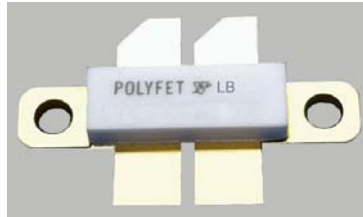




General Description

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

125.0 Watts Push - Pull

Package Style LB

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 |
|--------------------------|-------------------------------------|------------------------------|---------------------|------------------|-----------------------|-------------------------|------------------------|
| 380 Watts | 0.48 °C/W | 200 °C | -65 °C to 150 °C | 18.0 A | 80 V | 80 V | + 11 V - 9 V |

RF CHARACTERISTICS (125.0 WATTS OUTPUT)

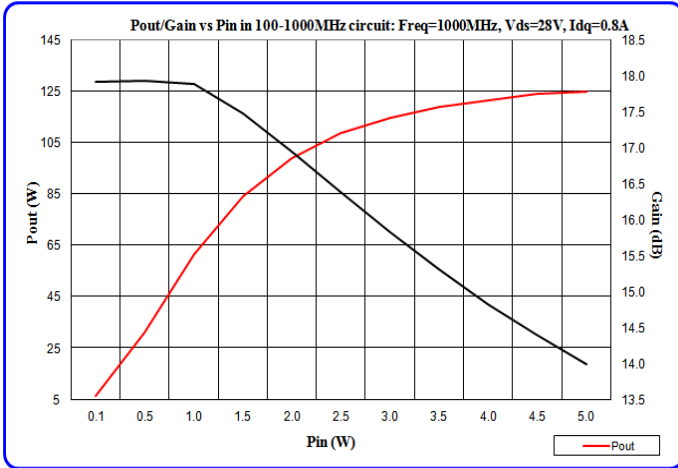
| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | TEST CONDITIONS |
|--------|--------------------------|-----|-----|------|----------|--|
| Gps | Common Source Power Gain | 16 | | | dB | Idq = 0.80 A, Vds = 28.0 V, F =1,000 MHz |
| η | Drain Efficiency | | 60 | | % | Idq = 0.80 A, Vds = 28.0 V, F =1,000 MHz |
| VSWR | Load Mismatch Tolerance | | | 20:1 | Relative | Idq = 0.80 A, Vds = 28.0 V, F =1,000 MHz |

ELECTRICAL CHARACTERISTICS (EACH SIDE)

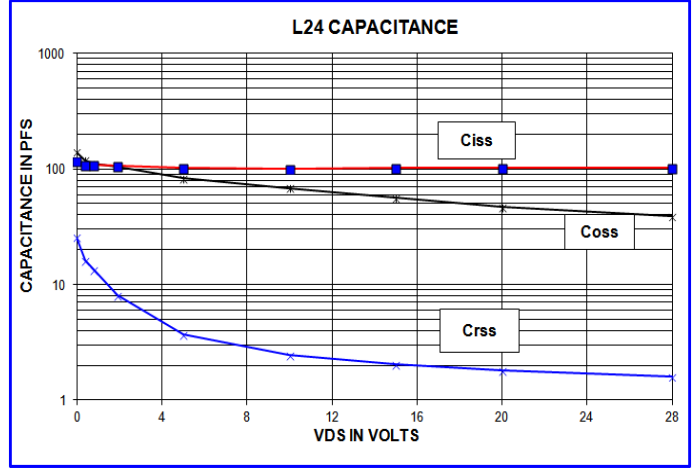
| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | TEST CONDITIONS |
|--------|------------------------------------|-----|-------|-----|-------|--------------------------------|
| Bvdss | Drain Breakdown Voltage | 70 | | | V | Ids = 5.00 mA, Vgs = 0V |
| Idss | Zero Bias Drain Current | | | 1.0 | mA | 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 | | 7.0 | | Mho | Vds = 10V, Vgs = 5V |
| Rdson | Saturation Resistance | | 0.20 | | Ohm | Vgs = 20 V, Ids = 10.00 A |
| Idsat | Saturation Current | | 24.00 | | Amp | Vgs = 20 V, Vds = 10V |
| Ciss | Common Source Input Capacitance | | 110.0 | | pF | Vds = 28.0 Vgs = 0V, F = 1 MHz |
| Crss | Common Source Feedback Capacitance | | 1.8 | | pF | Vds = 28.0 Vgs = 0V, F = 1 MHz |
| Coss | Common Source Output Capacitance | | 40.0 | | pF | Vds = 28.0 Vgs = 0V, F = 1 MHz |

