

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

	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	60	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	600	mA
Power Dissipation	P_D	250	mW
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	500	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=50\text{V}$		10	nA
I_{CBO}	$V_{CB}=50\text{V}, T_A=125^\circ\text{C}$		10	μA
I_{CEV}	$V_{CE}=30\text{V}, V_{BE}=0.5\text{V}$		50	nA
BV_{CB0}	$I_C=10\mu\text{A}$	60		V
BV_{CEO}	$I_C=10\text{mA}$	60		V
BV_{EBO}	$I_E=10\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.4	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		1.6	V
$V_{BE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		1.3	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		2.6	V
h_{FE}	$V_{CE}=10\text{V}, I_C=0.1\text{mA}$	75		
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	100		
h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	100		
h_{FE}	$V_{CE}=10\text{V}, I_C=150\text{mA}$	100	300	
h_{FE}	$V_{CE}=10\text{V}, I_C=500\text{mA}$		50	

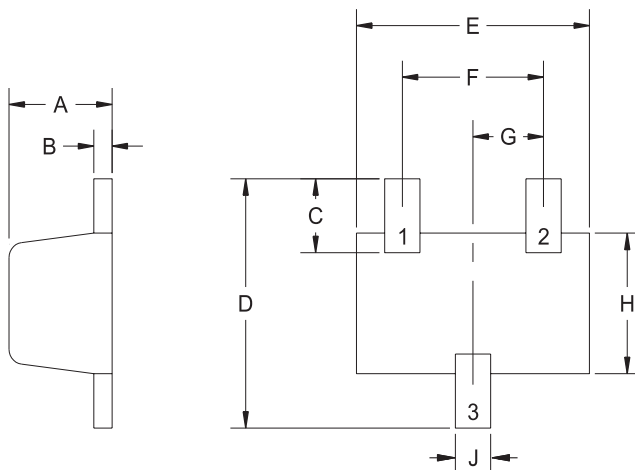
R1 (12-February 2003)

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

R1 (12-February 2003)