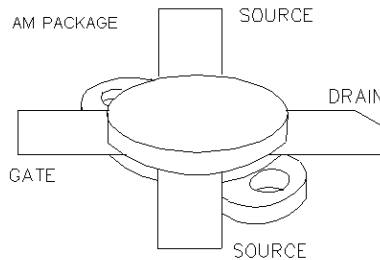




**General Description**

Silicon VDMOS and LDMOS transistors designed specifically for broadband RF applications. Suitable for Military Radios, Cellular and Paging Amplifier Base Stations, Broadcast FM/AM, MRI, Laser Driver and others.

"Polyfet"<sup>TM</sup> process features gold metal for greatly extended lifetime. Low output capacitance and high  $F_t$  enhance broadband performance



**PATENTED GOLD METALIZED SILICON GATE ENHANCEMENT MODE RF POWER VDMOS TRANSISTOR**

**125 Watts Single Ended**

**Package Style AM**

**HIGH EFFICIENCY, LINEAR, HIGH GAIN, LOW NOISE**

**ABSOLUTE MAXIMUM RATINGS (TC = 25 °C)**

| Total Device Dissipation | Junction to Case Thermal Resistance | Maximum Junction Temperature | Storage Temperature | DC Drain Current | Drain to Gate Voltage | Drain to Source Voltage | Gate to Source Voltage |
|--------------------------|-------------------------------------|------------------------------|---------------------|------------------|-----------------------|-------------------------|------------------------|
| 250 Watts                | 0.7 °C/W                            | 200 °C                       | -65 °C to 150 °C    | 12 A             | 70 V                  | 70V                     | 30V                    |

**RF CHARACTERISTICS ( 125WATTS OUTPUT )**

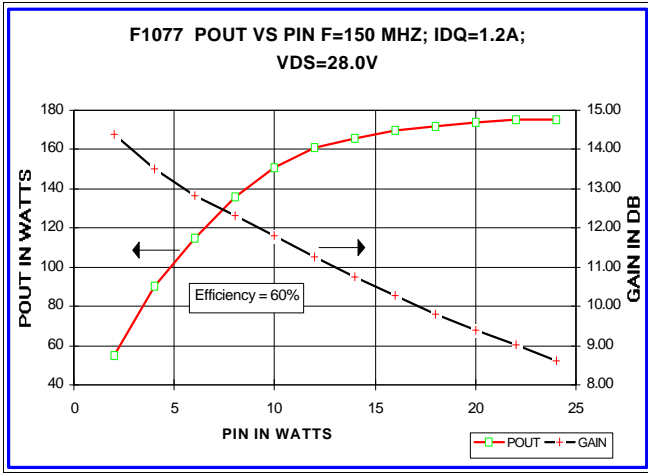
| SYMBOL | PARAMETER                | MIN | TYP | MAX  | UNITS    | TEST CONDITIONS                               |
|--------|--------------------------|-----|-----|------|----------|---|
| Gps    | Common Source Power Gain | 11  |     |      | dB       | $I_{dq} = 1.2 A, V_{ds} = 28.0V, F = 150 MHz$ |
| $\eta$ | Drain Efficiency         |     | 60  |      | %        | $I_{dq} = 1.2 A, V_{ds} = 28.0V, F = 150 MHz$ |
| VSWR   | Load Mismatch Tolerance  |     |     | 20:1 | Relative | $I_{dq} = 1.2 A, V_{ds} = 28.0V, F = 150 MHz$ |

