

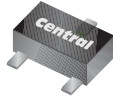
CMUT5179

**SURFACE MOUNT  
NPN SILICON  
RF TRANSISTOR**



[www.centrasemi.com](http://www.centrasemi.com)

**ULTRAmi<sup>TM</sup>**



**SOT-523 CASE**

**DESCRIPTION:**

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

**MARKING CODE: HC7**

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

Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

**SYMBOL**

V <sub>CB0</sub>	20
V <sub>CEO</sub>	15
V <sub>EBO</sub>	2.5
I <sub>C</sub>	50
P <sub>D</sub>	250
T <sub>J</sub> , T <sub>stg</sub>	-65 to +150
θ <sub>JA</sub>	500

**UNITS**

V
V
V
mA
mW
°C
°C/W

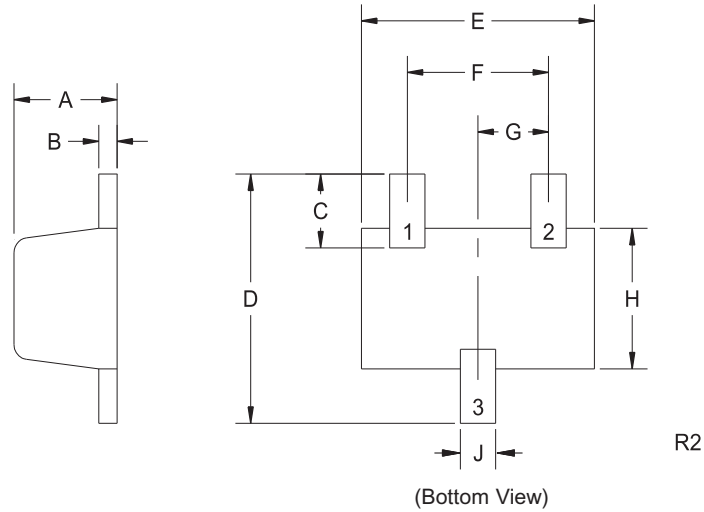
**ELECTRICAL CHARACTERISTICS:** (T<sub>A</sub>=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I <sub>CB0</sub>	V <sub>CB</sub> =15V			20	nA
BV <sub>CB0</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

CMUT5179  
 SURFACE MOUNT  
 NPN SILICON  
 RF TRANSISTOR



SOT-523 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

MARKING CODE: HC7

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.023	0.031	0.58	0.78
B	0.002	0.008	0.04	0.20
C	0.013	0.021	0.34	0.54
D	0.059	0.067	1.50	1.70
E	0.059	0.067	1.50	1.70
F	0.035	0.043	0.90	1.10
G	0.020		0.50	
H	0.031	0.039	0.78	0.98
J	0.010	0.014	0.25	0.35

SOT-523 (REV: R2)

R2 (9-February 2010)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### 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

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### 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

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### CONTACT US

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