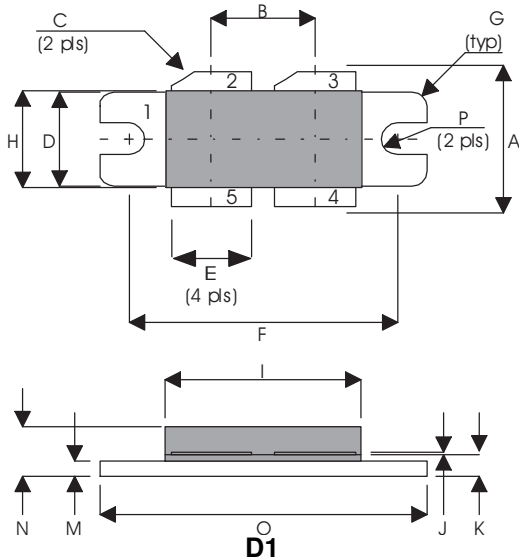


**MECHANICAL DATA**



PIN 1 SOURCE (COMMON)      PIN 2 DRAIN 1  
 PIN 3 DRAIN 2              PIN 4 GATE 2  
 PIN 5 GATE 1

DIM	Millimetres	Tol.	Inches	Tol.
A	15.24	0.50	0.600	0.020
B	10.80	0.13	0.425	0.005
C	45°	5°	45°	5°
D	9.78	0.13	0.385	0.005
E	8.38	0.13	0.330	0.005
F	27.94	0.13	1.100	0.005
G	1.52R	0.13	0.060R	0.005
H	10.16	0.15	0.400	0.006
I	21.84	0.23	0.860	0.009
J	0.10	0.02	0.004	0.001
K	1.96	0.13	0.077	0.005
M	1.02	0.13	0.040	0.005
N	4.45	0.38	0.175	0.015
O	34.04	0.13	1.340	0.005
P	1.63R	0.13	0.064R	0.005

**GOLD METALLISED**  
**MULTI-PURPOSE SILICON**  
**DMOS RF FET**  
**350W – 28V – 175MHz**  
**PUSH-PULL**

**FEATURES**

- SUITABLE FOR BROAD BAND APPLICATIONS
- SIMPLE BIAS CIRCUITS
- ULTRA-LOW THERMAL RESISTANCE
- BeO FREE
- LOW Crss
- HIGH GAIN – 16 dB MINIMUM

**APPLICATIONS**

- VHF/UHF COMMUNICATIONS  
from 1 MHz to 400 MHz

**ABSOLUTE MAXIMUM RATINGS** ( $T_{case} = 25^{\circ}C$  unless otherwise stated)

$P_D$	Power Dissipation	875W (438W -A Version)
$BV_{DSS}$	Drain – Source Breakdown Voltage *	70V
$BV_{GSS}$	Gate – Source Breakdown Voltage*	$\pm 20V$
$I_{D(sat)}$	Drain Current*	35A
$T_{stg}$	Storage Temperature	-65 to 150°C
$T_j$	Maximum Operating Junction Temperature	200°C

\* Per Side

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### ELECTRICAL CHARACTERISTICS ( $T_{case} = 25^{\circ}C$ unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit	
<b>PER SIDE</b>						
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS} = 0$	$I_D = 100mA$	70		V
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS} = 28V$	$V_{GS} = 0$		7	mA
$I_{GSS}$	Gate Leakage Current	$V_{GS} = 20V$	$V_{DS} = 0$		7	$\mu A$
$V_{GS(th)}$	Gate Threshold Voltage*	$I_D = 10mA$	$V_{DS} = V_{GS}$	1	7	V
$g_{fs}$	Forward Transconductance*	$V_{DS} = 10V$	$I_D = 6A$	5.6		mhos
$V_{GS(th)match}$	Gate Threshold Voltage Matching Between Sides	$I_D = 10mA$	$V_{DS} = V_{GS}$		0.1	V
<b>TOTAL DEVICE</b>						
$G_{PS}$	Common Source Power Gain	$P_O = 350W$		16		dB
$\eta$	Drain Efficiency	$V_{DS} = 28V$	$I_{DQ} = 2A$	60		%
VSWR	Load Mismatch Tolerance	$f = 175MHz$		20:1		—
<b>PER SIDE</b>						
$C_{iss}$	Input Capacitance	$V_{DS} = 28V$	$V_{GS} = -5V$	$f = 1MHz$	420	pF
$C_{oss}$	Output Capacitance	$V_{DS} = 28V$	$V_{GS} = 0$	$f = 1MHz$	210	pF
$C_{rss}$	Reverse Transfer Capacitance	$V_{DS} = 28V$	$V_{GS} = 0$	$f = 1MHz$	17.5	pF

