Silicon NPN Power Transistors 2N5490 2N5492 2N5494 2N5496

DESCRIPTION

·With TO-220 package
·High power dissipation

APPLICATIONS

·For used in medium power and amplifier applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

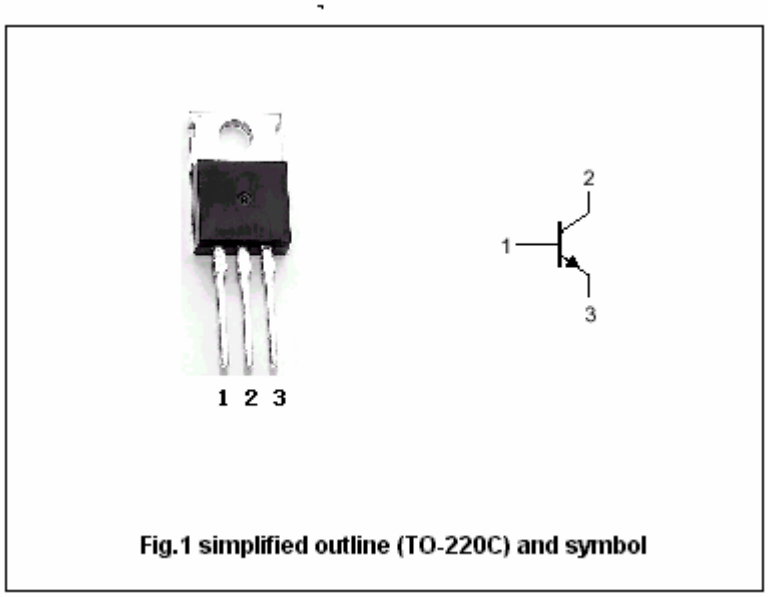


Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings(Ta=25□)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2N5490/5494	Open emitter	60	V
		2N5492		75	
		2N5496		90	
V_{CEO}	Collector-emitter voltage	2N5490/5494	Open base	40	V
		2N5492		55	
		2N5496		70	
V_{EBO}	Emitter-base voltage		Open collector	5	V
I_C	Collector current			7	A
I_B	Base current			3	A
P_D	Total power dissipation		T_C=25□	50	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	2.5	□/W

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CHARACTERISTICS

Tj=25□ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-emitter sustioning voltage	2N5490/5494	I_C=0.1A ;I_B=0	40			V
		2N5492		55			
		2N5496		70			
V_{CEsat}	Collector-emitter saturation voltage	2N5490	I_C=2.0A;I_B=0.2A			1.0	V
		2N5492	I_C=2.5A;I_B=0.25A				
		2N5494	I_C=3.0A;I_B=0.3A				
		2N5496	I_C=3.5A;I_B=0.35A				
V_{BE}	Base-emitter on voltage	2N5490	I_C=2.0A ; V_{CE}=4V			1.1	V
		2N5492	I_C=2.5A ; V_{CE}=4V			1.3	
		2N5494	I_C=3.0A ; V_{CE}=4V			1.5	
		2N5496	I_C=3.5A ; V_{CE}=4V			1.7	
I_{CEV}	Collector cut-off current	2N5492	V_{CE}=70V;V_{BE}=1.5V			1.0	mA
		2N5490/5494	V_{CE}=55V;V_{BE}=1.5V				
		2N5496	V_{CE}=85V;V_{BE}=1.5V				
I_{CER}	Collector cut-off current		V_{CE}=Rated V_{CEO};R_{BE}=100Ω			0.5	mA
I_{EBO}	Emitter cut-off current		V_{EB}=5V; I_C=0			1.0	mA
h_{FE}	DC current gain	2N5490	I_C=2.0A ; V_{CE}=4V	20		100	
		2N5492	I_C=2.5A ; V_{CE}=4V				
		2N5494	I_C=3.0A ; V_{CE}=4V				
		2N5496	I_C=3.5A ; V_{CE}=4V				
f_T	Transition frequency		I_C=0.5A ; V_{CE}=4V	0.8			MHz

PACKAGE OUTLINE

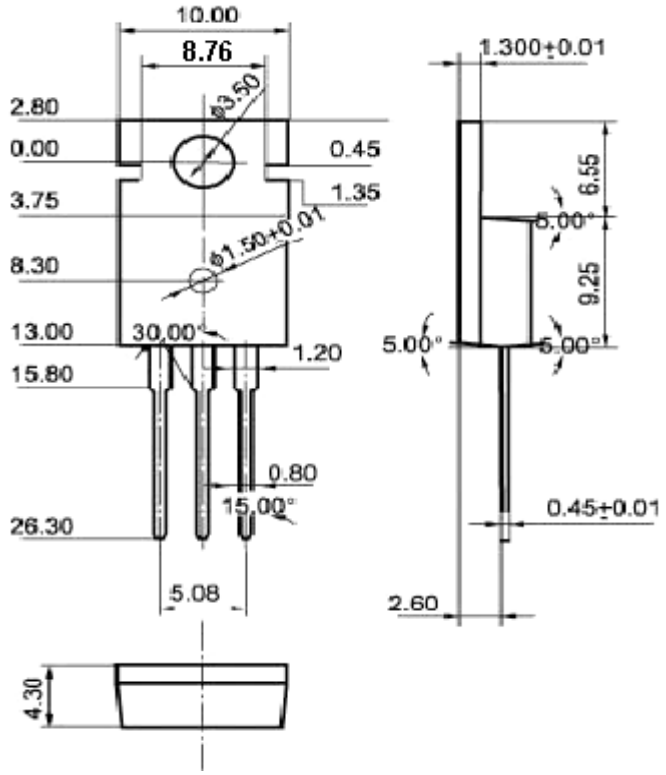


Fig.2 Outline dimensions(unindicated tolerance:±0.10 mm)