

Silicon NPN Power Transistors

2SD2023

DESCRIPTION

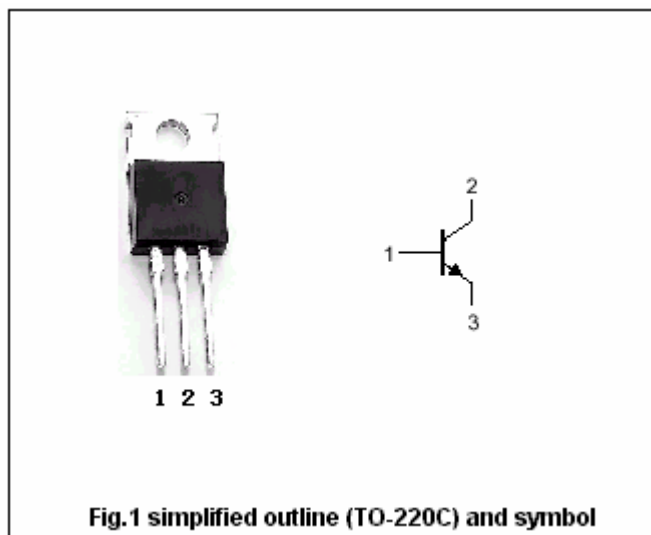
- With TO-220C package
- Complement to type 2SB1033
- Low collector saturation voltage

APPLICATIONS

- Low frequency power amplifiers
- Power drivers
- DC-DC converters

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	80	V
V_{CEO}	Collector-emitter voltage	Open base	60	V
V_{EBO}	Emitter-base voltage	Open collector	6	V
I_C	Collector current		3	A
I_B	Base current		1	A
P_C	Collector dissipation	$T_C=25^\circ\text{C}$	40	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-50~150	$^\circ\text{C}$

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CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =10mA; I _B =0	60			V
V _{(BR)CBO}	Collector-base breakdown voltage	I _C =50μA; I _E =0	80			V
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E =50μA; I _C =0	6			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =2A; I _B =0.2A			1.0	V
V _{BEsat}	Base-emitter saturation voltage	I _C =2A; I _B =0.2A			1.5	V
I _{CBO}	Collector cut-off current	V _{CB} =60V; I _E =0			10	μA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			10	μA
h _{FE}	DC current gain	I _C =1A; V _{CE} =5V	60		320	
C _{OB}	Collector output capacitance	I _E =0; V _{CB} =10V; f=1MHz		70		pF
f _T	Transition frequency	I _C =0.5A; V _{CE} =5V		8		MHz

◆ h_{FE} Classifications

D	E	F
60-120	100-200	160-320

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PACKAGE OUTLINE

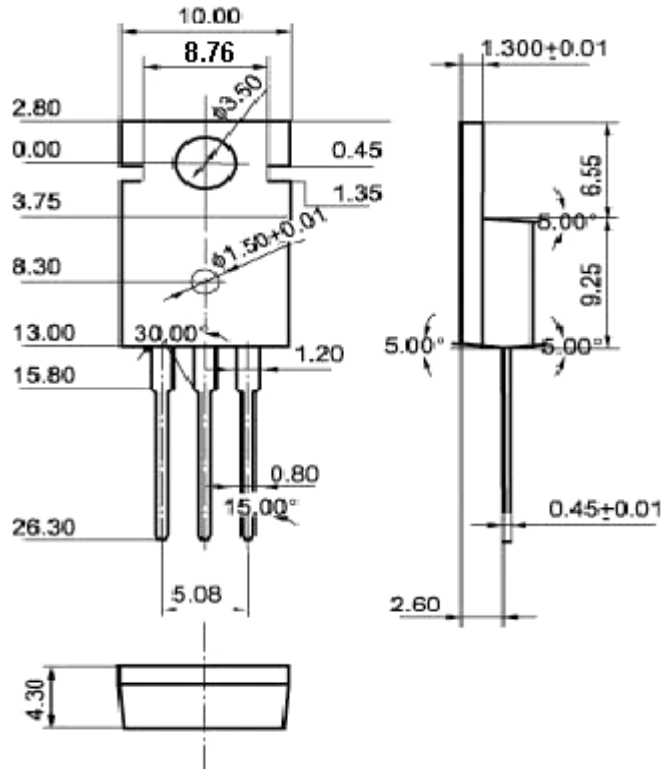


Fig.2 Outline dimensions (unindicated tolerance:±0.10mm)