

Inchange Semiconductor

Product Specification

Silicon NPN Power Transistors

2N6291 2N6293

DESCRIPTION

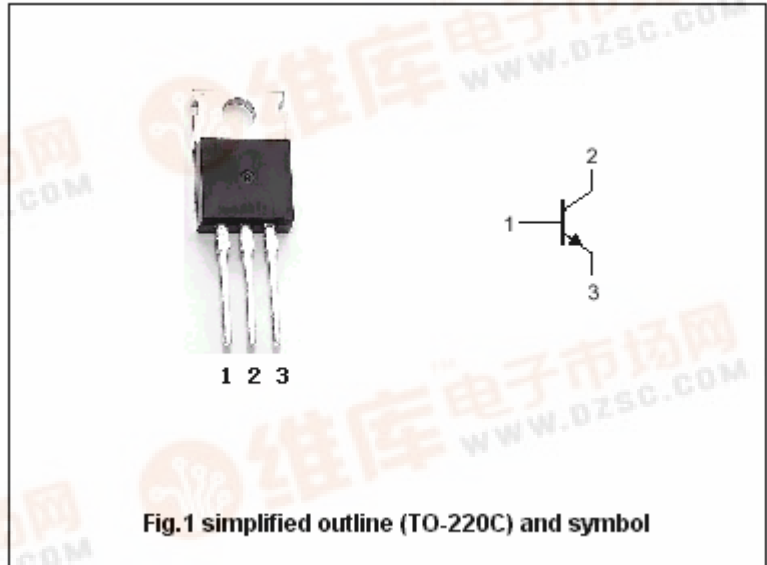
- With TO-220 package
- Low collector saturation voltage
- Wide safe operating area

APPLICATIONS

- For medium power switching and amplifier applications such as:series and shunt regulators and driver and output stages of high-fidelity amplifiers

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	2N6291	60	V
		2N6293	80	
V_{CEO}	Collector-emitter voltage	2N6291	50	V
		2N6293	70	
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current		7	A
I_B	Base current		3	A
P_T	Total power dissipation	$T_C=25$	40	W
T_j	Junction temperature		150	
T_{stg}	Storage temperature		-65~150	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal resistance from junction to case	3.125	/W

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CHARACTERISTICS

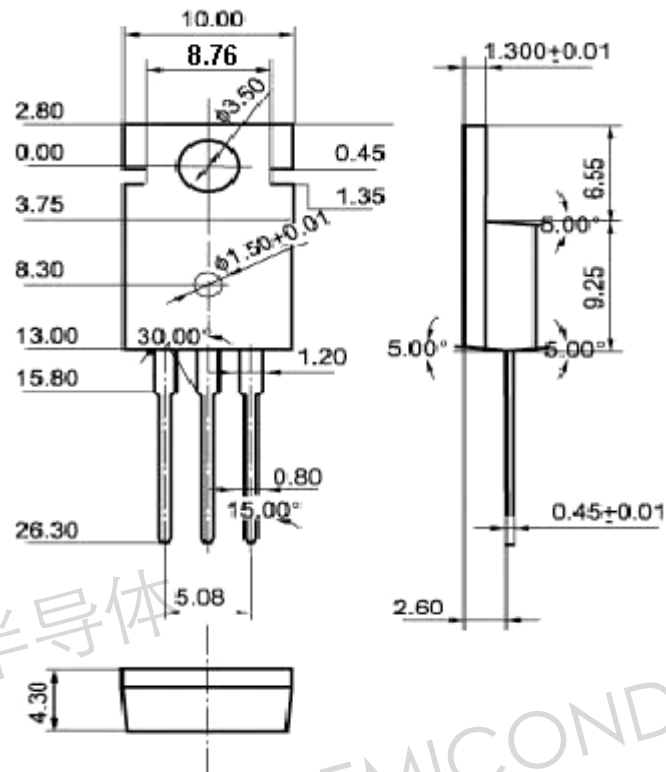
T_j=25 unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-emitter sustaining voltage	2N6291	I _C =0.1A ; I _B =0	50			V
		2N6293		70			
V _{CEsat-1}	Collector-emitter saturation voltage	2N6291	I _C =2.5A; I _B =0.25A			1.0	V
		2N6293	I _C =2A; I _B =0.2A				
V _{CEsat-2}	Collector-emitter saturation voltage		I _C =7A; I _B =3A			3.5	V
V _{BE-1}	Base-emitter on voltage	2N6291	I _C =2.5A ; V _{CE} =4V			1.5	V
		2N6293	I _C =2A ; V _{CE} =4V				
V _{BE-2}	Base-emitter on voltage		I _C =7A ; V _{CE} =4V			3.0	V
I _{CEO}	Collector cut-off current	2N6291	V _{CE} =40V; I _B =0			1.0	mA
		2N6293	V _{CE} =60V; I _B =0				
I _{CEX}	Collector cut-off current	2N6291	V _{CE} =56V; V _{BE} =-1.5V V _{CE} =50V; V _{BE} =-1.5V, T _C =150			0.1 2.0	mA
		2N6293	V _{CE} =75V; V _{BE} =-1.5V V _{CE} =70V; V _{BE} =-1.5V, T _C =150			0.1 2.0	
I _{EBO}	Emitter cut-off current		V _{EB} =5V; I _C =0			1.0	mA
h _{FE-1}	DC current gain	2N6291	I _C =2.5A ; V _{CE} =4V	30		150	
		2N6293	I _C =2A ; V _{CE} =4V				
h _{FE-2}	DC current gain		I _C =7A ; V _{CE} =4V	2.3			
C _{OB}	Output capacitance		I _E =0 ; V _{CB} =10V; f=1MHz			250	pF
f _T	Transition frequency		I _C =0.5A ; V _{CE} =4V; f=1MHz	10			MHz

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PACKAGE OUTLINE

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