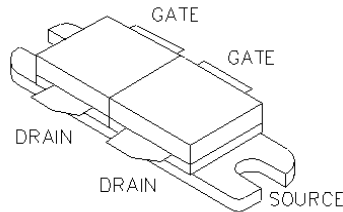




General Description

This device is part of Polyfet's latest family of 28VDC LDMOS devices. Being an unmatched device and having low capacitances makes it ideal for broad band applications such as communications and broadcast. It is also suitable for various narrow band applications. Employing back-to-back gate diodes for enhanced ESD protection and having a high drain breakdown voltage makes this device highly rugged. The suitable frequency range of this device is 1-1100MHz



SILICON GATE ENHANCEMENT MODE

RF POWER LDMOS TRANSISTOR

200.0 Watts Push - Pull

Package Style LR

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 |
|--------------------------|-------------------------------------|------------------------------|---------------------|------------------|-----------------------|-------------------------|------------------------|
| 420 Watts | 0.40 °C/W | 200 °C | -65 °C to 150 °C | 18.0 A | 80 V | 80 V | + 11 V - 9 V |

RF CHARACTERISTICS (200.0 WATTS OUTPUT)

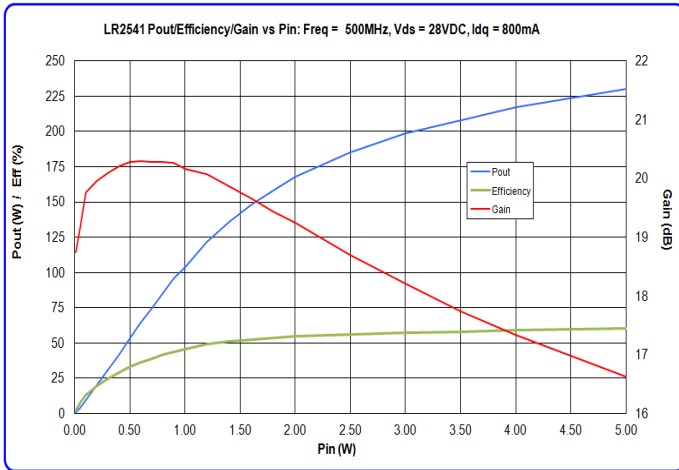
| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | TEST CONDITIONS |
|--------|--------------------------|-----|-----|------|----------|---|
| Gps | Common Source Power Gain | 16 | | | dB | Idq = 0.80 A, Vds = 28.0 V, F = 500 MHz |
| η | Drain Efficiency | | 60 | | % | Idq = 0.80 A, Vds = 28.0 V, F = 500 MHz |
| VSWR | Load Mismatch Tolerance | | | 20:1 | Relative | Idq = 0.80 A, Vds = 28.0 V, F = 500 MHz |

ELECTRICAL CHARACTERISTICS (EACH SIDE)

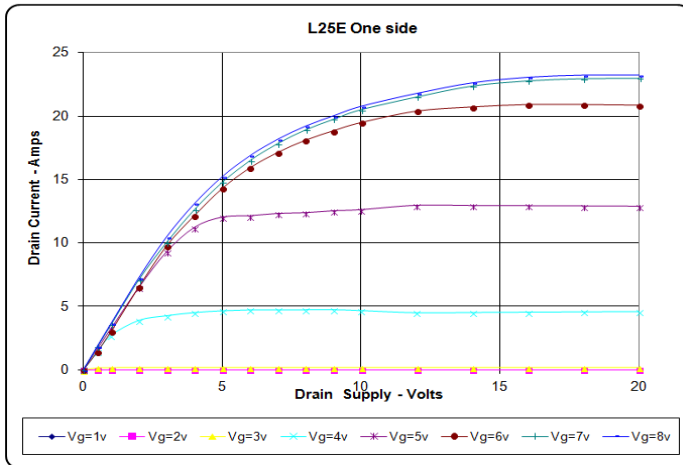
| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | TEST CONDITIONS |
|--------|------------------------------------|-----|-------|-----|-------|--------------------------------|
| Bvdss | Drain Breakdown Voltage | 80 | | | V | Ids = 5.00 mA, Vgs = 0V |
| Idss | Zero Bias Drain Current | | | 2.0 | mA | Vds = 28.0 V, Vgs = 0V |
| Igss | Gate Leakage Current | | | 1 | uA | Vds = 0V Vgs = 10V |
| Vgs | Gate Bias for Drain Current | 2 | | 5 | V | Ids = 0.20 A, Vgs = Vds |
| gM | Forward Transconductance | | 7.5 | | Mho | Vds = 10V, Vgs = 5V |
| Rdson | Saturation Resistance | | 0.30 | | Ohm | Vgs = 10 V, Ids = 15.00 A |
| Idsat | Saturation Current | | 21.00 | | Amp | Vgs = 10 V, Vds = 10V |
| Ciss | Common Source Input Capacitance | | 122.0 | | pF | Vds = 28.0 Vgs = 0V, F = 1 MHz |
| Crss | Common Source Feedback Capacitance | | 2.0 | | pF | Vds = 28.0 Vgs = 0V, F = 1 MHz |
| Coss | Common Source Output Capacitance | | 45.0 | | pF | Vds = 28.0 Vgs = 0V, F = 1 MHz |