LB2401

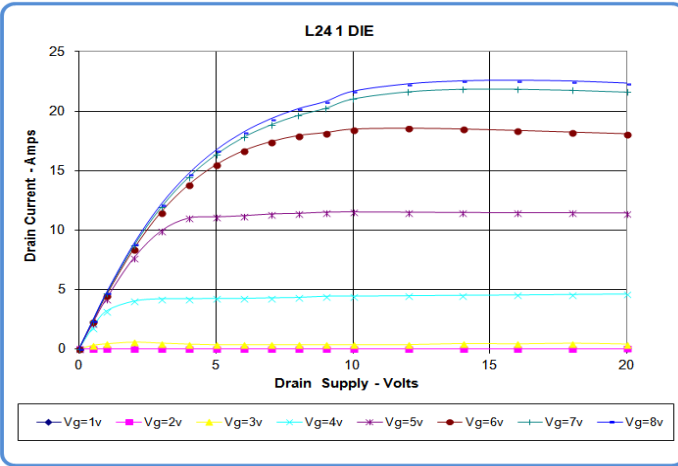
POUT VS PIN GRAPH



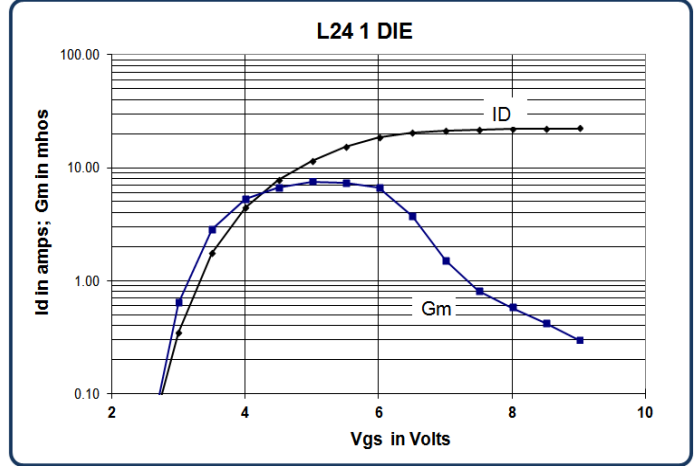
CAPACITANCE VS VOLTAGE



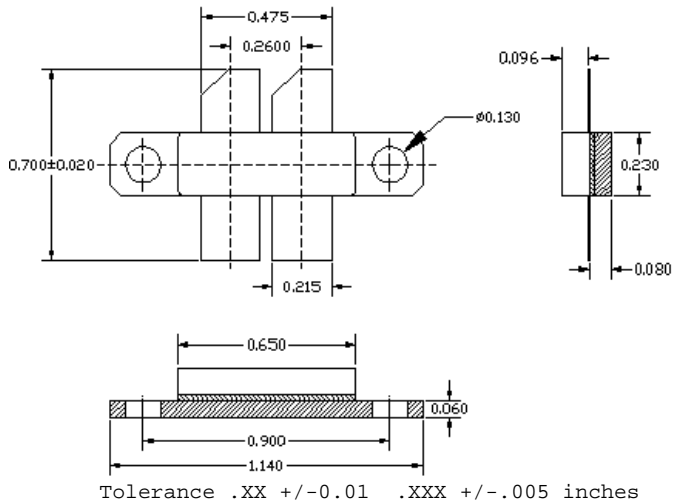
IV CURVE



ID & GM VS VGS



PACKAGE DIMENSIONS IN INCHES



P1dB & P3dB vs Freq: Vds=28V, Idq=0.8A

