

**CMUT2907A**  
**SURFACE MOUNT**  
**ULTRAmimi™**  
**PNP SILICON TRANSISTOR**

**ULTRAmimi™**



**SOT-523 CASE**

Central™

Semiconductor Corp.

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMUT2907A type is an PNP silicon transistor manufactured by the epitaxial planar process, epoxy molded in an ULTRAmimi™ surface mount package, designed for small signal general purpose and switching applications.

**MARKING CODE: FC2**

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

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

SYMBOL		UNITS
V <sub>CBO</sub>	60	V
V <sub>CEO</sub>	60	V
V <sub>EBO</sub>	5.0	V
I <sub>C</sub>	600	mA
P <sub>D</sub>	250	mW
T <sub>J</sub> , T <sub>stg</sub>	-65 to +150°C	
Θ <sub>JA</sub>	500	°C/W

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

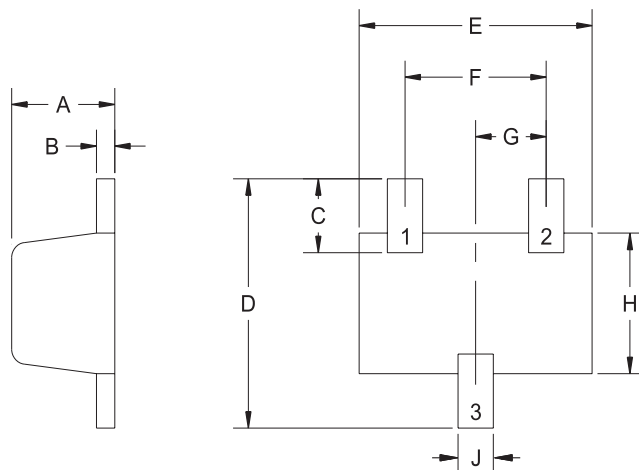
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I <sub>CBO</sub>	V <sub>CB</sub> =50V		10	nA
I <sub>CBO</sub>	V <sub>CB</sub> =50V, T <sub>A</sub> =125°C		10	μA
I <sub>CEV</sub>	V <sub>CE</sub> =30V, V <sub>BE</sub> =0.5V		50	nA
BV <sub>CBO</sub>	I <sub>C</sub> =10μA	60		V
BV <sub>CEO</sub>	I <sub>C</sub> =10mA	60		V
BV <sub>EBO</sub>	I <sub>E</sub> =10μA	5.0		V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =150mA, I <sub>B</sub> =15mA		0.4	V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA		1.6	V
V <sub>BE(SAT)</sub>	I <sub>C</sub> =150mA, I <sub>B</sub> =15mA		1.3	V
V <sub>BE(SAT)</sub>	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA		2.6	V
h <sub>FE</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =0.1mA	75		
h <sub>FE</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =1.0mA	100		
h <sub>FE</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =10mA	100		
h <sub>FE</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =150mA	100	300	
h <sub>FE</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =500mA	50		

**ELECTRICAL CHARACTERISTICS - Continued:**

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
$f_T$	$V_{CE}=20V, I_C=50mA, f=100MHz$	200		MHz
$C_{ob}$	$V_{CB}=10V, I_E=0, f=1.0MHz$		8.0	pF
$C_{ib}$	$V_{BE}=2.0V, I_C=0, f=1.0MHz$		30	pF
$t_{on}$	$V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA$		45	ns
$t_d$	$V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA$		10	ns
$t_r$	$V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA$		40	ns
$t_{off}$	$V_{CC}=6.0V, I_C=150mA, I_{B1}=I_{B2}=15mA$		100	ns
$t_s$	$V_{CC}=6.0V, I_C=150mA, I_{B1}=I_{B2}=15mA$		80	ns
$t_f$	$V_{CC}=6.0V, I_C=150mA, I_{B1}=I_{B2}=15mA$		30	ns

**SOT-523 CASE - MECHANICAL OUTLINE**

BOTTOM VIEW



SYMBOL	DIMENSIONS			
	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

**LEAD CODE:**

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

**MARKING CODE: FC2**

R2 (23-September 2008)