

# 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

CM5583

PNP HIGH FREQUENCY  
SILICON TRANSISTOR

JEDEC TO-39 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR CM5583 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 2N5583.

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

	<u>SYMBOL</u>		<u>UNITS</u>
Collector-Base Voltage	V <sub>CB0</sub>	30	V
Collector-Emitter Voltage	V <sub>CEO</sub>	30	V
Emitter-Base Voltage	V <sub>EBO</sub>	3.0	V
Collector Current - Continuous	I <sub>C</sub>	500	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)

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>TYP</u>	<u>MAX</u>	<u>UNITS</u>
I <sub>CBO</sub>	V <sub>CB</sub> =20V			50	nA
I <sub>EBO</sub>	V <sub>EB</sub> =2.0V			500	nA
BV <sub>CB0</sub>	I <sub>C</sub> =10μA	30			V
BV <sub>CEO</sub>	I <sub>C</sub> =10mA	30			V
BV <sub>EBO</sub>	I <sub>E</sub> =100μA	3.0			V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =100mA, I <sub>B</sub> =10mA			0.8	V
V <sub>BE(ON)</sub>	V <sub>CE</sub> =2.0V, I <sub>C</sub> =100mA			1.8	V
h <sub>FE</sub>	V <sub>CE</sub> =2.0V, I <sub>C</sub> =40mA	20			
h <sub>FE</sub>	V <sub>CE</sub> =2.0V, I <sub>C</sub> =100mA	25		100	
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =300mA	15			
f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =40mA, f=100MHz	1000			MHz
f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =100mA, f=100MHz	1300			MHz
C <sub>cb</sub>	V <sub>CB</sub> =15V, I <sub>E</sub> =0, f=100kHz			5.0	pF
C <sub>eb</sub>	V <sub>EB</sub> =0.5V, I <sub>C</sub> =0, f=100kHz			70	pF
r <sub>b</sub> 'C <sub>c</sub>	V <sub>CB</sub> =10V, I <sub>C</sub> =50mA, f=63.6MHz		8.0		ps
*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		2.5		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		4.5		ns
*t <sub>s</sub>	V <sub>CC</sub> =31.4V, I <sub>C</sub> =150mA, R <sub>C</sub> =160Ω, R <sub>E</sub> =26.6Ω		3.5		ns
*t <sub>f</sub>	V <sub>CC</sub> =31.4V, I <sub>C</sub> =150mA, R <sub>C</sub> =160Ω, R <sub>E</sub> =26.6Ω		5.0		ns

\*See Figure 1

(See Reverse Side)

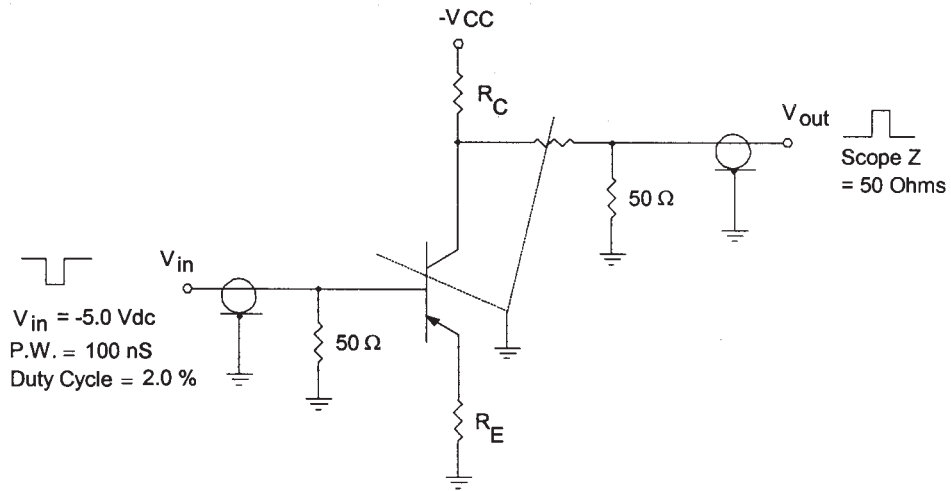
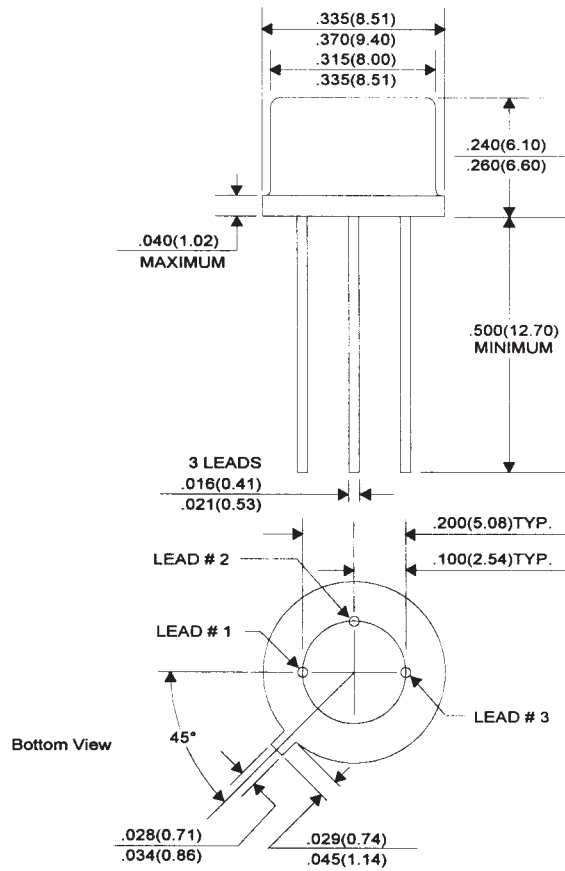


Figure 1. Switching Times Test Circuit

## JEDEC TO-39 CASE - MECHANICAL OUTLINE



All Dimensions in Inches (mm).

Lead Code:

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

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



---

### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

---

### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

---

### CONTACT US

#### Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.  
145 Adams Avenue  
Hauppauge, NY 11788 USA  
Main Tel: (631) 435-1110  
Main Fax: (631) 435-1824  
Support Team Fax: (631) 435-3388  
[www.centalsemi.com](http://www.centalsemi.com)

**Worldwide Field Representatives:**  
[www.centalsemi.com/wwreps](http://www.centalsemi.com/wwreps)

**Worldwide Distributors:**  
[www.centalsemi.com/wwdistributors](http://www.centalsemi.com/wwdistributors)

---

For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: [www.centalsemi.com/terms](http://www.centalsemi.com/terms)