

## RF Power MOSFET Transistor

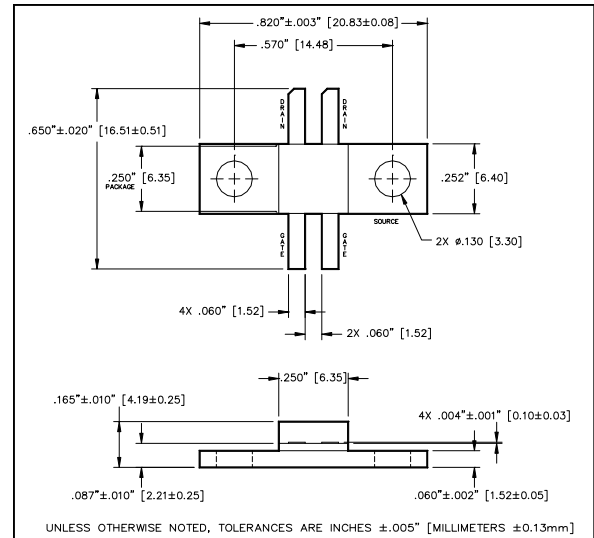
### 8W, 30-90MHz, 12V

**M/A-COM Products**  
Released; RoHS Compliant

#### Features

- N-Channel enhancement mode device
- Meets CECOM drawing A3012715
- Designed for frequency hopping systems
- 30-90 MHz
- Lower capacitances for broadband operation
- Lower noise figure than bipolar devices

#### Package Outline



#### ABSOLUTE MAXIMUM RATINGS AT 25° C

| Parameter            | Symbol        | Rating      | Units |
|----------------------|---------------|-------------|-------|
| Drain-Source Voltage | $V_{DS}$      | 65          | V     |
| Gate-Source Voltage  | $V_{GS}$      | 20          | V     |
| Drain-Source Current | $I_{DS}$      | 4*          | A     |
| Power Dissipation    | $P_D$         | 61*         | W     |
| Junction Temperature | $T_J$         | 200         | °C    |
| Storage Temperature  | $T_{STG}$     | -55 to +150 | °C    |
| Thermal Resistance   | $\theta_{JC}$ | 1.5         | °C/W  |

| LETTER<br>DIM | MILLIMETERS |       | INCHES |      |
|---------------|-------------|-------|--------|------|
|               | MIN         | MAX   | MIN    | MAX  |
| A             | 20.70       | 20.96 | .815   | .825 |
| B             | 14.35       | 14.61 | .565   | .575 |
| C             | 15.67       | 17.45 | .617   | .687 |
| D             | 6.27        | 6.53  | .247   | .257 |
| E             | 6.22        | 6.48  | .245   | .255 |
| F             | 6.22        | 6.48  | .245   | .255 |
| G             | 1.40        | 1.65  | .055   | .065 |
| H             | 1.40        | 1.65  | .055   | .065 |
| J             | 2.92        | 3.18  | .115   | .125 |
| K             | 1.40        | 1.65  | .055   | .065 |
| L             | 1.96        | 2.46  | .077   | .097 |
| M             | 3.61        | 4.37  | .142   | .172 |
| N             | .08         | .13   | .003   | .005 |

#### ELECTRICAL CHARACTERISTICS AT 25°C

| Parameter                      | Symbol       | Min | Max  | Units | Test Conditions                                                                                          |
|--------------------------------|--------------|-----|------|-------|----------------------------------------------------------------------------------------------------------|
| Drain-Source Breakdown Voltage | $BV_{DSS}$   | 65  | -    | V     | $V_{GS} = 0.0 \text{ V}$ , $I_{DS} = 5.0 \text{ mA}$                                                     |
| Drain-Source Leakage Current   | $I_{DSS}$    | -   | 1.0  | mA    | $V_{GS} = 28.0 \text{ V}$ , $V_{DS} = 0.0 \text{ V}$                                                     |
| Gate-Source Leakage Current    | $I_{GSS}$    | -   | 1.0  | μA    | $V_{GS} = 20.0 \text{ V}$ , $V_{DS} = 0.0 \text{ V}$                                                     |
| Gate Threshold Voltage         | $V_{GS(TH)}$ | 2.0 | 6.0  | V     | $V_{DS} = 10.0 \text{ V}$ , $I_{DS} = 100.0 \text{ mA}$                                                  |
| Forward Transconductance       | $G_M$        | 500 | -    | mS    | $V_{DS} = 28.0 \text{ V}$ , $I_{DS} = 1000.0 \text{ mA}$ , $\Delta V_{GS} = 1.0 \text{ V}$ , 80 μs Pulse |
| Input Capacitance              | $C_{ISS}$    | -   | 45   | pF    | $V_{DS} = 28.0 \text{ V}$ , $F = 1.0 \text{ MHz}$                                                        |
| Output Capacitance             | $C_{OSS}$    | -   | 40   | pF    | $V_{DS} = 28.0 \text{ V}$ , $F = 1.0 \text{ MHz}$                                                        |
| Reverse Capacitance            | $C_{RSS}$    | -   | 8    | pF    | $V_{DS} = 28.0 \text{ V}$ , $F = 1.0 \text{ MHz}$                                                        |
| Power Gain                     | $G_P$        | 13  | -    | dB    | $V_{DD} = 12.0 \text{ V}$ , $I_{DQ} = 600 \text{ mA}$ , $P_{OUT} = 8.0 \text{ W}$ F = 88 MHz             |
| Drain Efficiency               | $\eta_D$     | 55  | -    | %     | $V_{DD} = 12.0 \text{ V}$ , $I_{DQ} = 600 \text{ mA}$ , $P_{OUT} = 8.0 \text{ W}$ F = 88 MHz             |
| Load Mismatch Tolerance        | VSWR-T       | -   | 20:1 | -     | $V_{DD} = 12.0 \text{ V}$ , $I_{DQ} = 600 \text{ mA}$ , $P_{OUT} = 8.0 \text{ W}$ F = 88 MHz             |

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