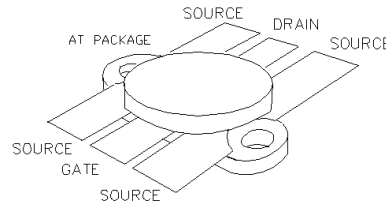




General Description

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"TM 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

**40 Watts Single Ended
Package Style AT**

**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 |
|--------------------------|-------------------------------------|------------------------------|---------------------|------------------|-----------------------|-------------------------|------------------------|
| 120 Watts | 1.5 °C/W | 200 °C | -65 °C to 150 °C | 6 A | 50 V | 50V | 30V |

RF CHARACTERISTICS (40WATTS OUTPUT)

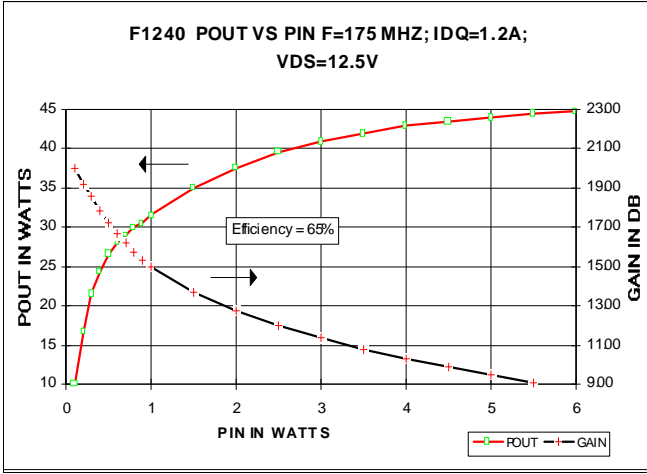
| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | TEST CONDITIONS |
|--------|--------------------------|-----|-----|------|----------|---------------------------------------|
| Gps | Common Source Power Gain | 10 | | | dB | Idq = 1.2 A, Vds = 12.5V, F = 175 MHz |
| η | Drain Efficiency | | 60 | | % | Idq = 1.2 A, Vds = 12.5V, F = 175 MHz |
| VSWR | Load Mismatch Tolerance | | | 20:1 | Relative | Idq = 1.2 A, Vds = 12.5V, F = 175 MHz |

ELECTRICAL CHARACTERISTICS (EACH SIDE)

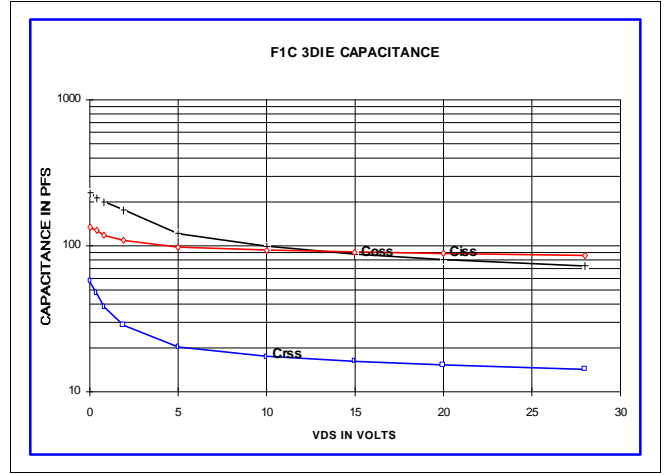
| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | TEST CONDITIONS |
|--------|------------------------------------|-----|------|-----|-------|----------------------------------|
| Bvdss | Drain Breakdown Voltage | 40 | | | V | Ids = 0.15 A, Vgs = 0V |
| Idss | Zero Bias Drain Current | | | 3 | mA | Vds = 12.5V, Vgs = 0V |
| Igss | Gate Leakage Current | | | 1 | uA | Vds = 0V, Vgs = 30V |
| Vgs | Gate Bias for Drain Current | 1 | | 7 | V | Ids = 0.3 A, Vgs = Vds |
| gM | Forward Transconductance | | 2.4 | | Mho | Vds = 10V, Vgs = 5V |
| Rdson | Saturation Resistance | | 0.35 | | Ohm | Vgs = 20V, Ids = 24A |
| Idsat | Saturation Current | | 22.5 | | Amp | Vgs = 20V, Vds = 10V |
| Ciss | Common Source Input Capacitance | | 120 | | pF | Vds = 12.5V, Vgs = 0V, F = 1 MHz |
| Crss | Common Source Feedback Capacitance | | 18 | | pF | Vds = 12.5V, Vgs = 0V, F = 1 MHz |
| Coss | Common Source Output Capacitance | | 90 | | pF | Vds = 12.5V, Vgs = 0V, F = 1 MHz |

