

Silicon NPN Power Transistors

2N5294 2N5296 2N5298

DESCRIPTION

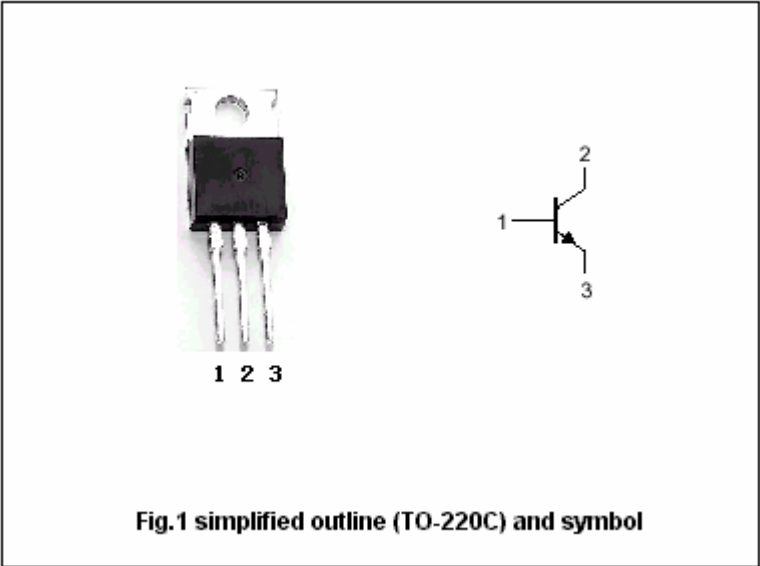
- With TO-220 package
- High power dissipation

APPLICATIONS

- Power amplifier and medium speed switching applications

PINNING

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



Absolute maximum ratings(Ta=25)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	2N5294	Open emitter	80	V
		2N5296		60	
		2N5298		80	
V _{CEO}	Collector-emitter voltage	2N5294	Open base	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

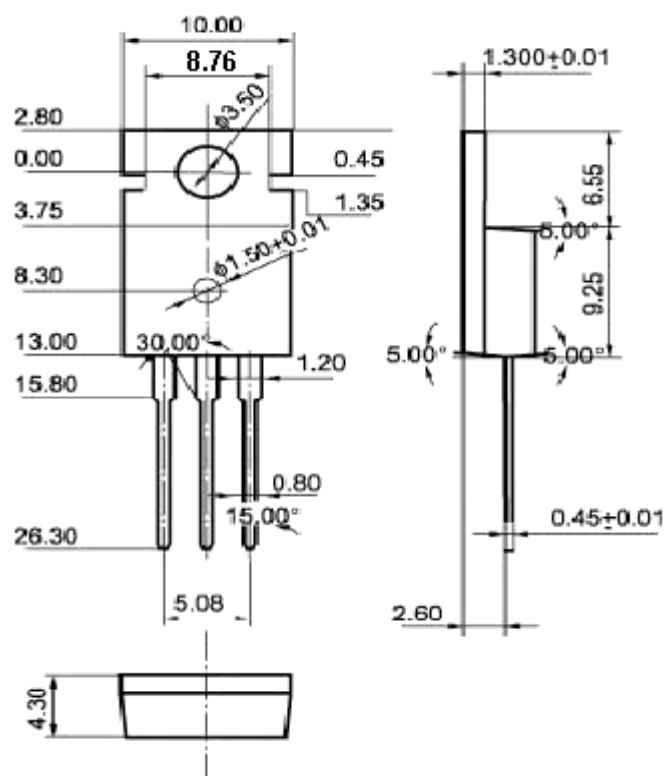
Tj=25 unless otherwise specified

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	$V_{CE}=50V; R_{BE}=100\Omega$ $T_C=150$			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

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