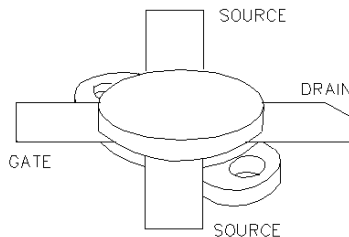




General Description

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



SILICON GATE ENHANCEMENT MODE

RF POWER VDMOS TRANSISTOR

80.0 Watts Single Ended

Package Style AM

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 |
|--------------------------|-------------------------------------|------------------------------|---------------------|------------------|-----------------------|-------------------------|------------------------|
| 150 Watts | 1.00 °C/W | 200 °C | -65 °C to 150 °C | 9.0 A | 70 V | 70 V | 20 V |

RF CHARACTERISTICS (80.0 WATTS OUTPUT)

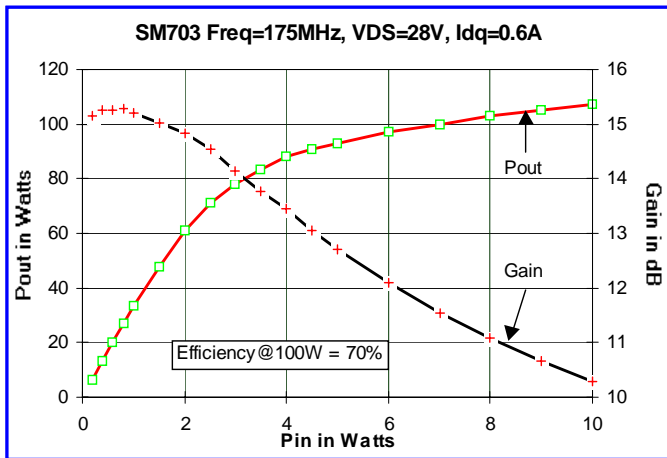
| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | TEST CONDITIONS |
|--------|--------------------------|-----|-----|------|----------|---|
| Gps | Common Source Power Gain | 13 | | | dB | Idq = 0.60 A, Vds = 28.0 V, F = 175MHz |
| η | Drain Efficiency | | 75 | | % | Idq = 0.60 A, Vds = 28.0 V, F = 175 MHz |
| VSWR | Load Mismatch Tolerance | | | 20:1 | Relative | Idq = 0.60 A, Vds = 28.0 V, F = 175MHz |

ELECTRICAL CHARACTERISTICS (EACH SIDE)

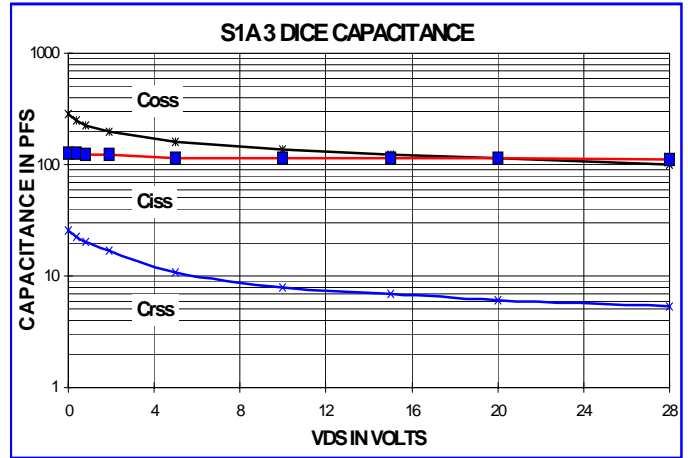
| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | TEST CONDITIONS |
|--------|------------------------------------|-----|-------|-----|-------|--------------------------------|
| Bvdss | Drain Breakdown Voltage | 65 | | | V | Ids = 60.00 mA, Vgs = 0V |
| Idss | Zero Bias Drain Current | | | 3.0 | mA | Vds = 28.0 V, Vgs = 0V |
| Igss | Gate Leakage Current | | | 1 | uA | Vds = 0V Vgs = 30V |
| Vgs | Gate Bias for Drain Current | 2 | | 5 | V | Ids = 0.30 A, Vgs = Vds |
| gM | Forward Transconductance | | 3.6 | | Mho | Vds = 10V, Vgs = 5V |
| Rdson | Saturation Resistance | | 0.35 | | Ohm | Vgs = 20V, Ids = 7.50 A |
| Idsat | Saturation Current | | 21.00 | | Amp | Vgs = 20V, Vds = 10V |
| Ciss | Common Source Input Capacitance | | 150.0 | | pF | Vds = 28.0 Vgs = 0V, F = 1 MHz |
| Crss | Common Source Feedback Capacitance | | 9.0 | | pF | Vds = 28.0 Vgs = 0V, F = 1 MHz |
| Coss | Common Source Output Capacitance | | 96.0 | | pF | Vds = 28.0 Vgs = 0V, F = 1 MHz |

