

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

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Manufacturers of World Class Discrete Semiconductors

## CM5160

PNP HIGH FREQUENCY  
SILICON TRANSISTOR

JEDEC TO-39 CASE

### DESCRIPTION

The CENTRAL SEMICONDUCTOR CM5160 is a Silicon PNP RF Transistor, mounted in a hermetically sealed package, designed for high frequency amplifier and non-saturated switching applications. This device is a replacement for the 2N5160.

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

	SYMBOL		UNITS
Collector-Base Voltage	V <sub>CB0</sub>	60	V
Collector-Emitter Voltage	V <sub>CEO</sub>	40	V
Emitter-Base Voltage	V <sub>EBO</sub>	4.0	V
Collector Current - Continuous	I <sub>C</sub>	400	mA
Power Dissipation	P <sub>D</sub>	1.0	W
Power Dissipation (T <sub>C</sub> =25°C)	P <sub>D</sub>	5.0	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	TYP	MAX	UNITS
I <sub>CBO</sub>	V <sub>CB</sub> =28V			1.0	µA
I <sub>CES</sub>	V <sub>CE</sub> =60V			100	µA
I <sub>CEO</sub>	V <sub>CB</sub> =28V			20	µA
BV <sub>CEO</sub>	I <sub>C</sub> =5.0mA	40			V
BV <sub>EBO</sub>	I <sub>E</sub> =100µA	4.0			V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =100mA, I <sub>B</sub> =10mA		0.25	0.6	V
V <sub>BE(ON)</sub>	V <sub>CE</sub> =2.0V, I <sub>C</sub> =100mA		0.82	1.6	V
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =50mA	30	60		
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =100mA	25	50		
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =300mA	12	20		
f <sub>T</sub>	V <sub>CE</sub> =15V, I <sub>C</sub> =50mA, f=200MHz	500	900		MHz
C <sub>cb</sub>	V <sub>CB</sub> =28V, I <sub>E</sub> =0, f=0.1 to 1.0 MHz		3.2	4.0	pF
C <sub>eb</sub>	V <sub>EB</sub> =0.5V, I <sub>C</sub> =0, f=0.1 to 1.0 MHz		40	70	pF
*t <sub>d</sub>	V <sub>CC</sub> =31.4V, I <sub>C</sub> =150mA, R <sub>C</sub> =160Ω, R <sub>E</sub> =26.6Ω		2.6		ns
*t <sub>r</sub>	V <sub>CC</sub> =31.4V, I <sub>C</sub> =150mA, R <sub>C</sub> =160Ω, R <sub>E</sub> =26.6Ω		4.0		ns
	V <sub>CC</sub> =31.4V, I <sub>C</sub> =150mA, R <sub>C</sub> =160Ω, R <sub>E</sub> =26.6Ω		3.0		ns
	V <sub>CC</sub> =31.4V, I <sub>C</sub> =150mA, R <sub>C</sub> =160Ω, R <sub>E</sub> =26.6Ω		3.2		ns

(See Reverse Side)



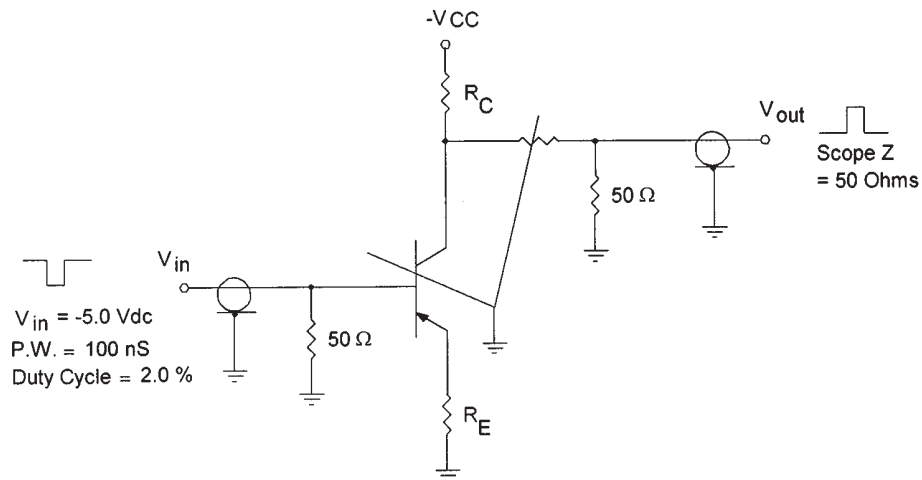
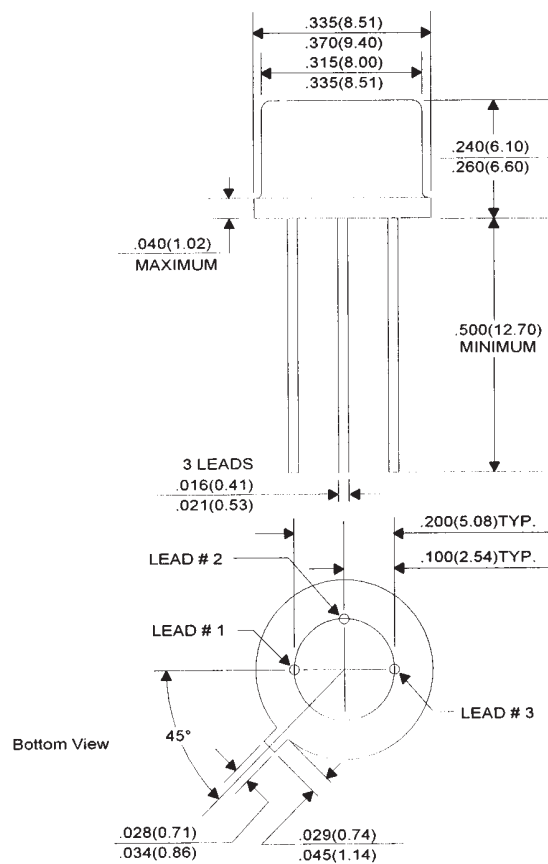


Figure 1. Switching Time Test Circuit

## JEDEC TO-39 CASE - MECHANICAL OUTLINE



All Dimensions in Inches (mm).

Lead Code:

- 1) Emitter
- 2) Base
- 3) Collector