

CMPTA42 NPN  
CMPTA92 PNP

SURFACE MOUNT  
COMPLEMENTARY  
HIGH VOLTAGE  
SILICON TRANSISTORS



SOT-23 CASE



[www.centralsemi.com](http://www.centralsemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMPTA42 and CMPTA92 are complementary surface mount epoxy molded silicon planar epitaxial transistors designed for high voltage applications.

**MARKING CODES: CMPTA42: C1D  
CMPTA92: C2D**

**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         | CMPTA42     | CMPTA92 | UNITS                |
|----------------|-------------|---------|----------------------|
| $V_{CBO}$      | 300         | 300     | V                    |
| $V_{CEO}$      | 300         | 300     | V                    |
| $V_{EBO}$      | 6.0         | 5.0     | V                    |
| $I_C$          |             | 500     | mA                   |
| $P_D$          |             | 350     | mW                   |
| $T_J, T_{stg}$ | -65 to +150 |         | $^{\circ}\text{C}$   |
| $\theta_{JA}$  |             | 357     | $^{\circ}\text{C/W}$ |

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

| SYMBOL        | TEST CONDITIONS                                       | CMPTA42 |     | CMPTA92 |     | UNITS |
|---------------|-------------------------------------------------------|---------|-----|---------|-----|-------|
|               |                                                       | MIN     | MAX | MIN     | MAX |       |
| $I_{CBO}$     | $V_{CB}=200\text{V}$                                  | -       | 100 | -       | 250 | nA    |
| $I_{EBO}$     | $V_{BE}=6.0\text{V}$                                  | -       | 100 | -       | -   | nA    |
| $I_{EBO}$     | $V_{BE}=3.0\text{V}$                                  | -       | -   | -       | 100 | nA    |
| $BV_{CBO}$    | $I_C=100\mu\text{A}$                                  | 300     | -   | 300     | -   | V     |
| $BV_{CEO}$    | $I_C=1.0\text{mA}$                                    | 300     | -   | 300     | -   | V     |
| $BV_{EBO}$    | $I_E=100\mu\text{A}$                                  | 6.0     | -   | 5.0     | -   | V     |
| $V_{CE(SAT)}$ | $I_C=20\text{mA}, I_B=2.0\text{mA}$                   | -       | 0.5 | -       | 0.5 | V     |
| $V_{BE(SAT)}$ | $I_C=20\text{mA}, I_B=2.0\text{mA}$                   | -       | 0.9 | -       | 0.9 | V     |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=1.0\text{mA}$                 | 25      | -   | 25      | -   |       |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=10\text{mA}$                  | 40      | -   | 40      | -   |       |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=30\text{mA}$                  | 40      | -   | 25      | -   |       |
| $f_T$         | $V_{CE}=20\text{V}, I_C=10\text{mA}, f=100\text{MHz}$ | 50      | -   | 50      | -   | MHz   |
| $C_{ob}$      | $V_{CB}=20\text{V}, I_E=0, f=1.0\text{MHz}$           | -       | 6.0 | -       | 6.0 | pF    |

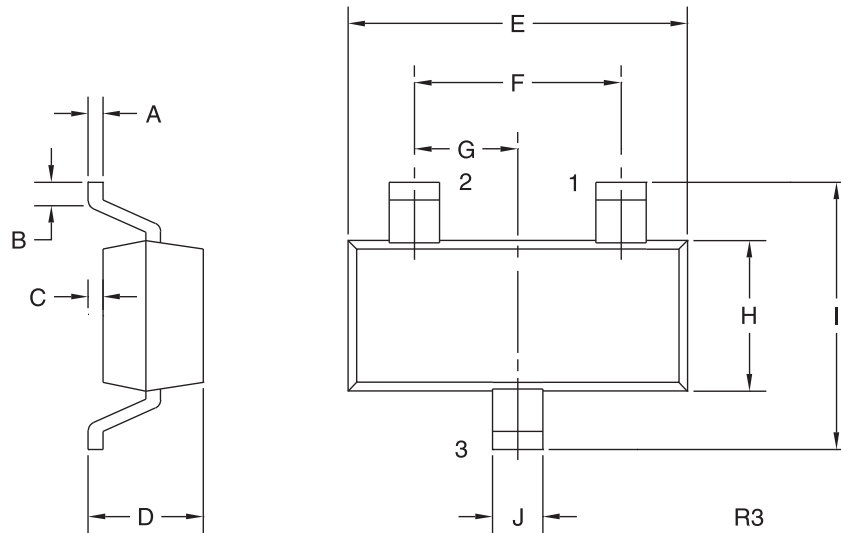
R6 (3-February 2010)

CMPTA42 NPN  
CMPTA92 PNP

SURFACE MOUNT  
COMPLEMENTARY  
HIGH VOLTAGE  
SILICON TRANSISTORS



# SOT-23 CASE - MECHANICAL OUTLINE



## LEAD CODE:

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

## MARKING CODES:

CMPTA42: C1D  
CMPTA92: C2D

| DIMENSIONS |        |       |             |      |
|------------|--------|-------|-------------|------|
| SYMBOL     | INCHES |       | MILLIMETERS |      |
|            | MIN    | MAX   | MIN         | MAX  |
| A          | 0.003  | 0.007 | 0.08        | 0.18 |
| B          | 0.006  | -     | 0.15        | -    |
| C          | -      | 0.005 | -           | 0.13 |
| D          | 0.035  | 0.043 | 0.89        | 1.09 |
| E          | 0.110  | 0.120 | 2.80        | 3.05 |
| F          | 0.075  |       | 1.90        |      |
| G          | 0.037  |       | 0.95        |      |
| H          | 0.047  | 0.055 | 1.19        | 1.40 |
| I          | 0.083  | 0.098 | 2.10        | 2.49 |
| J          | 0.014  | 0.020 | 0.35        | 0.50 |

SOT-23 (REV: R3)

R6 (3-February 2010)