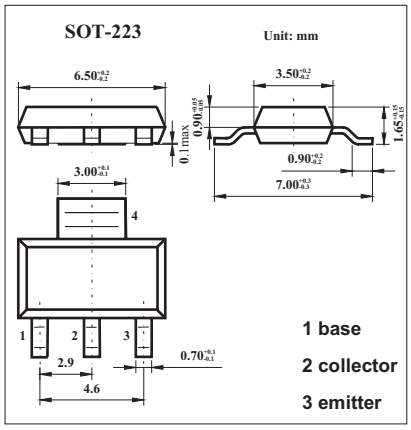
# NPN Silicon Planar High Performance Transistors FZT651




## ■ Features

- 60 Volt $V_{CEO}$.
- 3 Amp continuous current.
- Low saturation voltage.

## ■ Absolute Maximum Ratings Ta = 25℃

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Collector-base voltage | $V_{CBO}$ | 80 | V |
| Collector-emitter voltage | $V_{CEO}$ | 60 | V |
| Emitter-base voltage | $V_{EBO}$ | 5 | V |
| Peak pulse current | $I_C$ | 3 | A |
| Continuous collector current | $I_{CM}$ | 6 | A |
| Power dissipation | $P_{tot}$ | 2 | W |
| Operating and storage temperature range | $T_j$,$T_{stg}$ | -55 to +150 | ℃ |

# FZT651

## ■ Electrical Characteristics Ta = 25℃

| Parameter | Symbol | Testconditons | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C$=100μA | 80 | | | V |
| Collector-emitter breakdown voltage * | $V_{(BR)CEO}$ | $I_C$=10mA | 60 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E$=100μA | 5 | | | V |
| Collector Cut-Off Current | $I_{CBO}$ | $V_{CB}$=60V<br>$V_{CB}$=60V,Ta = 100℃ | | | 0.1<br>10 | μA |
| Emitter Cut-Off Current | $I_{EBO}$ | $V_{EB}$=4V | | | 0.1 | μA |
| Collector-emitter saturation voltage * | $V_{CE(sat)}$ | $I_C$=1A, $I_B$=100mA<br>$I_C$=3A, $I_B$=300mA | | 0.12<br>0.43 | 0.3<br>0.6 | V |
| Base-emitter saturation voltage * | $V_{BE(sat)}$ | $I_C$=1A, $I_B$=100mA | | 0.9 | 1.25 | V |
| Base-Emitter Turn-On Voltage * | $V_{BE(on)}$ | $I_C$=1A, $V_{CE}$=2V | | 0.8 | 1 | V |
| Static Forward Current Transfer Ratio | $h_{FE}$ | $I_C$=50mA, $V_{CE}$ =2V* | 70 | 200 | | |
| | | $I_C$=500mA, $V_{CE}$ =2V* | 100 | 200 | 300 | |
| | | $I_C$=1A, $V_{CE}$ =2V* | 80 | 170 | | |
| | | $I_C$=2A, $V_{CE}$ =2V* | 40 | 80 | | |
| Transitional frequency | $f_T$ | $I_C$=100mA, $V_{CE}$=5V f=100MHz | 140 | 175 | | MHz |
| Output capacitance | $C_{obo}$ | $V_{CB}$=10V, f=1MHz | | | 30 | pF |
| Switching times | $t_{on}$ | $I_C$=500mA,$V_{CC}$=10V,$I_{B1}$=$I_{B2}$=50mA | | 45 | | ns |
| | $t_{off}$ | | | 800 | | ns |

* Pulse test: tp = 300 μs; d ⩽ 0.02.

## ■ Marking

| Marking | FZT651 |
|---|---|