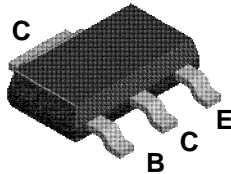


FZT790A



SOT-223

PNP Low Saturation Transistor

These devices are designed with high current gain and low saturation voltage with collector currents up to 3A continuous.

Absolute Maximum Ratings* T_A = 25°C unless otherwise noted

| Symbol | Parameter | FZT790A | Units |
|-----------------------------------|--|-------------|-------|
| V _{CEO} | Collector-Emitter Voltage | 40 | V |
| V _{CBO} | Collector-Base Voltage | 50 | V |
| V _{EBO} | Emitter-Base Voltage | 5 | V |
| I _C | Collector Current - Continuous | 3 | A |
| T _J , T _{stg} | Operating and Storage Junction Temperature Range | -55 to +150 | °C |

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:

- 1) These ratings are based on a maximum junction temperature of 150°C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics T_A = 25°C unless otherwise noted

| Symbol | Characteristic | Max | Units |
|------------------|---|---------|-------|
| | | FZT790A | |
| P _D | Total Device Dissipation | 2 | W |
| R _{θJA} | Thermal Resistance, Junction to Ambient | 62.5 | °C/W |

PNP Low Saturation Transistor

(continued)

Electrical Characteristics

$T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Test Conditions | Min | Max | Units |
|-------------------------------------|--------------------------------------|---|--------------------------|-------------------|---------------------|
| OFF CHARACTERISTICS | | | | | |
| BV_{CEO} | Collector-Emitter Breakdown Voltage | $I_C = 10\text{ mA}$ | 40 | | V |
| BV_{CBO} | Collector-Base Breakdown Voltage | $I_C = 100\ \mu\text{A}$ | 50 | | V |
| BV_{EBO} | Emitter-Base Breakdown Voltage | $I_E = 100\ \mu\text{A}$ | 5 | | V |
| I_{CBO} | Collector Cutoff Current | $V_{CB} = 30\text{ V}$ $V_{CB} = 30\text{ V}, T_A=100^\circ\text{C}$ | | 100 10 | nA μA |
| I_{EBO} | Emitter Cutoff Current | $V_{EB} = 4\text{ V}$ | | 100 | nA |
| ON CHARACTERISTICS* | | | | | |
| h_{FE} | DC Current Gain | $I_C = 10\text{ mA}, V_{CE} = 2\text{ V}$ $I_C = 500\text{ mA}, V_{CE} = 2\text{ V}$ $I_C = 1\text{ A}, V_{CE} = 2\text{ V}$ $I_C = 2\text{ A}, V_{CE} = 2\text{ V}$ | 300 250 200 150 | 800 | - |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = 500\text{ mA}, I_B = 5\text{ mA}$ $I_C = 1\text{ A}, I_B = 10\text{ mA}$ $I_C = 2\text{ A}, I_B = 50\text{ mA}$ | | 250 450 750 | mV |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C = 1\text{ A}, I_B = 10\text{ mA}$ | | 1 | V |
| SMALL SIGNAL CHARACTERISTICS | | | | | |
| f_T | Transition Frequency | $I_C = 50\text{ mA}, V_{CE} = 5\text{ V}, f=50\text{ MHz}$ | 100 | | - |

*Pulse Test: Pulse Width $\leq 300\ \mu\text{s}$, Duty Cycle $\leq 2.0\%$