

2N3738
2N3739

**SILICON
NPN POWER TRANSISTOR**



TO-66 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N3738 and 2N3739 are silicon epitaxial NPN power transistors designed for high voltage amplifier 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
Peak Collector Current
Continuous Base Current
Peak Base Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL	2N3738	2N3739	UNITS
V_{CB0}	250	325	V
V_{CEO}	225	300	V
V_{EBO}	6.0		V
I_C	1.0		A
I_{CM}	2.0		A
I_B	0.5		A
I_{BM}	1.0		A
P_D	20		W
T_J, T_{stg}	-65 to +200		$^\circ\text{C}$
θ_{JC}	7.5		$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=\text{Rated } V_{CBO}$		0.1	mA
I_{CEV}	$V_{CE}=250\text{V}, V_{BE}=1.5\text{V}$ (2N3738)		0.5	mA
I_{CEV}	$V_{CE}=300\text{V}, V_{BE}=1.5\text{V}$ (2N3739)		0.5	mA
I_{CEV}	$V_{CE}=125\text{V}, V_{BE}=1.5\text{V}, T_C=100^\circ\text{C}$ (2N3738)		1.0	mA
I_{CEV}	$V_{CE}=200\text{V}, V_{BE}=1.5\text{V}, T_C=100^\circ\text{C}$ (2N3739)		1.0	mA
I_{CEO}	$V_{CE}=125\text{V}$ (2N3738)		0.25	mA
I_{CEO}	$V_{CE}=200\text{V}$ (2N3739)		0.25	mA
I_{EBO}	$V_{EB}=6.0\text{V}$		0.1	mA
BV_{CEO}	$I_C=5.0\text{mA}$, (2N3738)	225		V
BV_{CEO}	$I_C=5.0\text{mA}$, (2N3739)	300		V
$V_{CE(SAT)}$	$I_C=250\text{mA}, I_B=25\text{mA}$		2.5	V
$V_{BE(ON)}$	$V_{CE}=10\text{V}, I_C=100\text{mA}$		1.0	V
h_{FE}	$V_{CE}=10\text{V}, I_C=50\text{mA}$	30		
h_{FE}	$V_{CE}=10\text{V}, I_C=100\text{mA}$	40	200	
h_{FE}	$V_{CE}=10\text{V}, I_C=250\text{mA}$	25		
h_{fe}	$V_{CE}=20\text{V}, I_C=100\text{mA}, f=1.0\text{kHz}$	35		
f_T	$V_{CE}=10\text{V}, I_C=100\text{mA}, f=10\text{MHz}$	10		MHz
C_{ob}	$V_{CB}=100\text{V}, I_E=0, f=100\text{kHz}$		20	pF

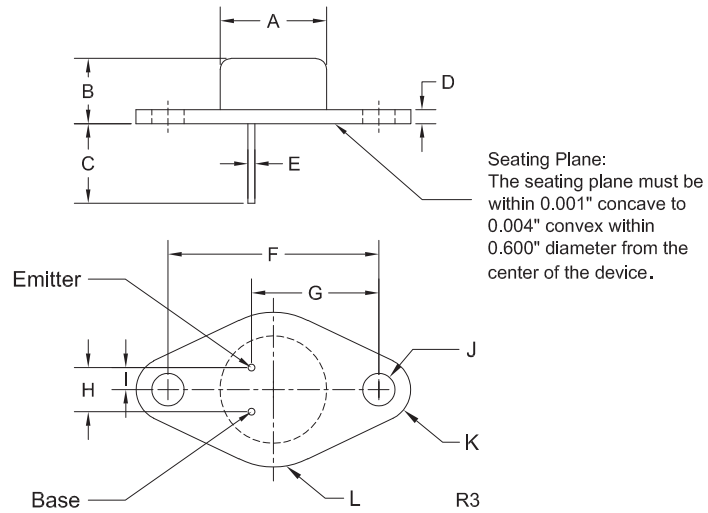
R1 (2-September 2014)

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TO-66 CASE - MECHANICAL OUTLINE



MARKING:
FULL PART NUMBER

DIMENSIONS				
SYMBOL	INCHES		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)

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