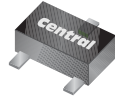


CMUT2907A
SURFACE MOUNT
PNP SILICON TRANSISTOR



www.centrasemi.com

ULTRAmiTM



SOT-523 CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMUT2907A type is an PNP silicon transistor manufactured by the epitaxial planar process, epoxy molded in an ULTRAmiTM 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_{CBO} | 60 | V |
| Collector-Emitter Voltage | V_{CEO} | 60 | V |
| Emitter-Base Voltage | V_{EBO} | 5.0 | V |
| Continuous 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 | $^\circ\text{C}/\text{W}$ |

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_{CBO} | $I_C=10\mu\text{A}$ | 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 | | |

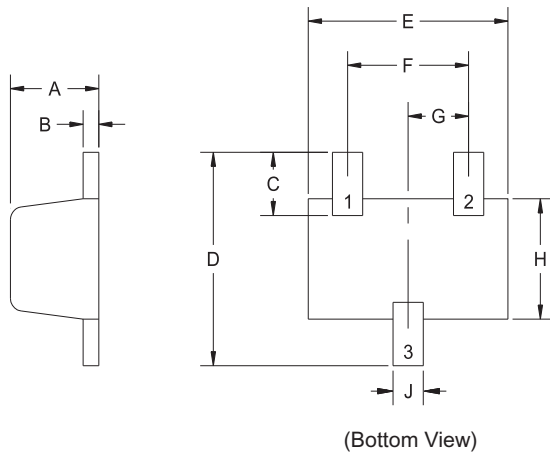
CMUT2907A
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ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

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

SOT-523 CASE - MECHANICAL OUTLINE



| 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

R3 (9-February 2010)