

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

145 Adams Avenue, Hauppauge, NY 11788 USA  
Tel: (631) 435-1110 • Fax: (631) 435-1824

Manufacturers of World Class Discrete Semiconductors

MD8001  
MD8002  
MD8003

NPN SILICON DUAL TRANSISTOR

JEDEC TO-78 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR MD8001 series types are silicon NPN dual transistors manufactured by the epitaxial planar process utilizing 2 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	MD8001	MD8002	MD8003	UNIT
Collector-Emitter Voltage	V <sub>CEO</sub>	40	50	60	V
Collector Current	I <sub>C</sub>		30		mA
Power Dissipation (one die)	P <sub>D</sub>		575		mW
Power Dissipation (both dice)	P <sub>D</sub>		625		mW
Power Dissipation (one die, T <sub>C</sub> =25°C)	P <sub>D</sub>		1.8		W
Power Dissipation (both dice, T <sub>C</sub> =25°C)	P <sub>D</sub>		2.5		W
Operating and Storage Junction Temperature	T <sub>J</sub> , STG	-65 TO +200			°C
Thermal Resistance (one die)	θ <sub>JA</sub>		0.30		°C/mW
Thermal Resistance (both dice)	θ <sub>JA</sub>		0.28		°C/mW
Thermal Resistance (one die)	θ <sub>JC</sub>		97.2		°C/W
Thermal Resistance (both dice)	θ <sub>JC</sub>		70		°C/W

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
I <sub>CBO</sub>	V <sub>CB</sub> =40V		50	nA
I <sub>EBO</sub>	V <sub>EB</sub> =4.0V		50	nA
BV <sub>CEO</sub>	I <sub>C</sub> =10mA (MD8001)	40		V
BV <sub>CEO</sub>	I <sub>C</sub> =10mA (MD8002)	50		V
BV <sub>CEO</sub>	I <sub>C</sub> =10mA (MD8003)	60		V
h <sub>FE</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =1.0mA	100		
f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =5.0mA, f=100MHz	240 TYP		MHz
C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=100kHz	20 TYP		pF
C <sub>ib</sub>	V <sub>EB</sub> =2.0V, I <sub>C</sub> =0, f=100kHz	1.9 TYP		pF
V <sub>BE1</sub> - V <sub>BE2</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =1.0mA		15	mV