

# Central<sup>TM</sup> Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

2N2060M

NPN SILICON  
DUAL TRANSISTOR

JEDEC TO-78 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N2060M is a silicon NPN dual transistor utilizing two individual chips mounted in a hermetically sealed metal case designed for differential amplifier applications.

## MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise noted)

	SYMBOL		UNITS
Collector-Base Voltage	V <sub>CBO</sub>	100	V
Collector-Emitter Voltage	V <sub>CER</sub>	80	V
Collector-Emitter Voltage	V <sub>CEO</sub>	60	V
Emitter-Base Voltage	V <sub>EBO</sub>	7.0	V
Collector Current	I <sub>C</sub>	500	mA
Power Dissipation (One Die)	P <sub>D</sub>	500	mW
Power Dissipation (Both Dice)	P <sub>D</sub>	600	mW
Power Dissipation (One Die, T <sub>C</sub> =25°C)	P <sub>D</sub>	1.5	W
Power Dissipation (Both Dice, T <sub>C</sub> =25°C)	P <sub>D</sub>	3.0	W
Operating and Storage			
Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>	-65 to +200	°C

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I <sub>CBO</sub>	V <sub>CB</sub> =80V		2.0	nA
I <sub>EBO</sub>	V <sub>EB</sub> =5.0V		2.0	nA
BV <sub>CBO</sub>	I <sub>C</sub> =100μA	100		V
BV <sub>CER</sub>	I <sub>C</sub> =10mA, R <sub>BE</sub> =10Ω	80		V
BV <sub>CEO</sub>	I <sub>C</sub> =30mA	60		V
BV <sub>EBO</sub>	I <sub>E</sub> =100μA	7.0		V
V <sub>CE(s)</sub>	I <sub>C</sub> =50mA, I <sub>B</sub> =5.0mA		1.2	V
V <sub>BE(s)</sub>	I <sub>C</sub> =50mA, I <sub>B</sub> =5.0mA		0.9	V
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =10μA	25	150	
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =100μA	30	150	
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =1.0mA	40	150	
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =10mA	50	200	
f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =50mA, f=20MHz	60		Mhz

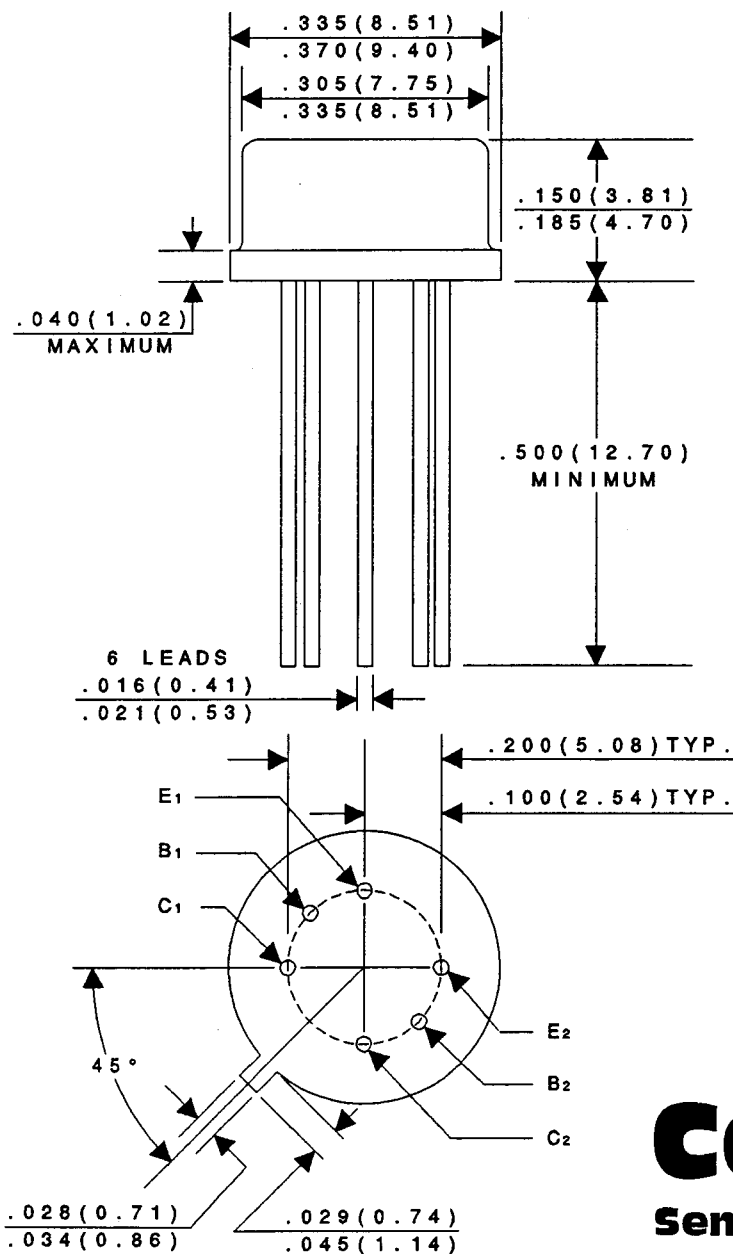
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ELECTRICAL CHARACTERISTICS (cont.) ( $T_A=25^\circ\text{C}$  unless otherwise noted)

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>MAX</u>	<u>UNITS</u>
$C_{ob}$	$V_{CB}=10\text{V}$ , $I_E=0$ , $f=1.0\text{MHz}$		15	pF
$C_{ib}$	$V_{BE}=0.5\text{V}$ , $I_C=0$ , $f=1.0\text{MHz}$		85	pF
NF	$V_{CE}=10\text{V}$ , $I_C=300\mu\text{A}$ , $R_S=510\Omega$ , $f=1.0\text{kHz}$ , $BW=200\text{Hz}$		8.0	dB
$h_{FE1}/h_{FE2}$	$V_{CE}=5.0\text{V}$ , $I_C=100\mu\text{A}$	0.9	1.0	
$h_{FE1}/h_{FE2}$	$V_{CE}=5.0\text{V}$ , $I_C=1.0\text{mA}$	0.9	1.0	
$ V_{BE1}-V_{BE2} $	$V_{CE}=5.0\text{V}$ , $I_C=100\mu\text{A}$		5.0	mV
$ V_{BE1}-V_{BE2} $	$V_{CE}=5.0\text{V}$ , $I_C=1.0\text{mA}$		5.0	mV

TO-78 MECHANICAL OUTLINE

All Dimensions in inches (mm).



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