SM703

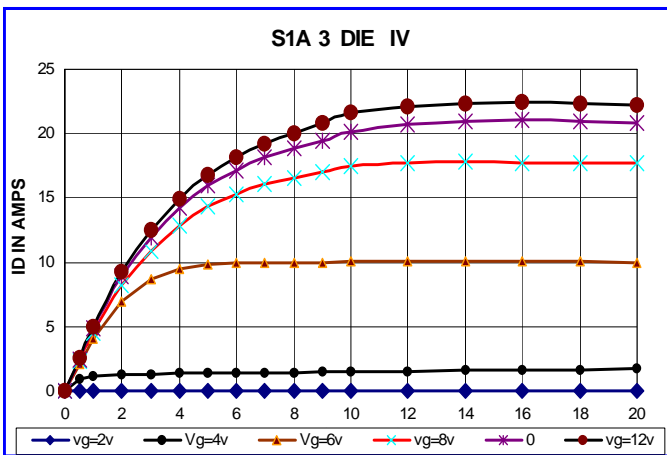
POUT VS PIN GRAPH



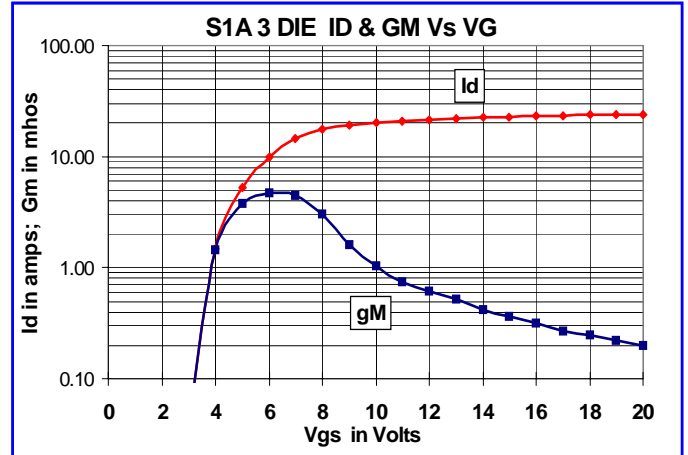
CAPACITANCE VS VOLTAGE



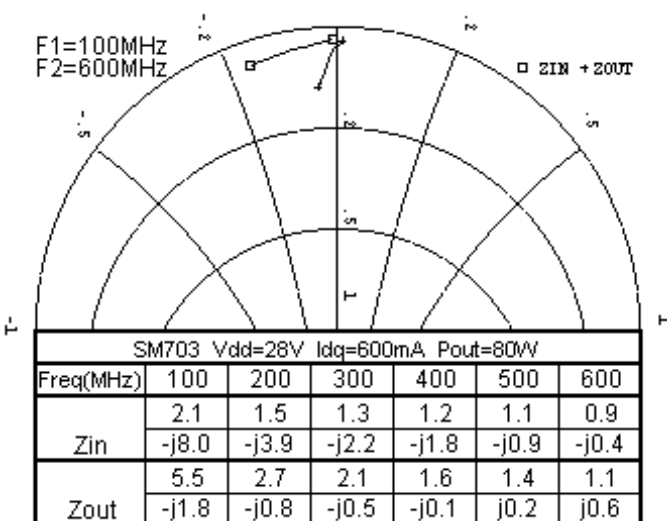
IV CURVE



ID & GM VS VGS



Zin Zout



PACKAGE DIMENSIONS IN INCHES

