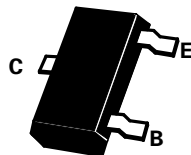


# SOT23 NPN SILICON PLANAR VHF/UHF TRANSISTOR

ISSUE 2 – JANUARY 1996

## FMMT918

PARTMARKING DETAILS – 3B



SOT23

### ABSOLUTE MAXIMUM RATINGS.

| PARAMETER                                  | SYMBOL         | VALUE       | UNIT        |
|--|----------------|-------------|-------------|
| Collector-Base Voltage                     | $V_{CBO}$      | 30          | V           |
| Collector-Emitter Voltage                  | $V_{CEO}$      | 15          | V           |
| Emitter-Base Voltage                       | $V_{EBO}$      | 3           | V           |
| Continuous Collector Current               | $I_C$          | 100         | 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-Base Breakdown Voltage      | $V_{(BR)CBO}$  | 30   |      |            | V        | $I_C=1\mu A, I_E=0$                              |
| Collector-Emitter Sustaining Voltage  | $V_{CEO(sus)}$ | 15   |      |            | V        | $I_C=3mA, I_B=0^*$                               |
| Emitter-Base Breakdown Voltage        | $V_{(BR)EBO}$  | 3    |      |            | V        | $I_E=10\mu A, I_C=0$                             |
| Collector Cut-Off Current             | $I_{CBO}$      |      |      | 0.05       | $\mu A$  | $V_{CB}=15V, I_E=0$                              |
| Collector-Emitter Saturation Voltage  | $V_{CE(sat)}$  |      |      | 0.4        | V        | $I_C=10mA, I_B=1mA$                              |
| Base-Emitter Saturation Voltage       | $V_{BE(sat)}$  |      |      | 1.0        | V        | $I_C=10mA, I_B=1mA$                              |
| Static Forward Current Transfer Ratio | $h_{FE}$       | 20   |      |            |          | $I_C=3mA, V_{CE}=1V$                             |
| Transition Frequency                  | $f_T$          | 600  |      |            | MHz      | $I_C=4mA, V_{CE}=10V$<br>$f=100MHz$              |
| Output Capacitance                    | $C_{obo}$      |      |      | 3.0<br>1.7 | pF<br>pF | $V_{CB}=0V, f=1MHz$<br>$V_{CB}=10V, f=1MHz$      |
| Input Capacitance                     | $C_{ibo}$      |      |      | 1.6        | pF       | $V_{EB}=0.5V, f=1MHz$                            |
| Noise Figure                          | N              |      |      | 6.0        | dB       | $V_{CE}=6V, I_C=1mA$<br>$f=60MHz, R_G=400\Omega$ |
| Common Emitter Power Gain             | $G_{pe}$       |      | 15   |            | dB       | $V_{CB}=12V, I_C=6mA$<br>$f=200MHz$              |

\*Measured under pulsed conditions. Pulse Width=300 $\mu s$ . Duty cycle  $\leq 2\%$   
Spice parameter data is available upon request for this device