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

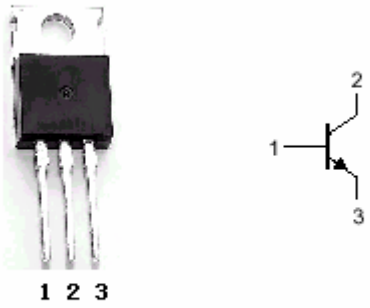

Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings(Ta=25□)

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□	40	W
T_j	Junction temperature		150	□
T_{stg}	Storage temperature		-50~150	□

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CHARACTERISTICS

Tj=25□ 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

PACKAGE OUTLINE

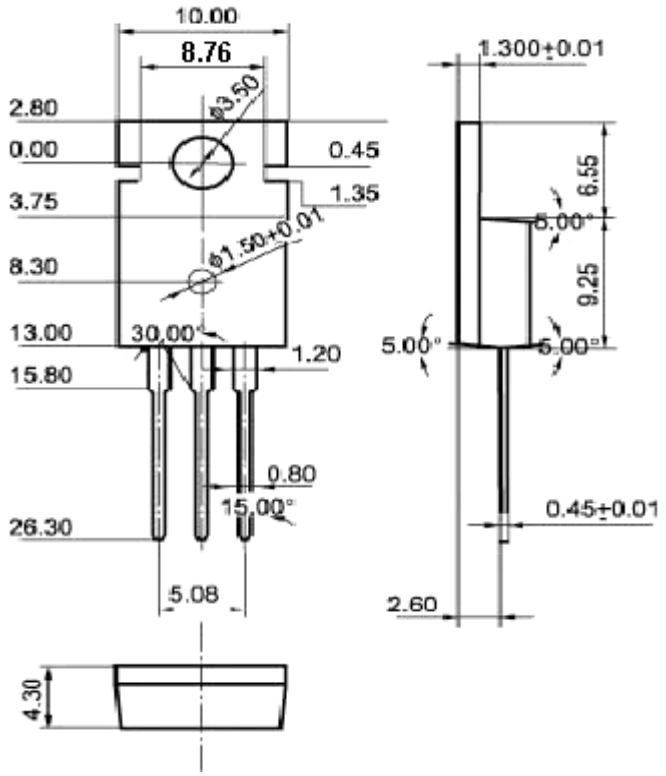

Fig.2 Outline dimensions (unindicated tolerance:±0.10mm)