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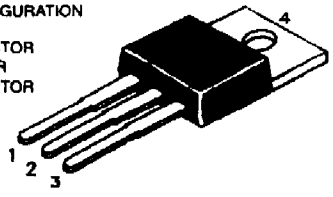
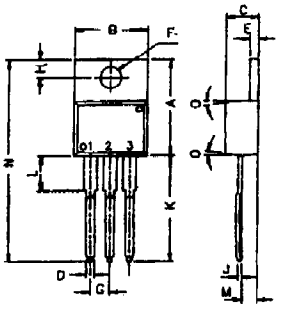
2N5294, 5296, 5298 NPN PLASTIC POWER TRANSISTORS

Medium Power Switching and Amplifier Applications

PIN CONFIGURATION
1. BASE
2. COLLECTOR
3. EMITTER
4. COLLECTOR





DIM	MIN	MAX
A	14,42	16,51
B	9,63	10,67
C	3,56	4,83
D	–	0,90
E	1,15	1,40
F	3,75	3,88
G	2,29	2,79
H	2,54	3,43
J	–	0,56
K	12,70	14,73
L	–	6,35
M	2,03	2,92
N	–	31,24
Q	7 DEG	

ALL DIMENSIONS ARE IN M.M.

ABSOLUTE MAXIMUM RATINGS

			5294	5296	5298	
Collector-base voltage (open emitter)	V_{CBO}	max.	80	60	80	V
Collector-emitter voltage (open base)	V_{CEO}	max.	70	40	60	V
Collector current	I_C	max.		4.0		A
Total power dissipation up to T_C = 25°C	P_{tot}	max.		36		W
Junction temperature	T_j	max.		150		°C
Collector-emitter saturation voltage						
I_C = 0.5 A; I_B = 0.05 A	V_{CEsat}	max.	1.0		–	V
I_C = 1 A; I_B = 0.1 A			–	1.0	–	V
I_C = 1.5 A; I_B = 0.15 A			–	–	1.0	V
D.C. current gain						
I_C = 0.5 A; V_{CE} = 4 V	h_{FE}	min.	30	–	–	
		max.	120	–	–	
I_C = 1 A; V_{CE} = 4 V	h_{FE}*	min.	–	30	–	
		max.	–	120	–	
I_C = 1.5 A; V_{CE} = 4 V	h_{FE}*	min.	–	–	20	
		max.	–	–	80	

RATINGS (at T_A=25°C unless otherwise specified)

Limiting values			5294	5296	5298	
Collector-base voltage (open emitter)	V_{CBO}	max.	80	60	80	V
Collector-emitter voltage (open base)	V_{CEO}	max.	70	40	60	V
Collector-emitter voltage (V_{BE} = 1.5V)	V_{CEV}	max.	80	60	80	V
Collector-emitter voltage (R_{BE} = 100Ω)	V_{CER}	max.	75	50	70	V
Emitter-base voltage (open base)	V_{EBO}	max.	7.0	5.0	5.0	V
Collector current	I_C	max.		4.0		A
Base current	I_B	max.		2.0		A
Total power dissipation up to T_C = 25°C	P_{tot}	max.		36		W
Derate above 25°C		max.		0.288		W/°C
Total power dissipation up to T_A = 25°C	P_{tot}	max.		1.8		W
Derate above 25°C		max.		0.0144		W/°C
Junction temperature	T_j	max.		150		°C
Storage temperature	T_{stg}			–65 to +150		°C

THERMAL RESISTANCE

From junction to ambient	$R_{th\ j-a}$			70		°C/W
From junction to case	$R_{th\ j-c}$			3.5		°C/W

CHARACTERISTICS

T_{amb} = 25°C unless otherwise specified			5294	5296	5298	
Collector cutoff current						
V_{CE} = 65 V; V_{BE} = 1.5 V	I_{CEV}	max.	0.5	–	0.5	mA
V_{CE} = 35 V; V_{BE} = 1.5 V	I_{CEV}	max.	–	2.0	–	mA
V_{CE} = 65 V; V_{BE} = 1.5 V; T_C = 150°C	I_{CEV}	max.	3.0	–	3.0	mA
V_{CE} = 35 V; V_{BE} = 1.5 V; T_C = 150°C	I_{CEV}	max.	–	5.0	–	mA
V_{CE} = 50 V; R_{BE} = 100 Ω	I_{CER}	max.	0.5	–	0.5	mA
V_{CE} = 50 V; R_{BE} = 100 Ω; T_C = 150°C	I_{CER}	max.	2.0	–	2.0	mA
Emitter cut-off current						
I_C = 0; V_{EB} = 7 V	I_{EBO}	max.	1.0	–	–	mA
I_C = 0; V_{EB} = 5 V	I_{EBO}	max.	–	1.0	1.0	mA
Breakdown voltages						
I_C = 100 mA; I_B = 0	$V_{CEO(sus)}$*	min.	70	40	60	V
I_C = 1 mA; I_E = 0	V_{CBO}	min.	80	60	80	V
I_E = 1 mA; I_C = 0	V_{EBO}	min.	7	5	5	V
Saturation voltages						
I_C = 0.5 A; I_B = 0.05 A	V_{CEsat}*	max.	1.0	–	–	V
I_C = 1 A; I_B = 0.1 A	V_{CEsat}*	max.	–	1.0	–	V
I_C = 1.5 A; I_B = 0.15 A	V_{CEsat}*	max.	–	–	1.0	V
Base-emitter on voltage						
I_C = 0.5 A; V_{CE} = 4 V	$V_{BE(on)}$**	max.	1.1	–	–	V
I_C = 1 A; V_{CE} = 4 V	$V_{BE(on)}$*	max.	–	1.3	–	V
I_C = 1.5 A; V_{CE} = 4 V	$V_{BE(on)}$*	max.	–	–	1.5	V