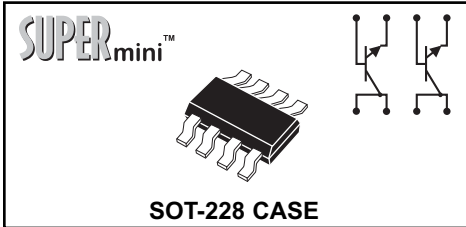


**CYTA44D**  
**SURFACE MOUNT**  
**DUAL, ISOLATED NPN HIGH VOLTAGE**  
**SILICON TRANSISTORS**



# Central™

**Semiconductor Corp.**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CYTA44D type consists of two (2) isolated NPN high voltage silicon transistors packaged in an epoxy molded SOT-228 surface mount case. Manufactured by the epitaxial planar process, this SUPERmini™ device is ideal for high voltage applications.

**MARKING CODE: FULL PART NUMBER**

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

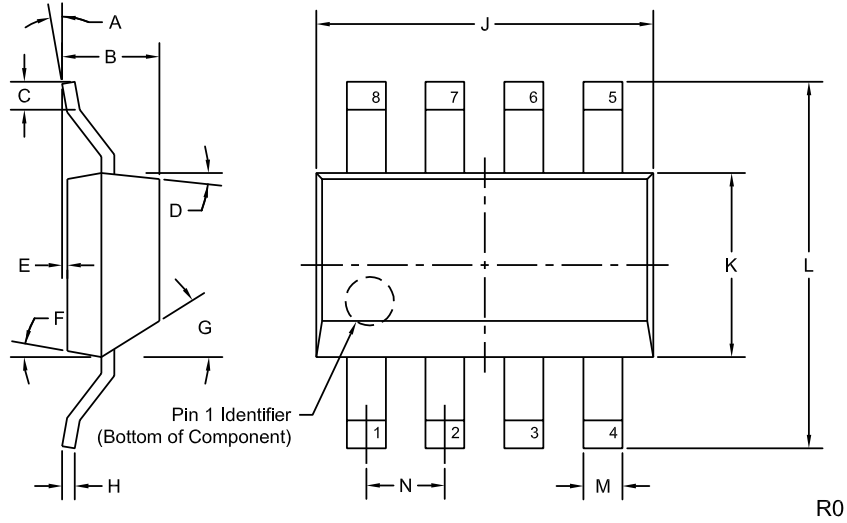
|                           | <b>SYMBOL</b>  |             | <b>UNITS</b>       |
|---------------------------|----------------|-------------|--------------------|
| Collector-Base Voltage    | $V_{CBO}$      | 450         | V                  |
| Collector-Emitter Voltage | $V_{CEO}$      | 400         | V                  |
| Emitter-Base Voltage      | $V_{EBO}$      | 6.0         | V                  |
| Collector Current         | $I_C$          | 300         | mA                 |
| Power Dissipation         | $P_D$          | 2.0         | W                  |
| Operating and Storage     |                |             |                    |
| Junction Temperature      | $T_J, T_{stg}$ | -65 to +150 | $^\circ\text{C}$   |
| Thermal Resistance        | $\theta_{JA}$  | 62.5        | $^\circ\text{C/W}$ |

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

| <b>SYMBOL</b> | <b>TEST CONDITIONS</b>                               | <b>MIN</b> | <b>MAX</b> | <b>UNITS</b> |
|---------------|--|------------|------------|--------------|
| $I_{CBO}$     | $V_{CB}=400\text{V}$                                 |            | 100        | nA           |
| $I_{CES}$     | $V_{CE}=400\text{V}$                                 |            | 500        | nA           |
| $I_{EBO}$     | $V_{BE}=4.0\text{V}$                                 |            | 100        | nA           |
| $BV_{CBO}$    | $I_C=100\mu\text{A}$                                 | 450        |            | V            |
| $BV_{CES}$    | $I_C=100\mu\text{A}$                                 | 450        |            | V            |
| $BV_{CEO}$    | $I_C=1.0\text{mA}$                                   | 400        |            | V            |
| $BV_{EBO}$    | $I_E=10\mu\text{A}$                                  | 6.0        |            | V            |
| $V_{CE(SAT)}$ | $I_C=1.0\text{mA}, I_B=0.1\text{mA}$                 |            | 0.40       | V            |
| $V_{CE(SAT)}$ | $I_C=10\text{mA}, I_B=1.0\text{mA}$                  |            | 0.50       | V            |
| $V_{CE(SAT)}$ | $I_C=50\text{mA}, I_B=5.0\text{mA}$                  |            | 0.75       | V            |
| $V_{BE(SAT)}$ | $I_C=10\text{mA}, I_B=1.0\text{mA}$                  |            | 0.75       | V            |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=1.0\text{mA}$                | 40         |            |              |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=10\text{mA}$                 | 50         | 200        |              |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=50\text{mA}$                 | 45         |            |              |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=100\text{mA}$                | 20         |            |              |
| $f_T$         | $V_{CE}=10\text{V}, I_C=10\text{mA}, f=10\text{MHz}$ | 20         |            | MHz          |
| $C_{ob}$      | $V_{CB}=20\text{V}, I_E=0, f=1.0\text{MHz}$          |            | 7.0        | pF           |
| $C_{ib}$      | $V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$         |            | 130        | pF           |

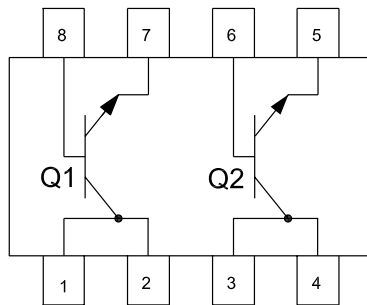
**SURFACE MOUNT  
DUAL, ISOLATED NPN HIGH VOLTAGE  
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**SOT-228 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

- 1) COLLECTOR Q1
- 2) COLLECTOR Q1
- 3) COLLECTOR Q2
- 4) COLLECTOR Q2
- 5) EMITTER Q2
- 6) BASE Q2
- 7) EMITTER Q1
- 8) BASE Q1



| SYMBOL | INCHES |       | MILLIMETERS |      |
|--------|--------|-------|-------------|------|
|        | MIN    | MAX   | MIN         | MAX  |
| A      | 0°     | 10°   | 0°          | 10°  |
| B      | —      | 0.075 | —           | 1.90 |
| C      | 0.018  | —     | 0.45        | —    |
| D      | 4°     | 10°   | 4°          | 10°  |
| E      | 0.000  | 0.004 | 0.00        | 0.10 |
| F      | 4°     | 10°   | 4°          | 10°  |
| G      | 36°    | 45°   | 36°         | 45°  |
| H      | 0.010  |       | 0.25        |      |
| J      | 0.248  | 0.264 | 6.30        | 6.70 |
| K      | 0.130  | 0.146 | 3.30        | 3.70 |
| L      | 0.264  | 0.287 | 6.70        | 7.30 |
| M      | 0.027  | 0.030 | 0.68        | 0.76 |
| N      | 0.060  |       | 1.53        |      |

SOT-228 (REV: R0)

**MARKING CODE:  
FULL PART NUMBER**

R1 (11-August 2005)