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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 ($T_A=25^{\circ}\text{C}$)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Collector Current - Continuous	I_C	500	mA
Power Dissipation	P_D	1.0	W
Power Dissipation ($T_C=25^{\circ}\text{C}$)	P_D	5.0	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +200	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CBO}	$V_{CB}=20\text{V}$			50	nA
I_{EBO}	$V_{EB}=2.0\text{V}$			500	nA
BV_{CBO}	$I_C=10\mu\text{A}$	30			V
BV_{CEO}	$I_C=10\text{mA}$	30			V
BV_{EBO}	$I_E=100\mu\text{A}$	3.0			V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=10\text{mA}$			0.8	V
$V_{BE(ON)}$	$V_{CE}=2.0\text{V}, I_C=100\text{mA}$			1.8	V
h_{FE}	$V_{CE}=2.0\text{V}, I_C=40\text{mA}$	20			
h_{FE}	$V_{CE}=2.0\text{V}, I_C=100\text{mA}$	25		100	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=300\text{mA}$	15			
f_T	$V_{CE}=10\text{V}, I_C=40\text{mA}, f=100\text{MHz}$	1000			MHz
f_T	$V_{CE}=10\text{V}, I_C=100\text{mA}, f=100\text{MHz}$	1300			MHz
C_{cb}	$V_{CB}=15\text{V}, I_E=0, f=100\text{kHz}$			5.0	pF
C_{eb}	$V_{EB}=0.5\text{V}, I_C=0, f=100\text{kHz}$			70	pF
$r_b'C_c$	$V_{CB}=10\text{V}, I_C=50\text{mA}, f=63.6\text{MHz}$		8.0		ps
$*t_d$	$V_{CC}=31.4\text{V}, I_C=150\text{mA}, R_C=160\Omega, R_E=26.6\Omega$		2.5		ns
$*t_r$	$V_{CC}=31.4\text{V}, I_C=150\text{mA}, R_C=160\Omega, R_E=26.6\Omega$		4.5		ns
$*t_s$	$V_{CC}=31.4\text{V}, I_C=150\text{mA}, R_C=160\Omega, R_E=26.6\Omega$		3.5		ns
$*t_f$	$V_{CC}=31.4\text{V}, I_C=150\text{mA}, R_C=160\Omega, R_E=26.6\Omega$		5.0		ns

*See Figure 1

(See Reverse Side)

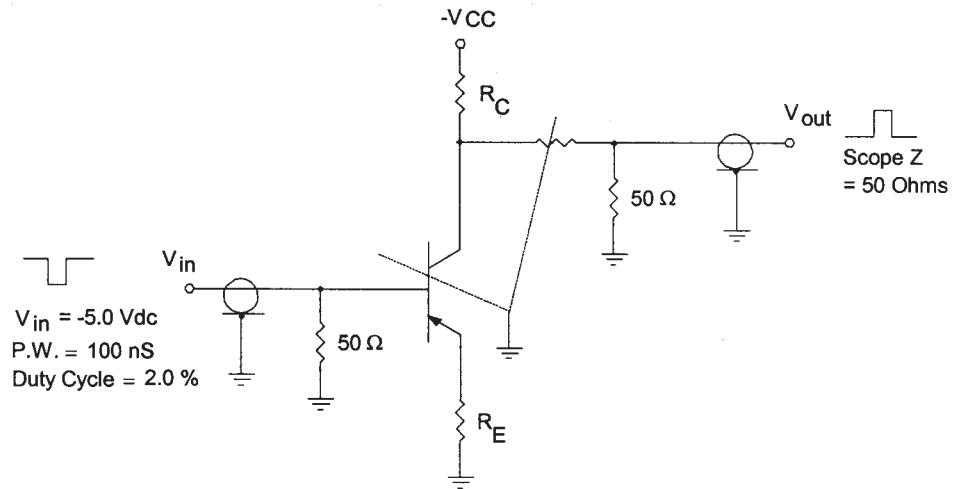
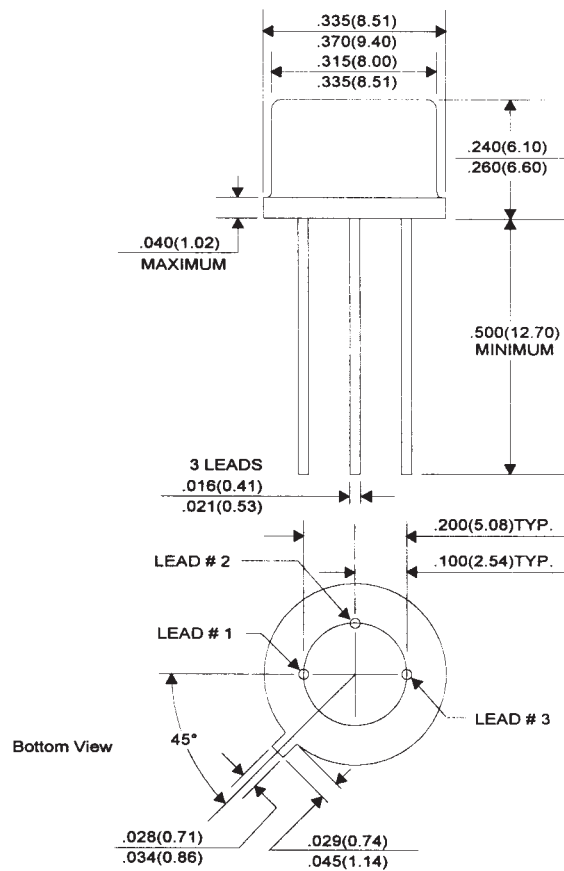


Figure 1. Switching Times Test Circuit

JEDEC TO-39 CASE - MECHANICAL OUTLINE



All Dimensions in Inches (mm).

Lead Code:

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