F1240

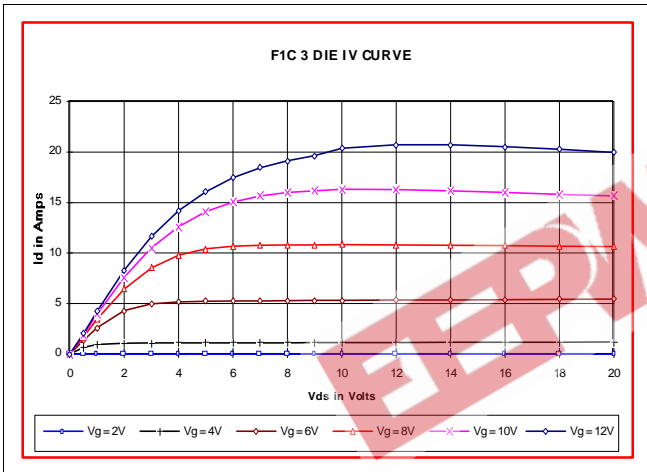
POUT VS PIN GRAPH



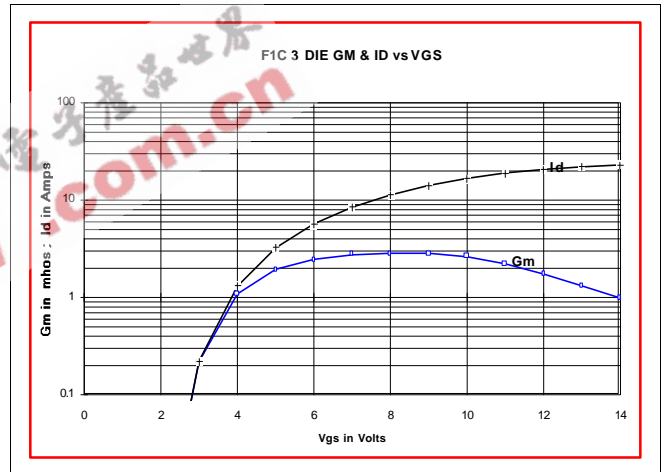
CAPACITANCE VS VOLTAGE



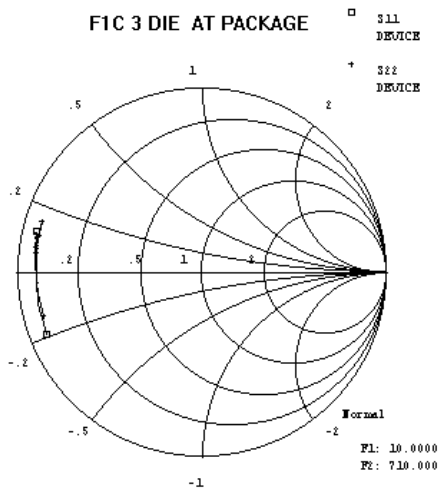
IV CURVE



ID AND GM VS VGS



S11 AND S22 SMITH CHART



PACKAGE DIMENSIONS IN INCHES

