$	1.5	W
P_C	Collector power dissipation	$T_c=25$	40	W
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 _{CEO(SUS)}	Collector-emitter sustaining voltage	I _C =5A, I _{B1} =0.5A, L=1mH	60			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =5A I _B =0.5A			0.6	V
V _{BEsat}	Emitter-base saturation voltage	I _C =5A I _B =0.5A			1.5	V
I _{CBO}	Collector cut-off current	V _{CB} =100V I _E =0			10	μA
I _{EBO}	Emitter cut-off current	V _{EB} =5V I _C =0			10	μA
h _{FE-1}	DC current gain	I _C =0.5A ; V _{CE} =5V	40			
h _{FE-2}	DC current gain	I _C =3A ; V _{CE} =5V	40		240	
h _{FE-3}	DC current gain	I _C =5A ; V _{CE} =5V	20			

Switching times

t _{on}	Turn-on time	I _C =5A ; I _{B1} =0.5A I _{B2} =-0.5A; V _{CC} =50V R _L =10Ω			0.5	μs
t _s	Storage time				0.5	μs
t _f	Fall time				1.5	μs

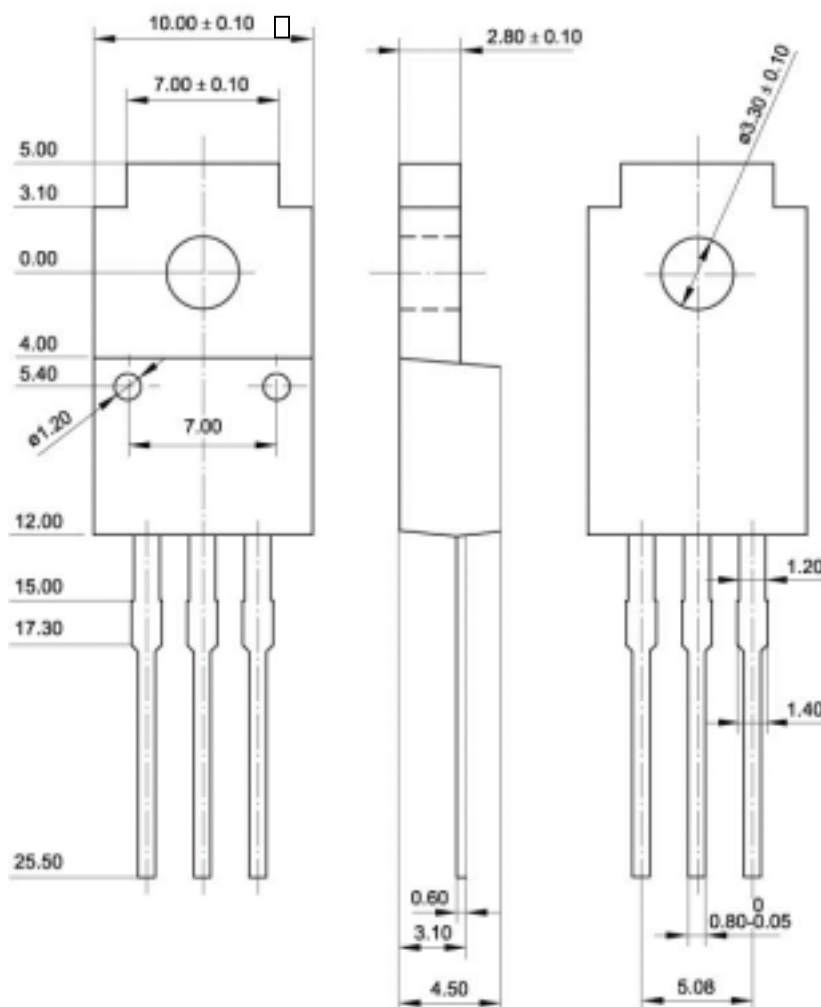
◆ h_{FE-2} Classifications

R	O	Y
40-80	70-140	120-240

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PACKAGE OUTLINE

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