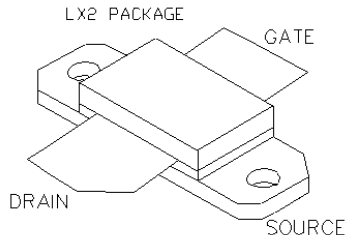




**General Description**

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 low feedback and output capacitances, resulting in high  $F_T$  transistors with high input impedance and high efficiency.



**SILICON GATE ENHANCEMENT MODE**

**RF POWER LDMOS TRANSISTOR**

45.0 Watts Single Ended

Package Style LX2

**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 |
|--------------------------|-------------------------------------|------------------------------|---------------------|------------------|-----------------------|-------------------------|------------------------|
| 220 Watts                | 0.75 °C/W                           | 200 °C                       | -65 °C to 150 °C    | 22.0 A           | 36 V                  | 36 V                    | 20 V                   |

**RF CHARACTERISTICS ( 45.0 WATTS OUTPUT )**

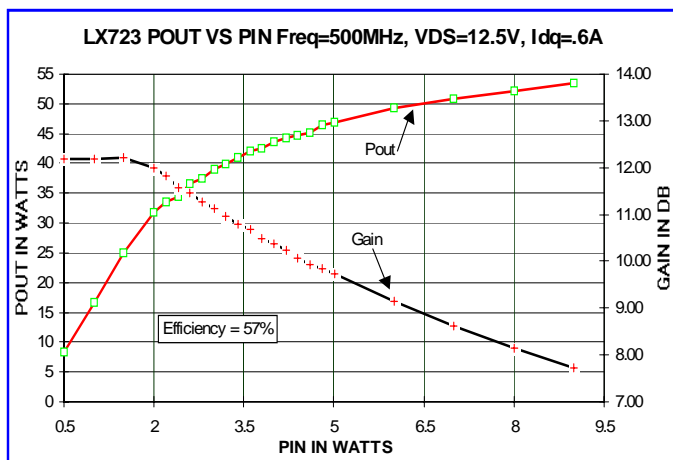
| SYMBOL | PARAMETER                | MIN | TYP | MAX  | UNITS    | TEST CONDITIONS                         |
|--------|--------------------------|-----|-----|------|----------|---|
| Gps    | Common Source Power Gain | 10  |     |      | dB       | Idq = 0.80 A, Vds = 12.5 V, F = 500 MHz |
| $\eta$ | Drain Efficiency         |     | 55  |      | %        | Idq = 0.80 A, Vds = 12.5 V, F = 500 MHz |
| VSWR   | Load Mismatch Tolerance  |     |     | 10:1 | Relative | Idq = 0.80 A, Vds = 12.5 V, F = 500 MHz |

**ELECTRICAL CHARACTERISTICS ( EACH SIDE )**

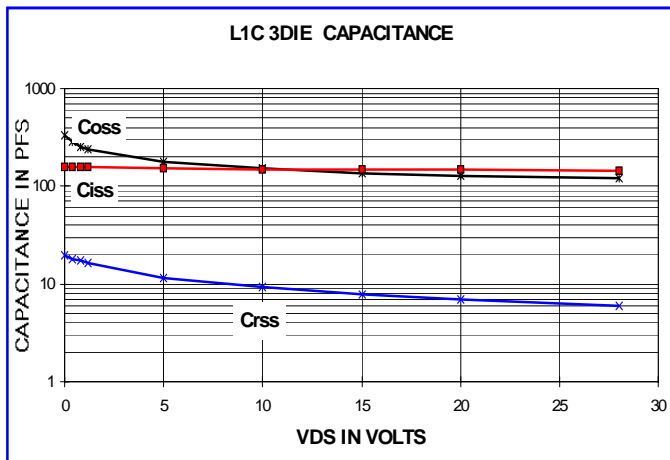
| SYMBOL | PARAMETER                          | MIN | TYP   | MAX | UNITS | TEST CONDITIONS                |
|--------|------------------------------------|-----|-------|-----|-------|--------------------------------|
| Bvdss  | Drain Breakdown Voltage            | 36  |       |     | V     | Ids = 0.60 mA, Vgs = 0V        |
| Idss   | Zero Bias Drain Current            |     |       | 6.0 | mA    | Vds = 12.5 V, Vgs = 0V         |
| Igss   | Gate Leakage Current               |     |       | 1   | uA    | Vds = 0V Vgs = 30V             |
| Vgs    | Gate Bias for Drain Current        | 2   |       | 5   | V     | Ids = 0.60 A, Vgs = Vds        |
| gM     | Forward Transconductance           |     | 5.1   |     | Mho   | Vds = 10V, Vgs = 5V            |
| Rdson  | Saturation Resistance              |     | 0.20  |     | Ohm   | Vgs = 20V, Ids = 46.00 A       |
| Idsat  | Saturation Current                 |     | 39.00 |     | Amp   | Vgs = 20V, Vds = 10V           |
| Ciss   | Common Source Input Capacitance    |     | 150.0 |     | pF    | Vds = 12.5 Vgs = 0V, F = 1 MHz |
| Crss   | Common Source Feedback Capacitance |     | 6.0   |     | pF    | Vds = 12.5 Vgs = 0V, F = 1 MHz |
| Coss   | Common Source Output Capacitance   |     | 120.0 |     | pF    | Vds = 12.5 Vgs = 0V, F = 1 MHz |

