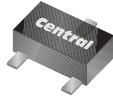


CMUT5179

**SURFACE MOUNT  
NPN SILICON  
RF TRANSISTOR**

**ULTRAmi™**



**SOT-523 CASE**

**Central™**  
Semiconductor Corp.

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

**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: HC7**

**MAXIMUM RATINGS:** ( $T_A=25^\circ\text{C}$ )

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

**SYMBOL**

$V_{CB0}$  20  
 $V_{CEO}$  15  
 $V_{EBO}$  2.5  
 $I_C$  50  
 $P_D$  250  
 $T_J, T_{stg}$  -65 to +150  
 $\theta_{JA}$  500

**UNITS**

V  
V  
V  
mA  
mW  
 $^\circ\text{C}$   
 $^\circ\text{C/W}$

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

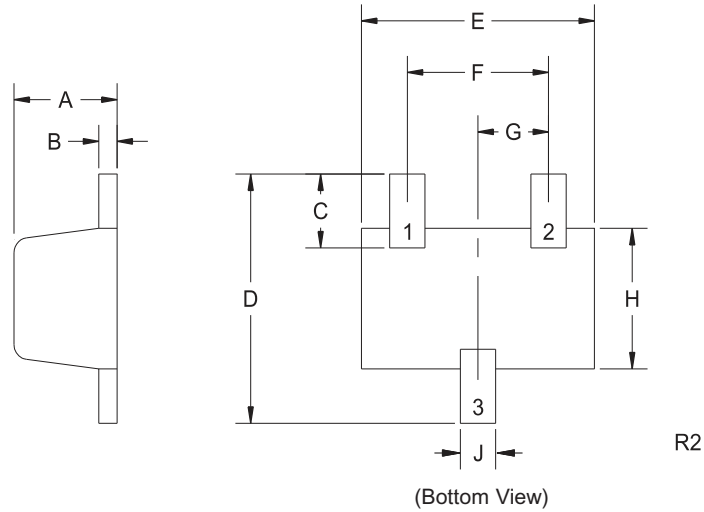
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{CB0}$	$V_{CB}=15\text{V}$			20	nA
$BV_{CB0}$	$I_C=10\mu\text{A}$	20			V
$BV_{CEO}$	$I_C=3.0\text{mA}$	15			V
$BV_{EBO}$	$I_E=10\mu\text{A}$	2.5			V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$			0.4	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$			1.0	V
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=3.0\text{mA}$	25			
$f_T$	$V_{CE}=6.0\text{V}, I_C=5.0\text{mA}, f=100\text{MHz}$	900	1450		MHz
$C_{cb}$	$V_{CB}=10\text{V}, I_E=0, f=0.1$ to 1.0MHz			1.0	pF
$h_{fe}$	$V_{CE}=6.0\text{V}, I_C=2.0, f=1.0\text{kHz}$	25			
$G_{pe}$	$V_{CE}=6.0\text{V}, I_C=5.0\text{mA}, f=200\text{MHz}$		15		dB
NF	$V_{CE}=6.0\text{V}, I_C=1.5\text{mA}, R_S=50\Omega, f=200\text{MHz}$		4.5		dB

R2 (9-February 2010)

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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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

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