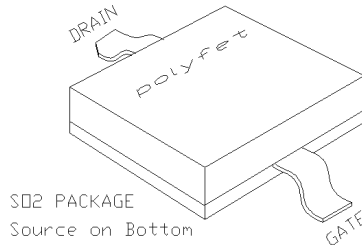




General Description

Silicon LDMOS transistor designed specifically for Broadband RF applications. Suitable for Military Radios, Cellular Base Stations, Broadcast FM/AM, MRI, Laser Drivers and others.

"Polyfet" process features low feedback and output capacitances, resulting in high Ft transistors with high input impedance and high efficiency.



SILICON GATE ENHANCEMENT MODE

RF POWER LDMOS TRANSISTOR

8.0 Watts Single Ended

Package Style S02

HIGH EFFICIENCY, LINEAR

HIGH GAIN, LOW NOISE

ROHS COMPLIANT

ABSOLUTE MAXIMUM RATINGS (T = 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 |
|--------------------------|-------------------------------------|------------------------------|---------------------|------------------|-----------------------|-------------------------|------------------------|
| 50 Watts | 3.40 °C/W | 200 °C | -65 °C to 150 °C | 5.0 A | 36 V | 36 V | + 20 V - 0 V |

RF CHARACTERISTICS (8.0 WATTS OUTPUT)

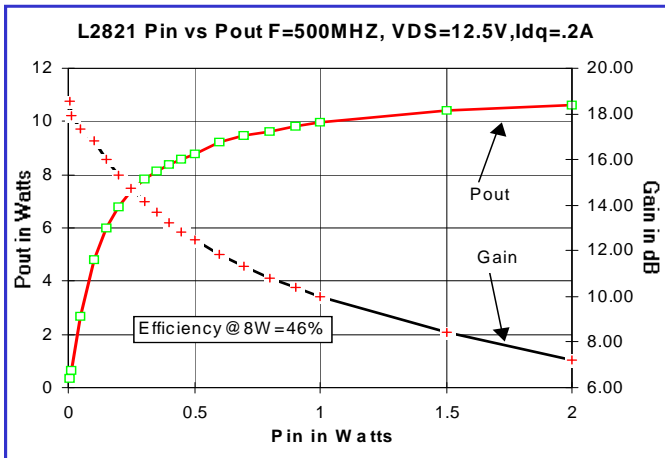
| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | TEST CONDITIONS |
|--------|--------------------------|-----|-----|------|----------|---|
| Gps | Common Source Power Gain | 13 | | | dB | Idq = 0.20 A, Vds = 12.5 V, F = 500 MHz |
| η | Drain Efficiency | | 50 | | % | Idq = 0.20 A, Vds = 12.5 V, F = 500 MHz |
| VSWR | Load Mismatch Tolerance | | | 20:1 | Relative | Idq = 0.20 A, Vds = 12.5 V, F = 500 MHz |

ELECTRICAL CHARACTERISTICS (EACH SIDE)

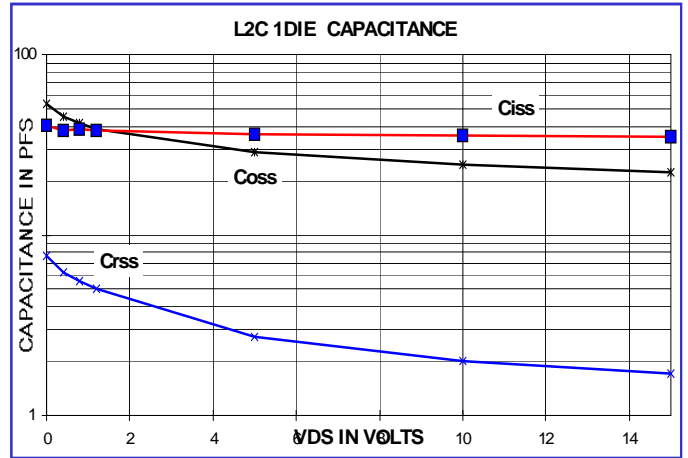
| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | TEST CONDITIONS |
|--------|------------------------------------|-----|------|-----|-------|--------------------------------|
| Bvdss | Drain Breakdown Voltage | 36 | | | V | Ids = 0.10 mA, Vgs = 0V |
| Idss | Zero Bias Drain Current | | | 1.0 | mA | Vds = 12.5 V, Vgs = 0V |
| Igss | Gate Leakage Current | | | 1 | uA | Vds = 0V Vgs = 10V |
| Vgs | Gate Bias for Drain Current | 2 | | 5 | V | Ids = 0.10 A, Vgs = Vds |
| gM | Forward Transconductance | | 1.0 | | Mho | Vds = 10V, Vgs = 5V |
| Rdson | Saturation Resistance | | 0.60 | | Ohm | Vgs = 20 V, Ids = 3.00 A |
| Idsat | Saturation Current | | 7.50 | | Amp | Vgs = 20 V, Vds = 10V |
| Ciss | Common Source Input Capacitance | | 33.0 | | pF | Vds = 12.5 Vgs = 0V, F = 1 MHz |
| Crss | Common Source Feedback Capacitance | | 2.0 | | pF | Vds = 12.5 Vgs = 0V, F = 1 MHz |
| Coss | Common Source Output Capacitance | | 24.0 | | pF | Vds = 12.5 Vgs = 0V, F = 1 MHz |