# LX723

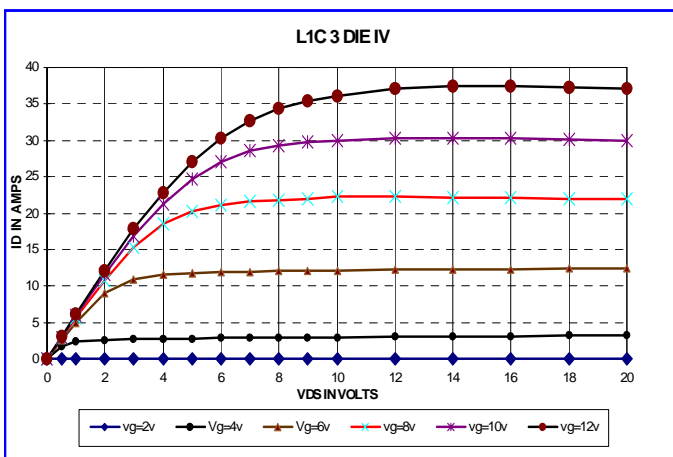
POUT VS PIN GRAPH



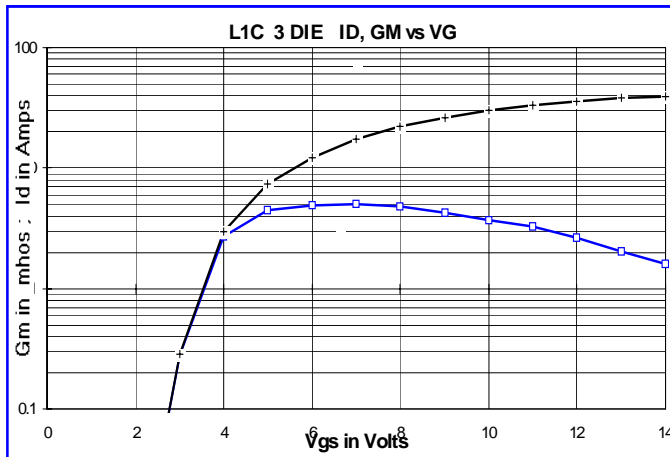
CAPACITANCE VS VOLTAGE



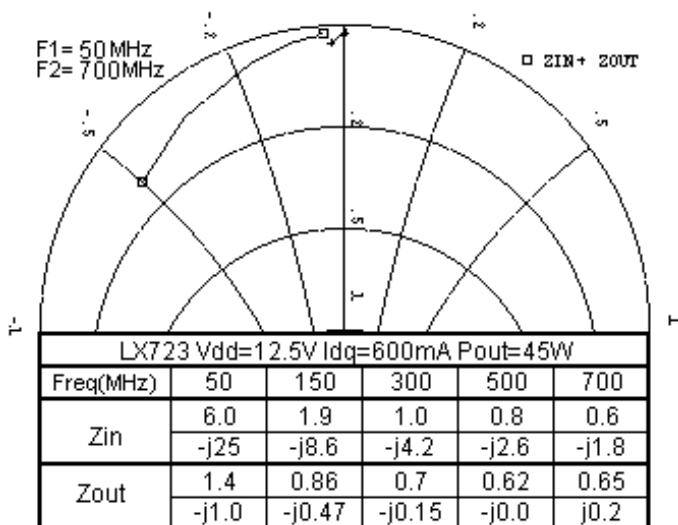
IV CURVE



ID & GM VS VGS



Zin Zout



PACKAGE DIMENSIONS IN INCHES

