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

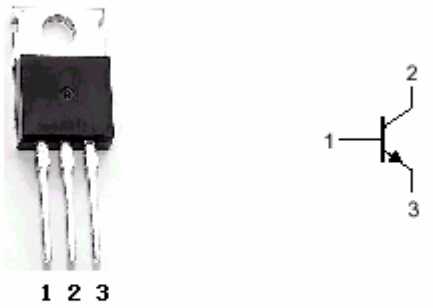

Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings(Ta=25□)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2N6291	Open emitter	60	V
		2N6293		80	
V_{CEO}	Collector-emitter voltage	2N6291	Open base	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
$R_{th\ j\text{-}c}$	Thermal resistance from junction to case	3.125	□/W

CHARACTERISTICS

Tj=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; $_{BE}$=-1.5V,T_C=150□			0.1 2.0	mA
		2N6293	V_{CE}=75V; V_{BE}=-1.5V V_{CE}=70V; $_{BE}$=-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

PACKAGE OUTLINE

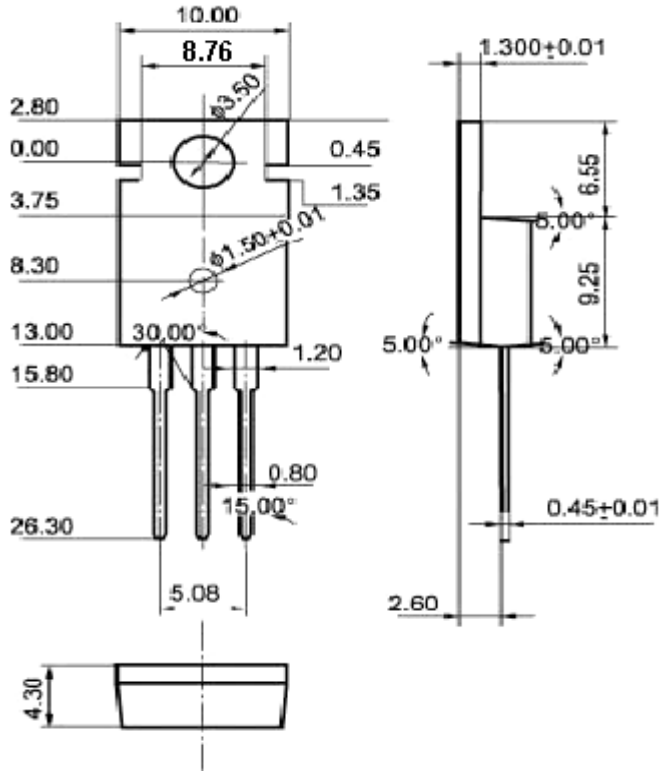

Fig.2 Outline dimensions(unindicated tolerance:±0.10 mm)