

SOT323 NPN SILICON PLANAR  
VHF TRANSISTOR

ISSUE 1 – DECEMBER 1998

ZUMTS20

PARTMARKING DETAIL — T3



ABSOLUTE MAXIMUM RATINGS.

| PARAMETER                                  | SYMBOL         | VALUE       | UNIT        |
|--------------------------------------------|----------------|-------------|-------------|
| Collector-Base Voltage                     | $V_{CBO}$      | 30          | V           |
| Collector-Emitter Voltage                  | $V_{CEO}$      | 20          | V           |
| Emitter-Base Voltage                       | $V_{EBO}$      | 4           | V           |
| Peak Pulse Current                         | $I_{CM}$       | 25          | mA          |
| Continuous Collector Current               | $I_C$          | 25          | mA          |
| Power Dissipation at $T_{amb}=25^{\circ}C$ | $P_{tot}$      | 330         | mW          |
| Operating and Storage Temperature Range    | $T_j; T_{stg}$ | -55 to +150 | $^{\circ}C$ |

ELECTRICAL CHARACTERISTICS (at  $T_{amb} = 25^{\circ}C$ ).

| PARAMETER                             | SYMBOL    | MIN. | TYP. | MAX.      | UNIT          | CONDITIONS.                                                           |
|---------------------------------------|-----------|------|------|-----------|---------------|-----------------------------------------------------------------------|
| Collector Cut-Off Current             | $I_{CBO}$ |      |      | 100<br>10 | nA<br>$\mu A$ | $V_{CB}=20V, I_E=0$<br>$V_{CB}=20V, I_E=0,$<br>$T_{amb}=100^{\circ}C$ |
| Base-Emitter Voltage                  | $V_{BE}$  |      | 740  | 900       | mV            | $I_C=7mA, V_{CE}=10V^*$                                               |
| Static Forward Current Transfer Ratio | $h_{FE}$  | 40   | 85   |           |               | $I_C=7mA, V_{CE}=10V^*$                                               |
| Transition Frequency                  | $f_T$     | 275  | 450  |           | MHz           | $I_C=5mA, V_{CE}=10V$<br>$f=100MHz$                                   |
| Feedback Capacitance                  | $C_{re}$  |      | 0.35 | 0.40      | pF            | $I_C=1mA, V_{CE}=10V$<br>$f=1MHz$                                     |
| Collector Capacitance                 | $C_{TC}$  |      | 0.8  |           | pF            | $I_E=I_B=0, V_{CB}=10V$<br>$f=1MHz$                                   |

\* Measured under pulsed conditions. Pulse width=300 $\mu s$ . Duty cycle  $\leq 2\%$

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