

2N4296
2N4298
2N4299

**SILICON
NPN POWER TRANSISTORS**



TO-66 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N4296, 2N4298, and 2N4299 devices are silicon NPN power transistors designed for power amplifier and switching applications.

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: ($T_C=25^\circ\text{C}$)

Collector-Base Voltage	
Collector-Emitter Voltage	
Emitter-Base Voltage	
Continuous Collector Current	
Continuous Base Current	
Power Dissipation	
Operating and Storage Junction Temperature	
Thermal Resistance	

SYMBOL	2N4296	2N4298	2N4299	UNITS
V_{CBO}	350	500	350	V
V_{CEO}	250	350	250	V
V_{EBO}		4.0		V
I_C		1.0		A
I_B		250		mA
P_D		20		W
T_J, T_{stg}		-65 to +175		$^\circ\text{C}$
θ_{JC}		7.5		$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_C=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	2N4296		2N4298		2N4299		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
I_{CEV}	$V_{CE}=150\text{V}, V_{BE}=1.5\text{V}, T_C=135^\circ\text{C}$	-	600	-	600	-	600	μA
I_{CBO}	$V_{CB}=350\text{V}$	-	100	-	-	-	100	μA
I_{CBO}	$V_{CB}=500\text{V}$	-	-	-	100	-	-	μA
I_{EBO}	$V_{BE}=4.0\text{V}$	-	100	-	100	-	100	μA
BV_{CEO}	$I_C=50\text{mA}$	200	-	350	-	250	-	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$	-	0.9	-	0.9	-	0.75	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$	-	1.5	-	1.5	-	1.5	V
$V_{BE(ON)}$	$V_{CE}=10\text{V}, I_C=100\text{mA}$	-	0.9	-	0.9	-	0.9	V
h_{FE}	$V_{CE}=10\text{V}, I_C=5.0\text{mA}$	35	-	20	-	35	-	
h_{FE}	$V_{CE}=10\text{V}, I_C=50\text{mA}$	50	150	25	75	50	150	
h_{FE}	$V_{CE}=10\text{V}, I_C=100\text{mA}$	35	-	20	-	35	-	
f_T	$V_{CE}=10\text{V}, I_C=20\text{mA}, f=5.0\text{MHz}$	20	-	20	-	20	-	MHz
C_{cb}	$V_{CB}=100\text{V}, I_C=0, f=0.1$ to 1.0MHz	-	6.0	-	6.0	-	6.0	pF
t_{on}	$V_{CC}=100\text{V}, I_C=100\text{mA}, I_{B1}=I_{B2}=10\text{mA}$	-	7.0	-	7.0	-	7.0	μs
t_{off}	$V_{CC}=200\text{V}, I_C=100\text{mA}, I_{B1}=I_{B2}=10\text{mA}$	-	10	-	10	-	10	μs
$I_{S/b}$	$V_{CE}=200\text{V}$	75	-	75	-	75	-	mA

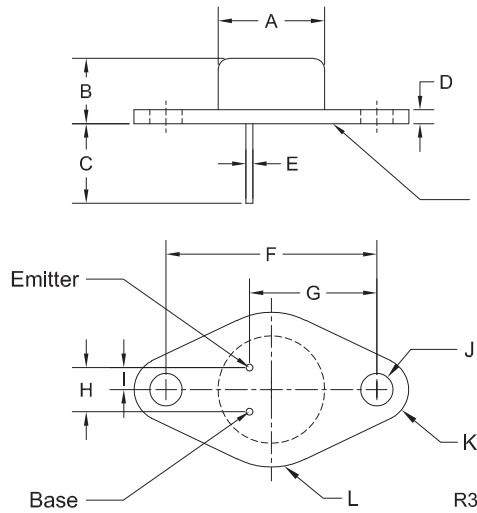
R1 (2-September 2014)

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TO-66 CASE - MECHANICAL OUTLINE



Seating Plane:
The seating plane must be
within 0.001" concave to
0.004" convex within
0.600" diameter from the
center of the device.

MARKING:
FULL PART NUMBER

SYMBOL	DIMENSIONS		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.470	0.500	11.94	12.70
B	0.250	0.340	6.35	8.64
C	0.360	-	9.14	-
D	0.050	0.075	1.27	1.91
E (DIA)	0.028	0.034	0.71	0.86
F	0.956	0.964	24.28	24.48
G	0.570	0.590	14.48	14.99
H	0.190	0.210	4.83	5.33
I	0.093	0.107	2.36	2.72
J (DIA)	0.142	0.152	3.61	3.86
K (RAD)	0.141		3.58	
L (RAD)	0.345		8.76	

TO-66 (REV:R3)

R1 (2-September 2014)