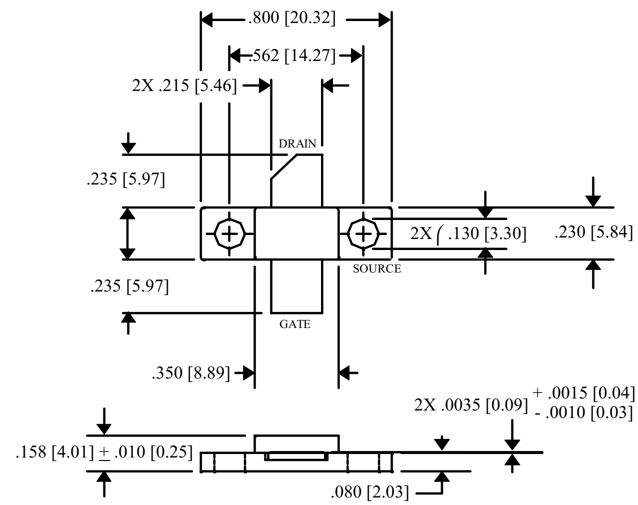
LDMOS RF Power Transistors
90 Watts, 800 - 1000 MHz, 26 Volts

Features

- New LDMOS Technology
- Broadband Class AB Operation
- Characterized for GSM TDMA Applications
- Gold Metalization System for Reliability
- Excellent Thermal Characteristics
- -30 dBc Typical Third Order IMD at 49 dBm
- No Internal Matching

Outline Drawing[1,2]



Notes: (unless otherwise specified)
1. Dimensions are in (mm)
2. Tolerance: inches ±.005" (millimeters ± 0.13mm)

Absolute Maximum Ratings[1]

Parameter	Symbol	Rating	Units
Drain-Source Voltage	V_{DS}	60[1]	V
Gate-Source Voltage	V_{GS}	20	V
Drain Current	I_D	20.0	A
Total Power Dissipation @ +25°C	P_{TOT}	TBD	W
Storage Temperature	T_{STG}	-65 to +175	°C
Operating Temperature	T_{OPR}	-40 to +80	°C
Junction Temperature	T_j	200	°C

1. Preliminary parts meet a 55V Specification. No other specifications are affected.

Large Signal Device Impedance

F (MHz)	Z_{IF}[1] (Ω)	Z_{OF}[2] (Ω)
850	1.2 - j1.2	1.7 + j0.2
900	1.4 - j1.4	1.6 - j0.5
950	1.2 - j1.9	1.8 - j0.8

1. Z_{IF} - The impedance measured looking into the Gate side of the optimally tuned test fixture.
2. Z_{OF} - The impedance measured looking into the Drain side of the optimally tuned test fixture.

Electrical Specifications at 25°C

Symbol	Parameters	Test Conditions	Units	Min.	Max.
BV_{DSS}	Drain-Source Breakdown	I_D = 20.0 mA	V	60[1]	-
I_{DSS}	Drain-Source Leakage	V_{DS} = 25 V	mA	-	4.0
BV_{GSS}	Gate-Source Breakdown	I_{GS} = 1 μA, V_{DS} = 0.0 V	V	20	-
$V_{GS (ON)}$	Gate "On" Voltage	I_{DS} = 600 mA, V_{DS} = 10 V	V	2.5	5.0
G_M	Transconductance	I_{DS} = 2000 mA, V_{DS} = 10 V	S	2.0	-
$R_{DS (ON)}$	On-State Resistance	I_{DS} = 400 mA, V_{DS} = 10 V	Ω	-	0.125
P_G	Power Gain	V_{CC}=26 V, P_O=90 W, F=960 MHz, I_{DQ}=800 mA	dB	10.0	-
P_{IN}	Input Power	V_{CC}=26 V, P_O=90 W, F=960 MHz, I_{DQ}=800 mA	W	-	9.8
η_D	Drain Efficiency	V_{CC}=26 V, P_O=90 W, F=960 MHz, I_{DQ}=800 mA	%	45	-
VSWR-T	Load Mismatch Tolerance	V_{CC}=26 V, P_O=90 W, F=960 MHz, I_{DQ}=800 mA	-	-	TBD
$R_{TH(JC)}$	Thermal Resistance	V_{CC}=26 V, P_O=90 W, F=960 MHz, I_{DQ}=800 mA	°C/W	-	TBD

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M/A-COM Division of AMP Incorporated ■ North America: Tel. (800) 366-2266, Fax (800) 618-8883 ■ Asia/Pacific: Tel.+85 2 2111 8088, Fax +85 2 2111 8087
■ Europe: Tel. +44 (1344) 869 595, Fax+44 (1344) 300 020

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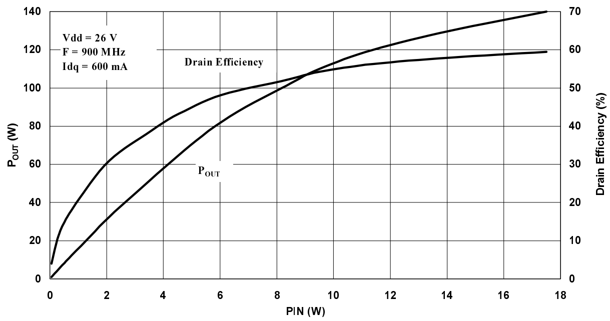
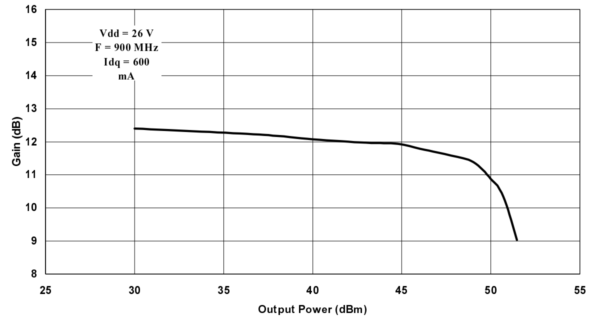
Typical Performance Curves

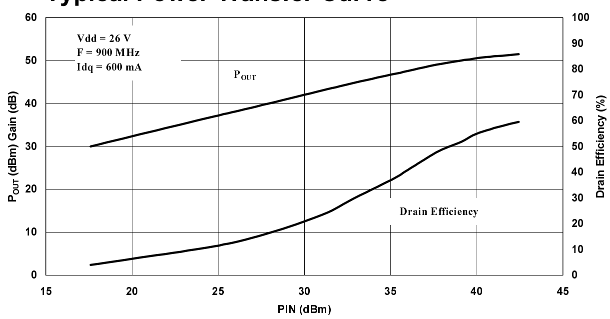
Output Power and Drain Efficiency vs Input Power



Gain vs Output Power



Typical Power Transfer Curve



V1.00