

CZT2907A

SURFACE MOUNT SILICON
PNP TRANSISTOR



SOT-223 CASE

Central
Semiconductor Corp.

www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT2907A is a silicon PNP transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for general purpose amplifier and switching applications.

MARKING: FULL PART NUMBER

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 | | UNITS |
|----------------|-------------|--------------------|
| V_{CBO} | 60 | V |
| V_{CEO} | 60 | V |
| V_{EBO} | 5.0 | V |
| I_C | 600 | mA |
| P_D | 2.0 | W |
| T_J, T_{stg} | -65 to +150 | $^\circ\text{C}$ |
| Θ_{JA} | 62.5 | $^\circ\text{C/W}$ |

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_{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 | | |

R7 (9-May 2019)

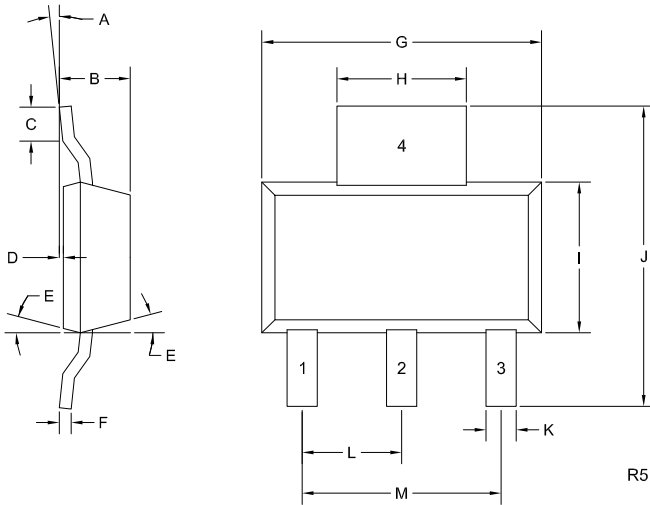
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ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^\circ\text{C}$ unless otherwise noted)

| 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-223 CASE - MECHANICAL OUTLINE



| SYMBOL | DIMENSIONS | | | |
|--------|------------|-------|-------------|------|
| | INCHES | | MILLIMETERS | |
| | MIN | MAX | MIN | MAX |
| A | 0° | 10° | 0° | 10° |
| B | 0.059 | 0.071 | 1.50 | 1.80 |
| C | 0.018 | --- | 0.45 | --- |
| D | 0.000 | 0.004 | 0.00 | 0.10 |
| E | 10° | | 10° | |
| F | 0.009 | 0.014 | 0.23 | 0.35 |
| G | 0.248 | 0.270 | 6.30 | 6.85 |
| H | 0.114 | 0.122 | 2.90 | 3.10 |
| I | 0.130 | 0.146 | 3.30 | 3.70 |
| J | 0.264 | 0.287 | 6.70 | 7.30 |
| K | 0.024 | 0.033 | 0.60 | 0.85 |
| L | 0.091 | | 2.30 | |
| M | 0.181 | | 4.60 | |

SOT-223 (REV: R5)

LEAD CODE:

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

MARKING:

FULL PART NUMBER

R7 (9-May 2019)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd 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

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).

CONTACT US

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