L2821

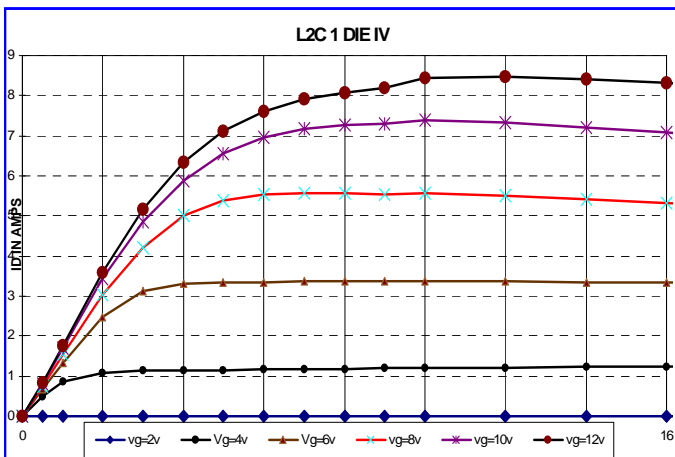
POUT VS PIN GRAPH



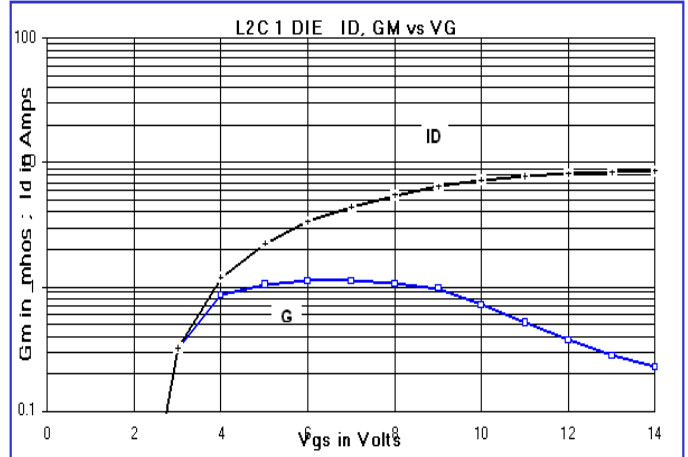
CAPACITANCE VS VOLTAGE



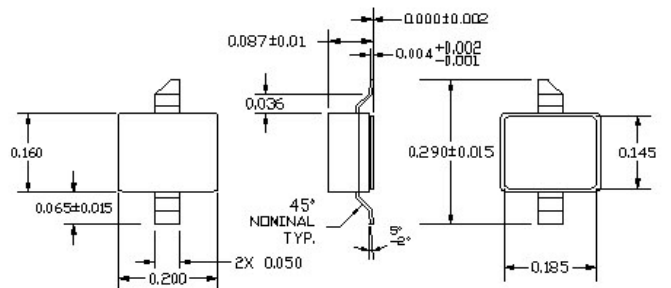
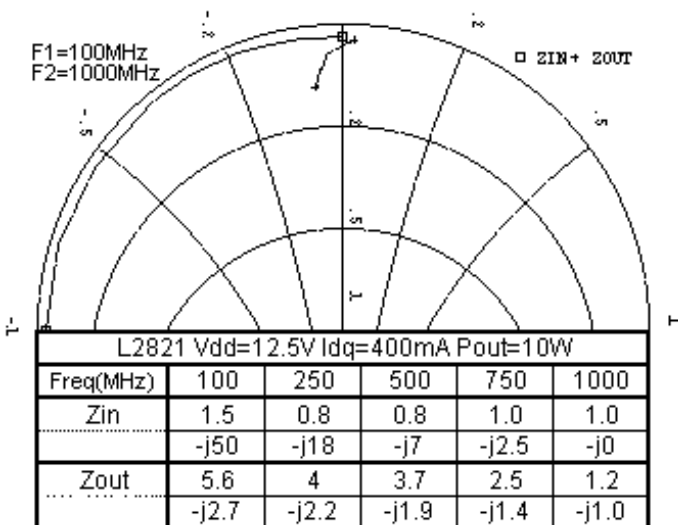
IV CURVE



ID & GM VS VGS



PACKAGE DIMENSIONS IN INCHES



POLYFET S02 PACKAGE

Tolerance .XX +/-0.01 .XXX +/-0.005 inches