**ELECTRICAL CHARACTERISTICS (EACH SIDE)**

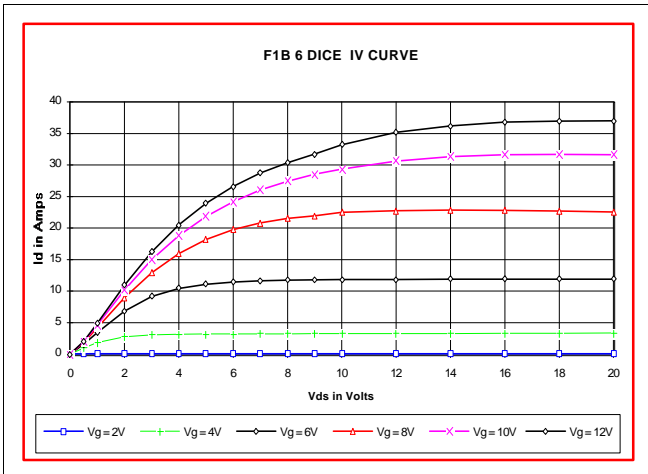
| SYMBOL | PARAMETER                          | MIN | TYP  | MAX | UNITS | TEST CONDITIONS                           |
|--------|------------------------------------|-----|------|-----|-------|---|
| Bvdss  | Drain Breakdown Voltage            | 65  |      |     | V     | $I_{ds} = 0.3 A, V_{gs} = 0V$             |
| Idss   | Zero Bias Drain Current            |     |      | 6   | mA    | $V_{ds} = 28.0 V, V_{gs} = 0V$            |
| Igss   | Gate Leakage Current               |     |      | 1   | uA    | $V_{ds} = 0 V, V_{gs} = 30V$              |
| Vgs    | Gate Bias for Drain Current        | 1   |      | 7   | V     | $I_{ds} = 0.6 A, V_{gs} = V_{ds}$         |
| gM     | Forward Transconductance           |     | 4.8  |     | Mho   | $V_{ds} = 10V, V_{gs} = 5V$               |
| Rdson  | Saturation Resistance              |     | 0.18 |     | Ohm   | $V_{gs} = 20V, I_{ds} = 24A$              |
| Idsat  | Saturation Current                 |     | 33   |     | Amp   | $V_{gs} = 20V, V_{ds} = 10V$              |
| Ciss   | Common Source Input Capacitance    |     | 198  |     | pF    | $V_{ds} = 28.0 V, V_{gs} = 0V, F = 1 MHz$ |
| Crss   | Common Source Feedback Capacitance |     | 24   |     | pF    | $V_{ds} = 28.0 V, V_{gs} = 0V, F = 1 MHz$ |
| Coss   | Common Source Output Capacitance   |     | 120  |     | pF    | $V_{ds} = 28.0 V, V_{gs} = 0V, F = 1 MHz$ |

# F1077

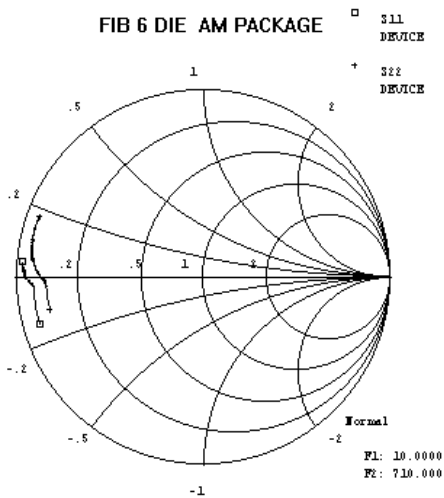
POUT VS PIN GRAPH



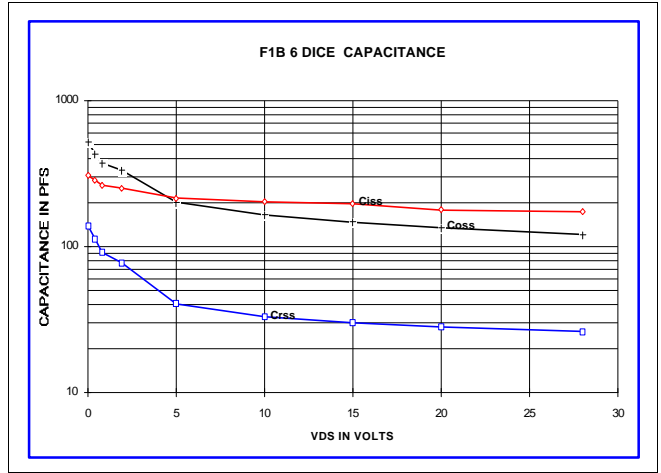
IV CURVE



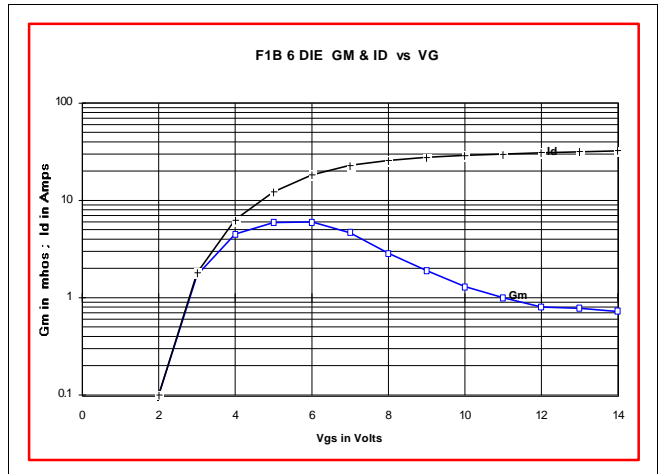
S11 AND S22 SMITH CHART



CAPACITANCE VS VOLTAGE



ID AND GM VS VGS



PACKAGE DIMENSIONS IN INCHES

