

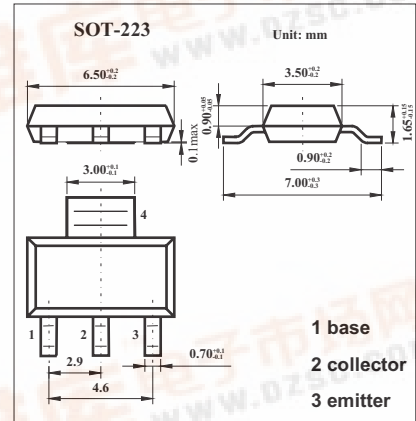
SMD Type Transistors

NPN Silicon Planar High Current (High Performance) Transistor

FZT851

Features

- Extremely low equivalent on-resistance; $R_{CE(sat)} 44m\Omega$ at 5A.
- 6 Amps continuous current, up to 20 Amps peak current.
- Very low saturation voltages.
- Excellent hFE characteristics specified up to 10 Amps.



Absolute Maximum Ratings $T_a = 25^\circ C$

| Parameter | Symbol | Rating | Unit |
|---|----------------|-------------|------------|
| Collector-base voltage | V_{CB0} | 150 | V |
| Collector-emitter voltage | V_{CE0} | 60 | V |
| Emitter-base voltage | V_{EB0} | 6 | V |
| Peak pulse current | I_c | 6 | A |
| Continuous collector current | I_{CM} | 20 | A |
| Power dissipation | P_{tot} | 3 | W |
| Operating and storage temperature range | T_j, T_{stg} | -55 to +150 | $^\circ C$ |

FZT851

■ Electrical Characteristics Ta = 25°C

| Parameter | Symbol | Testconditons | Min | Typ | Max | Unit |
|--|----------------------|--|-----|------|-------------------------|----------|
| Collector-base breakdown voltage | V _{(BR)CBO} | I _C =100μA | 150 | | | V |
| Collector-emitter breakdown voltage * | V _{(BR)CEO} | I _C =10mA | 60 | | | V |
| Emitter-base breakdown voltage | V _{(BR)EBO} | I _E =100μA | 6 | | | V |
| Collector Cut-Off Current | I _{CBO} | V _{CB} =120V V _{CB} =120V, Ta = 100°C | | | 50 1 | nA μA |
| Emitter Cut-Off Current | I _{EBO} | V _{EB} =6V | | | 10 | nA |
| Collector-emitter saturation voltage * | V _{CE(sat)} | I _C =0.1A, I _B =5mA I _C =1A, I _B =50mA I _C =2A, I _B =50mA I _C =6A, I _B =300mA | | | 50 100 170 375 | mV |
| Base-emitter saturation voltage * | V _{BE(sat)} | I _C =6A, I _B =300mA | | | 1200 | mV |
| Base-Emitter Turn-On Voltage * | V _{BE(on)} | I _C =6A, V _{CE} =1V | | | 1150 | mV |
| Static Forward Current Transfer Ratio* | h _{FE} | I _C =10mA, V _{CE} =1V | 100 | 200 | | |
| | | I _C =2A, V _{CE} =1V* | 100 | 200 | 300 | |
| | | I _C =5A, V _{CE} =1V* | 75 | 120 | | |
| | | I _C =10A, V _{CE} =1V* | 25 | 50 | | |
| Transitional frequency | f _T | I _C =100mA, V _{CE} =10V f=50MHz | | 130 | | MHz |
| Output capacitance | C _{obo} | V _{CB} =10V, f=1MHz | | 45 | | pF |
| Turn-on time | t _(on) | I _C =1A, V _{CC} =10V | | 45 | | ns |
| Turn-off time | t _(off) | I _{B1} =I _{B2} =100mA | | 1100 | | ns |

* Pulse test: t_p = 300 μs; d ≤ 0.02.

■ Marking

| | |
|---------|--------|
| Marking | FZT851 |
|---------|--------|