\* Pulse Test: Pulse Duration = 300  $\mu s$  , Duty Cycle  $\leq 2\%$

### THERMAL DATA

$R_{THj-case}$	Thermal Resistance Junction – Case	Max. 0.2 $^{\circ}C/W$ 0.4 $^{\circ}C/W$ -A Version
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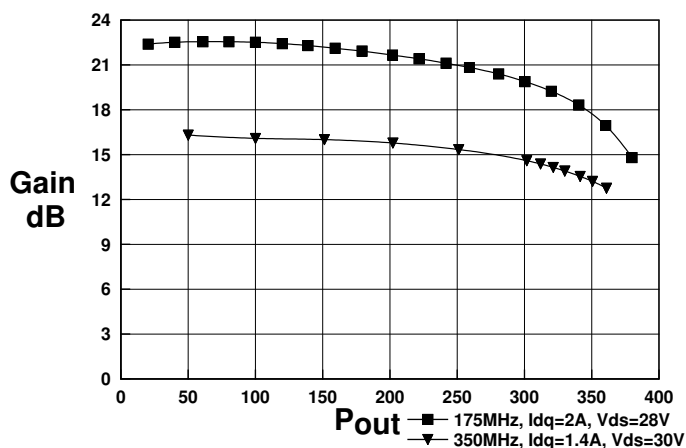


Figure 1 – Gain vs. Power Output.

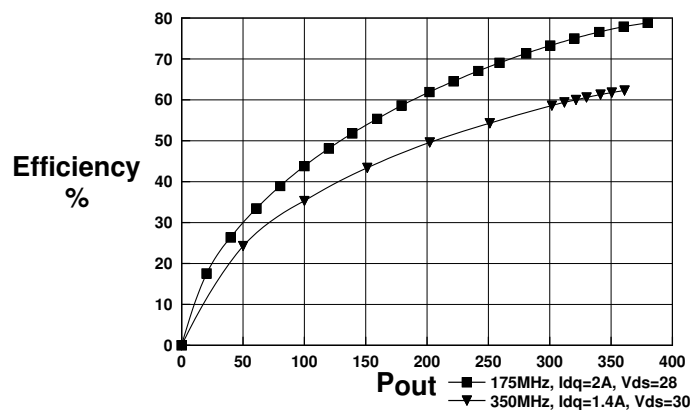


Figure 2 – Efficiency vs. Power Output.

