

Silicon NPN Power Transistors

2SC2023

DESCRIPTION

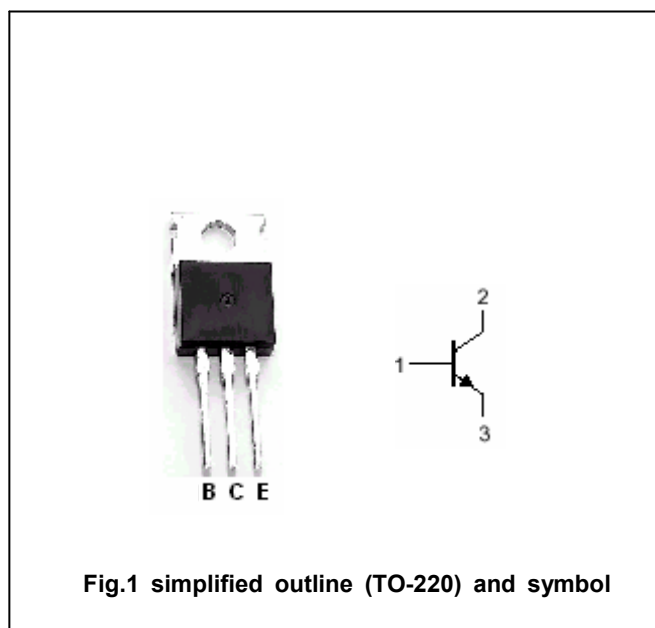
- With TO-220C package
- High breakdown voltage

APPLICATIONS

- Series regulator, switch, and general purpose applications

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	300	V
V_{CEO}	Collector-emitter voltage	Open base	300	V
V_{EBO}	Emitter-base voltage	Open collector	6	V
I_C	Collector current		2	A
I_B	Base current		0.2	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

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=25mA$; $I_B=0$	300			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=1A$; $I_B=0.2A$			1.0	V
I_{CBO}	Collector cut-off current	$V_{CB}=300V$; $I_E=0$			1.0	mA
I_{EBO}	Emitter cut-off current	$V_{EB}=6V$; $I_C=0$			1.0	mA
h_{FE}	DC current gain	$I_C=0.5A$; $V_{CE}=4V$	30			
f_T	Transition frequency	$I_C=0.2A$; $V_{CE}=12V$		10		MHz
C_{ob}	Collector output capacitance	$f=1MHz$; $V_{CB}=10V$		75		pF

Switching times

t_{on}	Turn-on time	$I_C=1A$, $I_{B1}=0.1A$ $I_{B2}=-0.2A$; $V_{CC}=100V$ $R_L=100\Omega$		0.30		μs
t_s	Storage time			4.00		μs
t_f	Fall time			1.00		μs

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PACKAGE OUTLINE

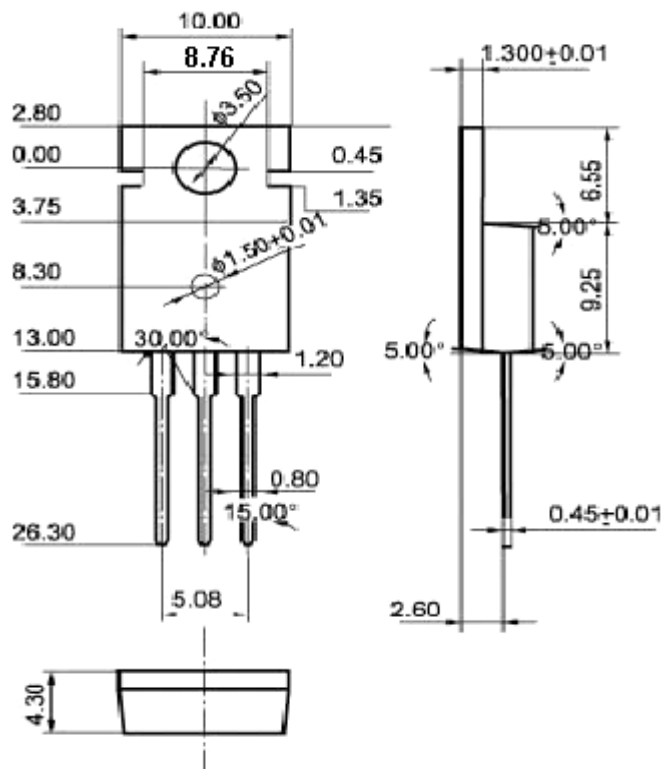


Fig.2 Outline dimensions (unindicated tolerance:±0.10 mm)