

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

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Manufacturers of World Class Discrete Semiconductors

MD918  
MD918A  
MD918B

NPN DUAL  
SILICON TRANSISTOR

JEDEC TO-78 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR MD918 Series types are Silicon NPN Planar Epitaxial Dual Transistors designed for dual amplifier applications.

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

	SYMBOL			UNITS
Collector-Base Voltage	V <sub>CB0</sub>	30		V
Collector-Emitter Voltage	V <sub>CEO</sub>	15		V
Emitter-Base Voltage	V <sub>EBO</sub>	3.0		V
Collector Current	I <sub>C</sub>	50		mA
Operating and Storage Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>	-65 to +200		°C
		<u>EACH TRANSISTOR</u>	<u>TOTAL PACKAGE</u>	
Power Dissipation	P <sub>D</sub>	550	600	mW
Power Dissipation (T <sub>C</sub> =25°C)	P <sub>D</sub>	1.4	2.0	W
Thermal Resistance	θ <sub>JA</sub>	318	292	°C/W
Thermal Resistance	θ <sub>JC</sub>	125	87.5	°C/W

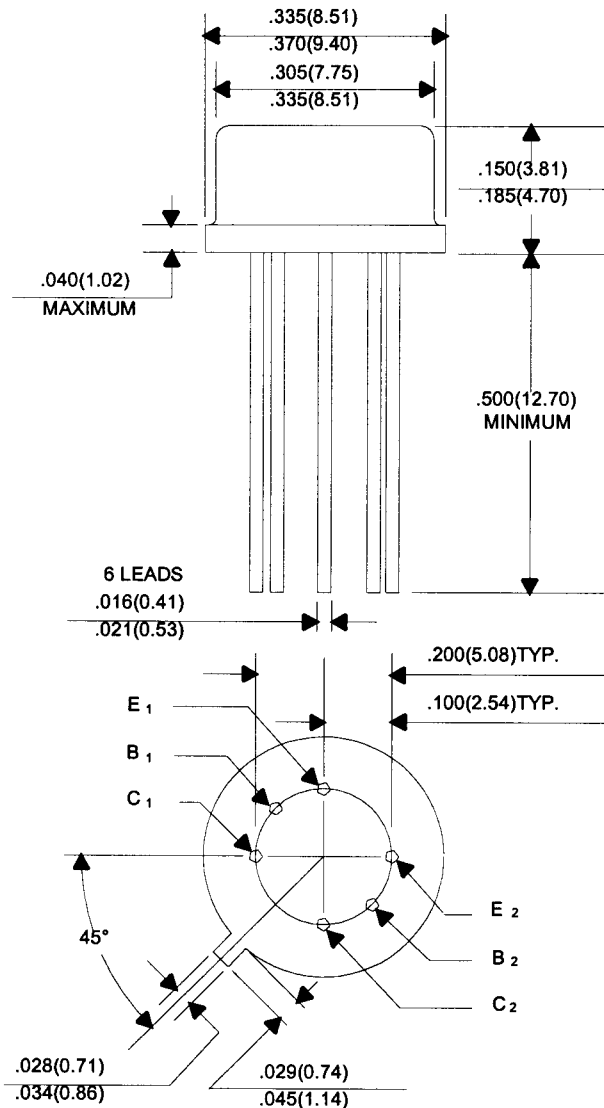
## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I <sub>CBO</sub>	V <sub>CB</sub> =15V		10	nA
I <sub>CBO</sub>	V <sub>CB</sub> =15V, T <sub>A</sub> =150°C		1.0	μA
BV <sub>CB0</sub>	I <sub>C</sub> =1.0μA	30		V
BV <sub>CEO</sub>	I <sub>C</sub> =3.0mA	15		V
BV <sub>EBO</sub>	I <sub>E</sub> =10μA	3.0		V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1.0mA		0.2	V
V <sub>BE(SAT)</sub>	I <sub>B</sub> =10mA, I <sub>C</sub> =1.0mA		0.9	V
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =3.0mA	50		
f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =4.0mA, f=100MHz	600		MHz
C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=100kHz		1.7	pF
C <sub>ib</sub>	V <sub>BE</sub> =0.5V, I <sub>C</sub> =0, f=100kHz		2.0	pF
NF	V <sub>CE</sub> =6.0V, I <sub>C</sub> =1.0mA, R <sub>S</sub> =400Ω, f=60MHz		6.0	dB

**ELECTRICAL CHARACTERISTICS (Continued)**

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>MAX</u>	<u>UNITS</u>
$h_{FE1}/h_{FE2}$	$V_{CE}=5.0V, I_C=1.0mA$ (MD918A)	0.9	1.0	
$h_{FE1}/h_{FE2}$	$V_{CE}=5.0V, I_C=1.0mA$ (MD918B)	0.8	1.0	
$ V_{BE1}-V_{BE2} $	$V_{CE}=5.0V, I_C=1.0mA$ (MD918A)		5.0	mV
$ V_{BE1}-V_{BE2} $	$V_{CE}=5.0V, I_C=1.0mA$ (MD918B)		10	mV
$\Delta V_{BE1}-V_{BE2} /\Delta T_A$	$V_{CE}=5.0V, I_C=1.0mA, T_A=-55$ to $+125^\circ C$ (MD918A)		10	$\mu V/^\circ C$
$\Delta V_{BE1}-V_{BE2} /\Delta T_A$	$V_{CE}=5.0V, I_C=1.0mA, T_A=-55$ to $+125^\circ C$ (MD918B)		20	$\mu V/^\circ C$

**JEDEC TO-78 CASE - MECHANICAL OUTLINE**



All Dimensions in Inches (mm).

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