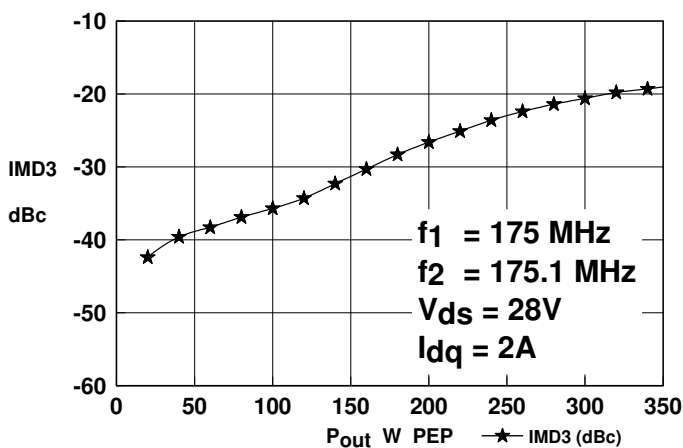


Figure 3 – IMD vs. Power Output

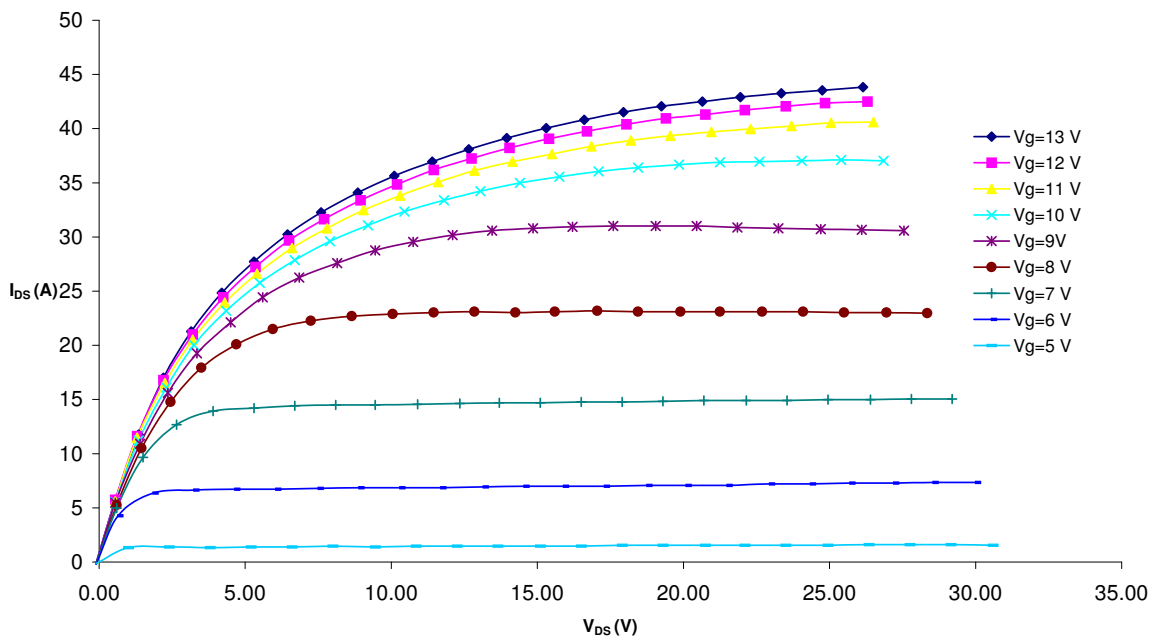


Figure 4 – Typical IV Characteristics.

