

Silicon NPN Power Transistors

2N5294 2N5296 2N5298

DESCRIPTION

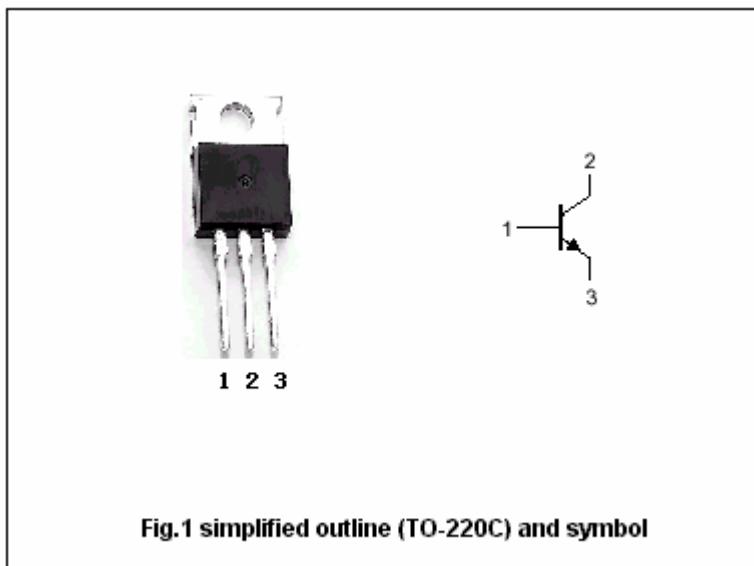
- With TO-220 package
- High power dissipation

APPLICATIONS

- Power amplifier and medium speed switching 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	2N5294	80	V
		2N5296	60	
		2N5298	80	
V_{CEO}	Collector-emitter voltage	2N5294	70	V
		2N5296	40	
		2N5298	60	
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current		4	A
I_B	Base current		2	A
P_T	Total power dissipation	$T_C=25$	36	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	3.47	/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	2N5294	I _C =0.1A ; I _B =0	70			V
		2N5296		40			
		2N5298		60			
V _{CEsat}	Collector-emitter saturation voltage	2N5294	I _C =0.5A; I _B =0.05A			1.0	V
		2N5296	I _C =1.0A; I _B =0.1A				
		2N5298	I _C =1.5A; I _B =0.15A				
V _{BE}	Base-emitter on voltage	2N5294	I _C =0.5A ; V _{CE} =4V			1.1	V
		2N5296	I _C =1.0A ; V _{CE} =4V			1.3	
		2N5298	I _C =1.5A ; V _{CE} =4V			1.5	
I _{CEV}	Collector cut-off current	2N5294/5298	V _{CE} =65V; V _{BE} =1.5V T _C =150			0.5 3.0	mA
		2N5296	V _{CE} =35V; V _{BE} =1.5V T _C =150			2.0 5.0	
I _{CER}	Collector cut-off current	2N5294/5298	V _{CE} =50V; R _{BE} =100Ω T _C =150			0.5 2.0	mA
I _{EBO}	Emitter cut-off current	2N5294	V _{EB} =7V; I _C =0			1.0	mA
		2N5296/5298	V _{EB} =5V; I _C =0				
h _{FE}	DC current gain	2N5294	I _C =0.5A ; V _{CE} =4V	30		120	
		2N5296	I _C =1.0A ; V _{CE} =4V				
		2N5298	I _C =1.5A ; V _{CE} =4V	20		80	
f _T	Transition frequency		I _C =0.2A ; V _{CE} =4V	0.8			MHz
t _{on}	Turn-on time	2N5294	I _C =0.5A; I _B =0.05A; V _{CC} =30V			5.0	μs
		2N5296	I _C =1.0A; I _B =0.1A; V _{CC} =30V				
		2N5298	I _C =1.5A; I _B =0.15A; V _{CC} =30V				
t _{off}	Turn-off time	2N5294	I _C =0.5A; I _B =0.05A; V _{CC} =30V			15	μs
		2N5296	I _C =1.0A; I _B =0.1A; V _{CC} =30V				
		2N5298	I _C =1.5A; I _B =0.15A; V _{CC} =30V				

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PACKAGE OUTLINE

