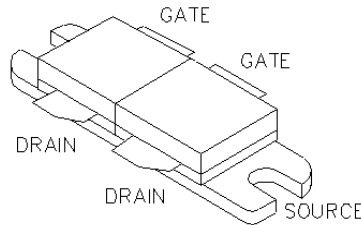




**General Description**

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**

**200 Watts Gemini**

**Package Style AH**

**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 |
|--------------------------|-------------------------------------|------------------------------|---------------------|------------------|-----------------------|-------------------------|------------------------|
| 350 Watts                | 0.5 °C/W                            | 200 °C                       | -65 °C to 150 °C    | 16 A             | 70 V                  | 70V                     | 30V                    |

**RF CHARACTERISTICS ( 200WATTS OUTPUT )**

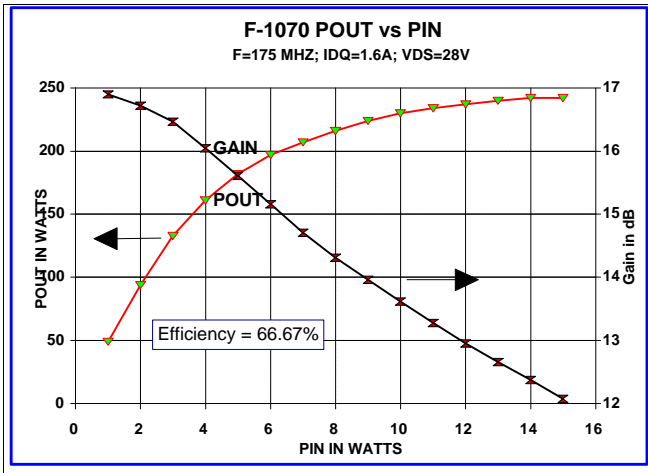
| SYMBOL | PARAMETER                | MIN | TYP | MAX  | UNITS    | TEST CONDITIONS                       |
|--------|--------------------------|-----|-----|------|----------|---------------------------------------|
| Gps    | Common Source Power Gain | 13  |     |      | dB       | Idq = 1.6 A, Vds = 28.0V, F = 175 MHz |
| $\eta$ | Drain Efficiency         |     | 60  |      | %        | Idq = 1.6 A, Vds = 28.0V, F = 175 MHz |
| VSWR   | Load Mismatch Tolerance  |     |     | 20:1 | Relative | Idq = 1.6 A, Vds = 28.0V, F = 175 MHz |

**ELECTRICAL CHARACTERISTICS (EACH SIDE)**

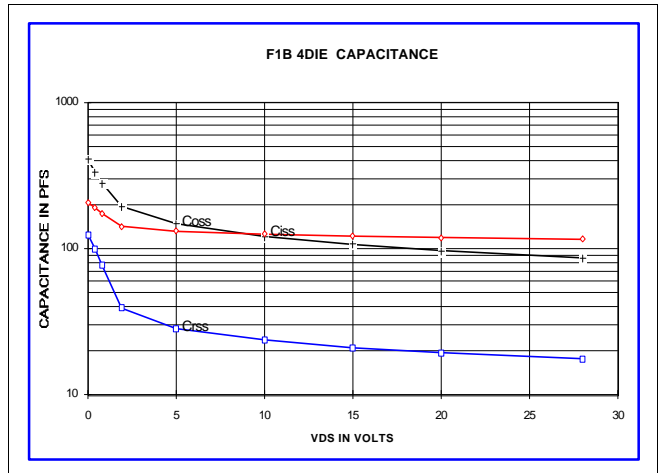
| SYMBOL | PARAMETER                          | MIN | TYP  | MAX | UNITS | TEST CONDITIONS                   |
|--------|------------------------------------|-----|------|-----|-------|-----------------------------------|
| Bvdss  | Drain Breakdown Voltage            | 65  |      |     | V     | Ids = 0.2 A, Vgs = 0V             |
| Idss   | Zero Bias Drain Current            |     |      | 4   | mA    | Vds = 28.0 V, Vgs = 0V            |
| Igss   | Gate Leakage Current               |     |      | 1   | uA    | Vds = 0 V, Vgs = 30V              |
| Vgs    | Gate Bias for Drain Current        | 1   |      | 7   | V     | Ids = 0.4 A, Vgs = Vds            |
| gM     | Forward Transconductance           |     | 3.2  |     | Mho   | Vds = 10V, Vgs = 5V               |
| Rdson  | Saturation Resistance              |     | 0.35 |     | Ohm   | Vgs = 20V, Ids = 16A              |
| Idsat  | Saturation Current                 |     | 22   |     | Amp   | Vgs = 20V, Vds = 10V              |
| Ciss   | Common Source Input Capacitance    |     | 132  |     | pF    | Vds = 28.0 V, Vgs = 0V, F = 1 MHz |
| Crss   | Common Source Feedback Capacitance |     | 16   |     | pF    | Vds = 28.0 V, Vgs = 0V, F = 1 MHz |
| Coss   | Common Source Output Capacitance   |     | 80   |     | pF    | Vds = 28.0 V, Vgs = 0V, F = 1 MHz |