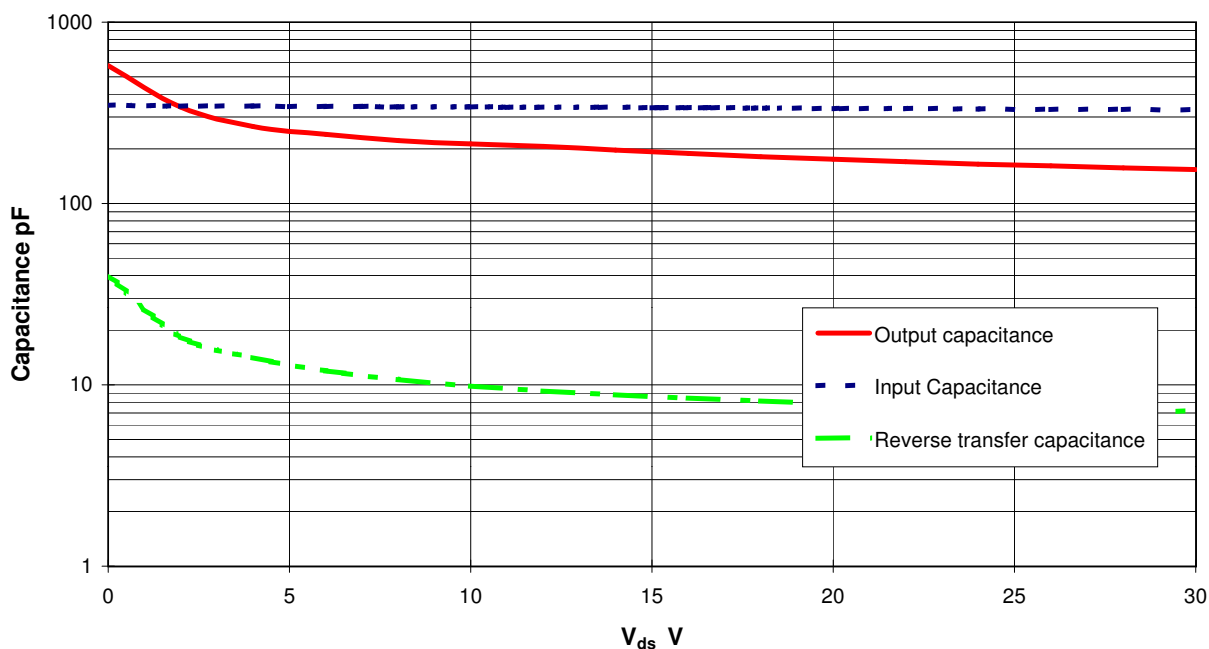
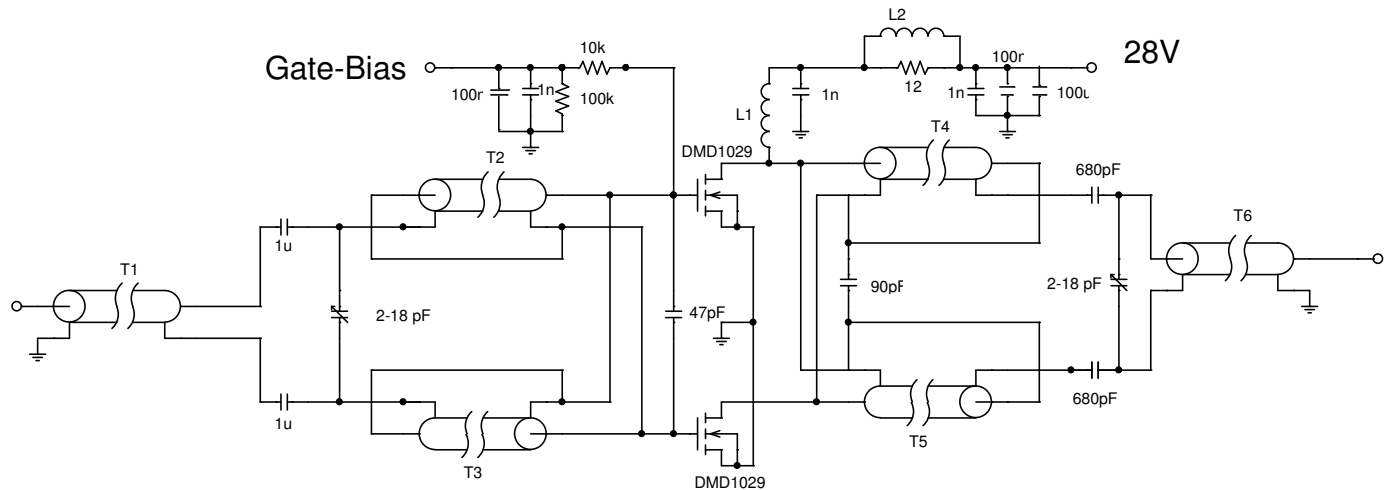


Figure 5 – Typical CV Characteristics.

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## DMD1029 175MHz TEST JIG

- T1 7cm RG316 coax on Siemens A1 x 1 2 hole core
- T2,3 7cm RG316 coax on Siemens A1 x 1 2 hole core
- T4,5 14cm RG316 coax
- T6 11cm RG316 coax
- L2 1.5 turns 1mm dia wire on Siemens A1 x 1 2 hole core
- L1 8.5 turns 1mm dia wire, 4mm internal diameter