LR2541

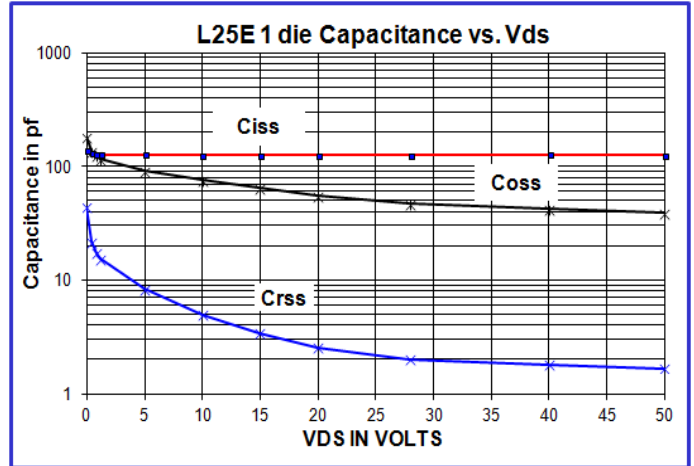
POUT VS PIN GRAPH



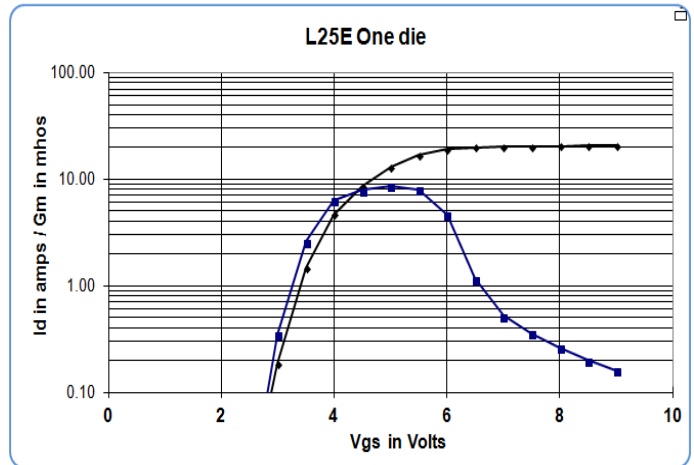
IV CURVE



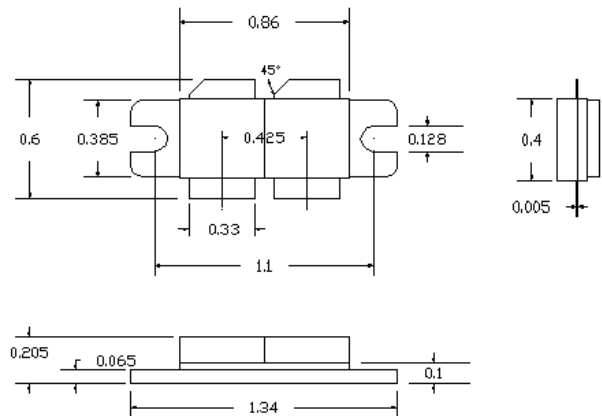
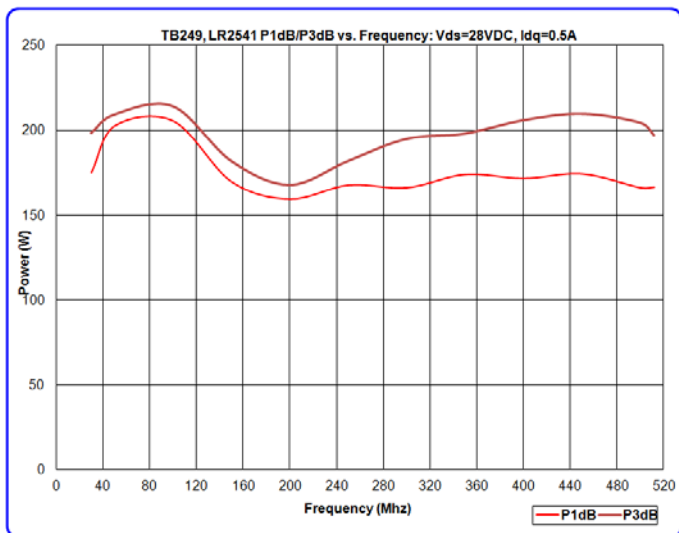
CAPACITANCE VS VOLTAGE



ID & GM VS VGS



PACKAGE DIMENSIONS IN INCHES



POLYFET LR PACKAGE

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