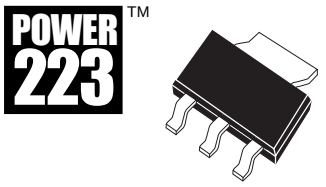
**CZT5338**

**NPN SILICON**
**POWER TRANSISTOR**

Central™
Semiconductor Corp.




**SOT-223 CASE**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CZT5338 type is an NPN silicon power transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring extremely high current amplification and switching capability.

**MAXIMUM RATINGS** ($T_A$=25°C)

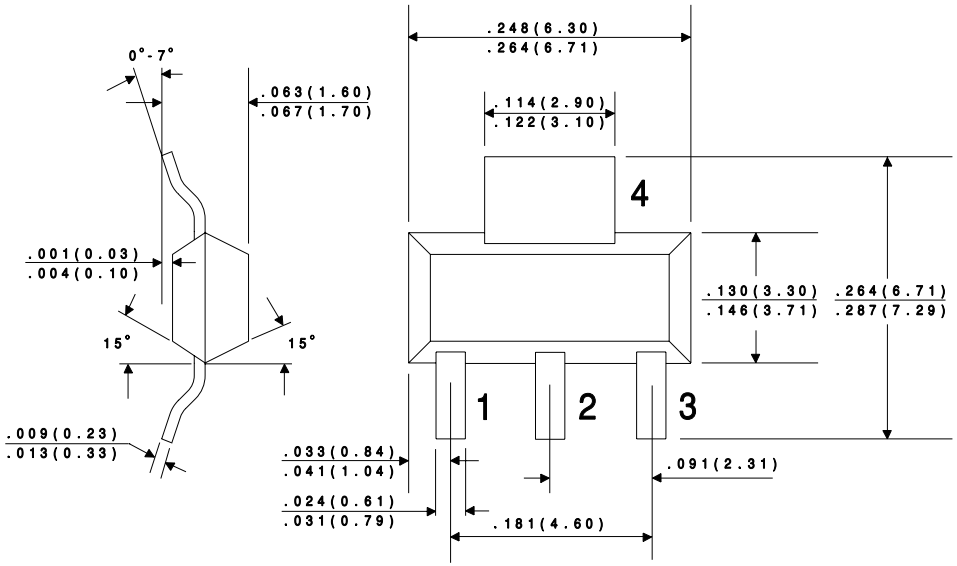
| | SYMBOL | | UNITS |
|---|---|---|---|
| Collector-Base Voltage | $V_{CBO}$ | 100 | V |
| Collector-Emitter Voltage | $V_{CEO}$ | 100 | V |
| Emitter-Base Voltage | $V_{EBO}$ | 6.0 | V |
| Collector Current | $I_C$ | 5.0 | A |
| Base Current | $I_B$ | 1.0 | A |
| Power Dissipation | $P_D$ | 2.0 | W |
| Operating and Storage Junction Temperature | $T_J$,$T_{stg}$ | -65 to +150 | °C |
| Thermal Resistance | $\Theta_{JA}$ | 62.5 | °C/W |

**ELECTRICAL CHARACTERISTICS** ($T_A$=25°C unless otherwise noted)

| SYMBOL | TEST CONDITIONS | MIN | MAX | UNITS |
|---|---|---|---|---|
| $I_{CBO}$ | $V_{CB}$=100V | | 10 | μA |
| $I_{EBO}$ | $V_{BE}$=6.0V | | 100 | μA |
| $I_{CEO}$ | $V_{CE}$=90V | | 100 | μA |
| $BV_{CEO}$ | $I_C$=50mA | 100 | | V |
| $V_{CE(SAT)}$ | $I_C$=2.0A, $I_B$=200mA | | 0.7 | V |
| $V_{CE(SAT)}$ | $I_C$=5.0A, $I_B$=500mA | | 1.2 | V |
| $V_{BE(SAT)}$ | $I_C$=2.0A, $I_B$=200mA | | 1.2 | V |
| $V_{BE(SAT)}$ | $I_C$=5.0A, $I_B$=500mA | | 1.8 | V |
| $h_{FE}$ | $V_{CE}$=2.0V, $I_C$=500mA | 30 | | |
| $h_{FE}$ | $V_{CE}$=2.0V, $I_C$=2.0A | 30 | 120 | |
| $h_{FE}$ | $V_{CE}$=2.0V, $I_C$=5.0A | 20 | | |

| SYMBOL | TEST CONDITIONS | MIN | MAX | UNITS |
|---|---|---|---|---|
| $f_T$ | $V_{CE}$=10V, $I_C$=500mA, f=10MHz | 30 | | MHz |
| $C_{ob}$ | $V_{CB}$=10V, $I_E$=0, f=1.0MHz | | 250 | pF |
| $C_{ib}$ | $V_{BE}$=2.0V, $I_C$=0, f=1.0MHz | | 1000 | pF |
| $t_d$ | $V_{CC}$=40V, $V_{BE}$=3.0V, $I_C$=2.0A, $I_{B1}$=200mA | | 100 | ns |
| $t_r$ | $V_{CC}$=40V, $V_{BE}$=3.0V, $I_C$=2.0A, $I_{B1}$=200mA | | 100 | ns |
| $t_s$ | $V_{CC}$=40V, $I_C$=2.0A, $I_{B1}$=$I_{B2}$=200mA | | 2.0 | µs |
| $t_f$ | $V_{CC}$=40V, $I_C$=2.0A, $I_{B1}$=$I_{B2}$=200mA | | 200 | ns |

All dimensions in inches (mm).




LEAD CODE:

1) BASE
2) COLLECTOR
3) EMITTER
4) COLLECTOR

R2