



# Central™ Semiconductor Corp.

## DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMUT5179 type is an NPN silicon RF transistor manufactured by the epitaxial planar process, epoxy molded in an ULTRAmi™ surface mount package, designed for low noise, high frequency amplifier and high output oscillator applications. **Marking code is HC7.**

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

	SYMBOL		UNITS
Collector-Base Voltage	V <sub>CBO</sub>	20	V
Collector-Emitter Voltage	V <sub>CEO</sub>	15	V
Emitter-Base Voltage	V <sub>EBO</sub>	2.5	V
Collector Current	I <sub>C</sub>	50	mA
Power Dissipation	P <sub>D</sub>	250	mW
Operating and Storage Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>	-65 to +150	°C
Thermal Resistance	θ <sub>JA</sub>	500	°C/W

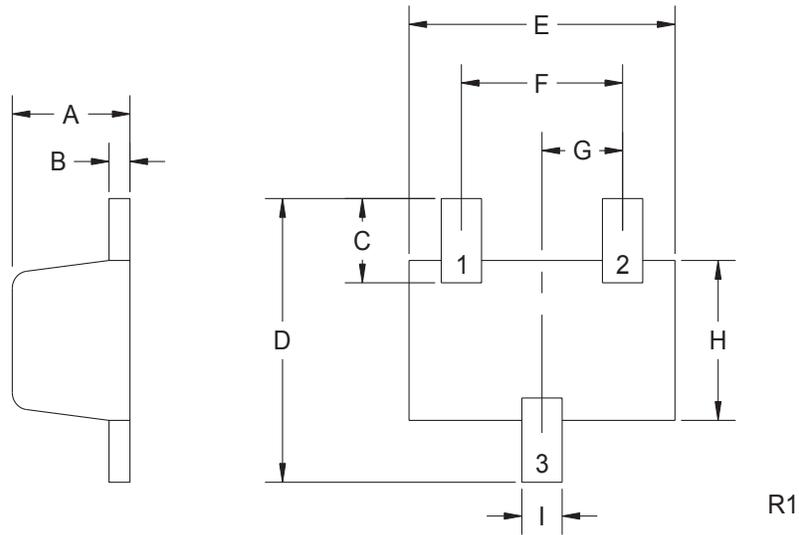
## ELECTRICAL CHARACTERISTICS: (T<sub>A</sub>=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I <sub>CBO</sub>	V <sub>CB</sub> =15V			20	nA
BV <sub>CBO</sub>	I <sub>C</sub> =10μA	20			V
BV <sub>CEO</sub>	I <sub>C</sub> =3.0mA	15			V
BV <sub>EBO</sub>	I <sub>E</sub> =10μA	2.5			V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1.0mA			0.4	V
V <sub>BE(SAT)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1.0mA			1.0	V
h <sub>FE</sub>	V <sub>CE</sub> =1.0V, I <sub>C</sub> =3.0mA	25			
f <sub>T</sub>	V <sub>CE</sub> =6.0V, I <sub>C</sub> =5.0mA, f=100MHz	900	1450		MHz
C <sub>cb</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=0.1 to 1.0MHz			1.0	pF
h <sub>fe</sub>	V <sub>CE</sub> =6.0V, I <sub>C</sub> =2.0, f=1.0kHz	25			
G <sub>pe</sub>	V <sub>CE</sub> =6.0V, I <sub>C</sub> =5.0mA, f=200MHz		15		dB
NF	V <sub>CE</sub> =6.0V, I <sub>C</sub> =1.5mA, R <sub>S</sub> =50Ω, f=200MHz		4.5		dB

R0 ( 15-August 2001)

SOT-523 CASE - MECHANICAL OUTLINE

BOTTOM VIEW



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR

MARKING CODE: HC7

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.025	0.029	0.63	0.73
B	0.004	0.005	0.10	0.13
C	0.015	0.019	0.39	0.49
D	0.061	0.065	1.55	1.65
E	0.061	0.065	1.55	1.65
F	0.039	0.040	0.98	1.02
G	0.019	0.020	0.48	0.52
H	0.033	0.037	0.83	0.93
I	0.009	0.010	0.23	0.25

SOT-523 (REV: R1)