Data Sheet

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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_A=25°c unless otherwise noted)

	SYMBOL	MD8001	MD8002	MD8003	UNIT
Collector-Emitter Voltage	V_{CEO}	40	50	60	V
Collector Current	I_C		30		mA
Power Dissipation (one die)	P_D		575		mW
Power Dissipation (both dice)	P_D		625		mW
Power Dissipation (one die, T_C=25°C)	P_D		1.8		W
Power Dissipation (both dice, T_C=25°C)	P_D		2.5		W
Operating and Storage Junction Temperature	T_J, STG		-65 TO +200		°C
Thermal Resistance (one die)	Θ_{JA}		0.30		°C/mW
Thermal Resistance (both dice)	Θ_{JA}		0.28		°C/mW
Thermal Resistance (one die)	Θ_{JC}		97.2		°C/W
Thermal Resistance (both dice)	Θ_{JC}		70		°C/W

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
I_{CBO}	V_{CB}=40V		50	nA
I_{EBO}	V_{EB}=4.0V		50	nA
BV_{CEO}	I_C=10mA (MD8001)	40		V
BV_{CEO}	I_C=10mA (MD8002)	50		V
BV_{CEO}	I_C=10mA (MD8003)	60		V
h_{FE}	V_{CE}=10V, I_C=1.0mA	100		
f_T	V_{CE}=10V, I_C=5.0mA, f=100MHz	240 TYP		MHz
C_{ob}	V_{CB}=10V, I_E=0, f=100kHz	20 TYP		pF
C_{ib}	V_{EB}=2.0V, I_C=0, f=100kHz	1.9 TYP		pF
$\lvert V_{BE1} - V_{BE2} \rvert$	V_{CE}=10V, I_C=1.0mA		15	mV