

Silicon NPN Power Transistors

2N6833

DESCRIPTION

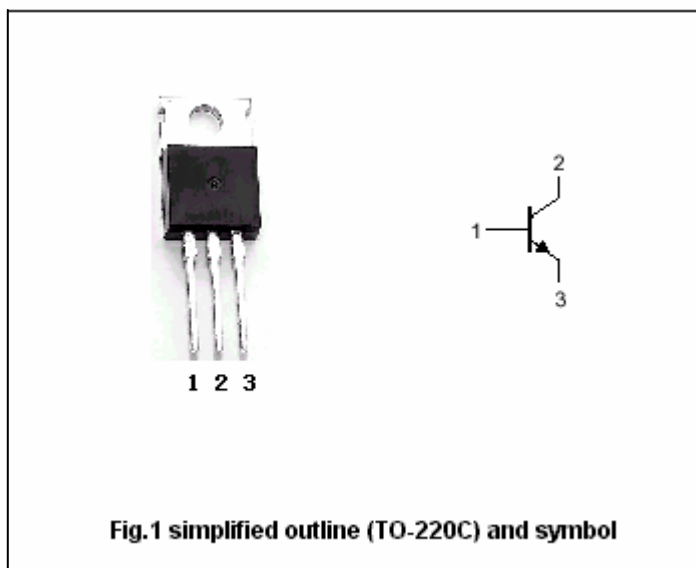
- With TO-220 package
- High voltage, high speed

APPLICATIONS

- Switching regulators
- Inverters
- Solenoid and relay drivers
- Motor controls
- Deflection circuits

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	850	V
V_{CEO}	Collector-emitter voltage	Open base	450	V
V_{EBO}	Emitter-base voltage	Open collector	6	V
I_C	Collector current		5	A
I_{CM}	Collector current-peak		10	A
I_B	Base current		4	A
I_{BM}	Base current-peak		8	A
P_T	Total power dissipation	$T_C=25^\circ\text{C}$	80	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	1.56	$^\circ\text{C/W}$

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CHARACTERISTICS

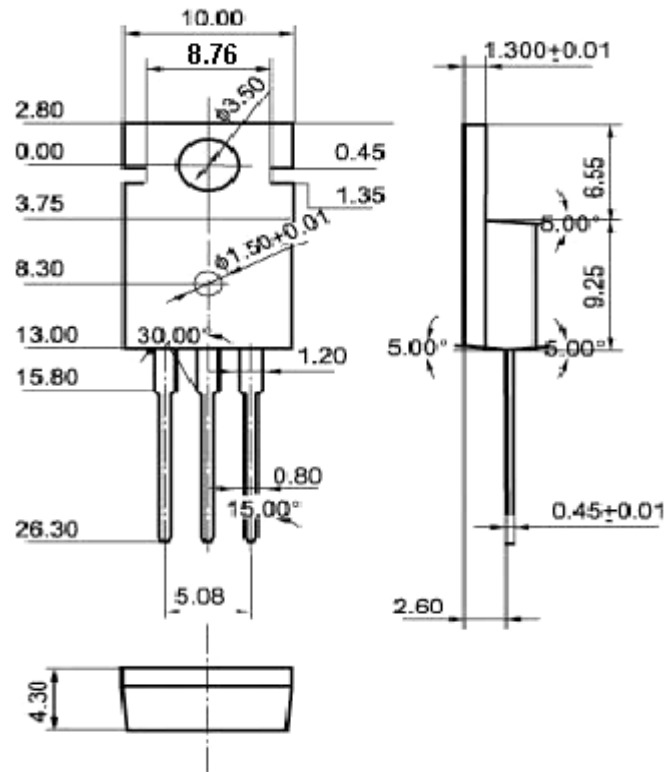
Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(SUS)}$	Collector-emitter sustaining voltage	$I_C=0.1A; I_B=0$	450			V
$V_{CEsat-1}$	Collector-emitter saturation voltage	$I_C=1.5A; I_B=0.15A$			1.0	V
$V_{CEsat-2}$	Collector-emitter saturation voltage	$I_C=3A; I_B=0.4A$ $T_C=100^\circ C$			2.5 2.5	V
$V_{BE sat}$	Base-emitter saturation voltage	$I_C=3A; I_B=0.4A$ $T_C=100^\circ C$			1.5 1.5	V
I_{CEV}	Collector cut-off current	$V_{CE}=850V; V_{BE}=-1.5V$ $T_C=105^\circ C$			0.25 1.5	mA
I_{EBO}	Emitter cut-off current	$V_{BE}=6V; I_C=0$			1.0	mA
h_{FE-1}	DC current gain	$I_C=3A; V_{CE}=5V$	7.5		30	
h_{FE-2}	DC current gain	$I_C=5A; V_{CE}=5V$	5			
C_{ob}	Output capacitance	$I_E=0; f=1kHz, V_{CB}=10V$	20		200	pF
f_T	Transition frequency	$I_C=0.25A; V_{CE}=10V; f=10MHz$	15		75	MHz

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PACKAGE OUTLINE

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