# F1070

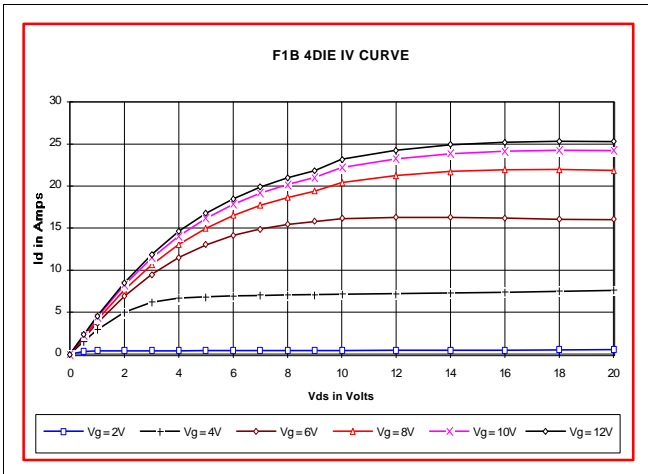
POUT VS PIN GRAPH



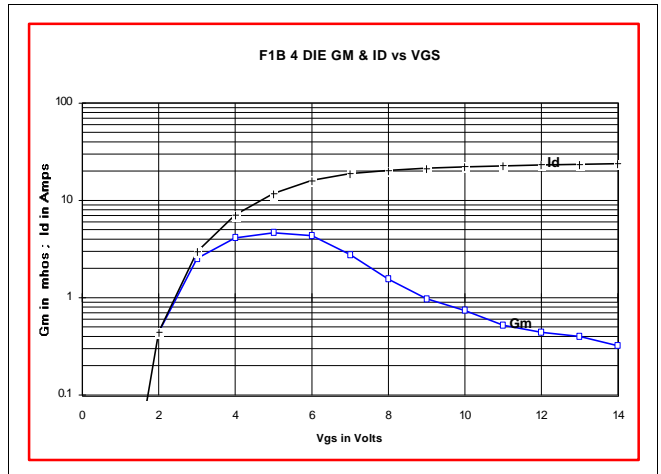
CAPACITANCE VS VOLTAGE



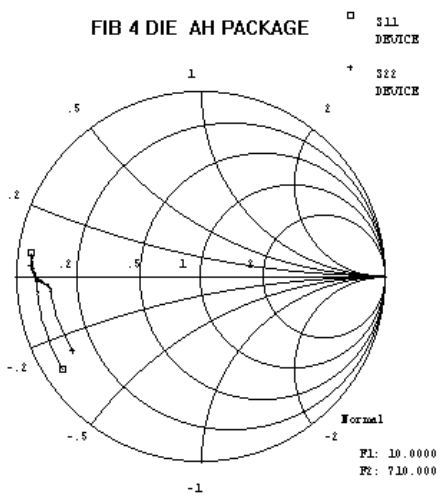
IV CURVE



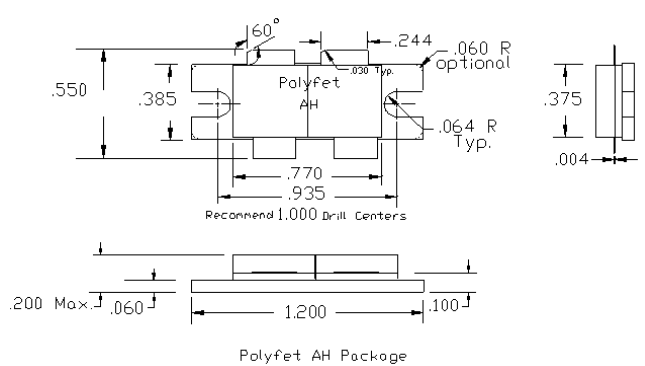
ID AND GM VS VGS



S11 AND S22 SMITH CHART



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