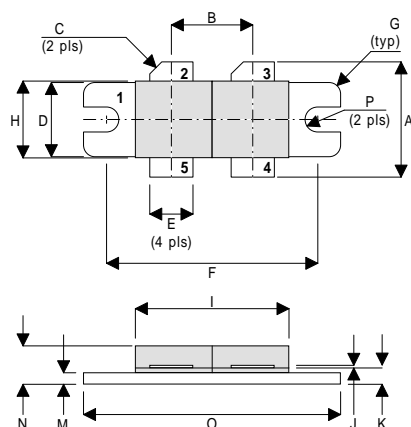


MECHANICAL DATA

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



DR

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	19.05	0.50	0.75	0.020
B	10.77	0.13	0.424	0.005
C	45°	5°	45°	5°
D	9.78	0.13	0.385	0.005
E	5.71	0.13	0.225	0.005
F	27.94	0.13	1.100	0.005
G	1.52R	0.13	0.060R	0.005
H	10.16	0.13	0.400	0.005
I	22.22	MAX	0.875	MAX
J	0.13	0.02	0.005	0.001
K	2.72	0.13	0.107	0.005
M	1.70	0.13	0.067	0.005
N	5.08	0.50	0.200	0.020
O	34.03	0.13	1.340	0.005
P	1.57R	0.08	0.062R	0.003

FEATURES

- SIMPLIFIED AMPLIFIER DESIGN
- SUITABLE FOR BROAD BAND APPLICATIONS
- LOW C_{rss}
- SIMPLE BIAS CIRCUITS
- LOW NOISE
- HIGH GAIN – 13 dB MINIMUM

APPLICATIONS

- VHF/UHF COMMUNICATIONS
from 1 MHz to 200 MHz

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

P_D	Power Dissipation	438W
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

ELECTRICAL CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
PER SIDE					
B _V 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	μA
V _{GS(th)}	Gate Threshold Voltage*	I _D = 10mA	V _{DS} = V _{GS}	1	V
g _{fs}	Forward Transconductance*	V _{DS} = 10V	I _D = 7A	5.6	S
TOTAL DEVICE					
G _{PS}	Common Source Power Gain	P _O = 350W		13	dB
η	Drain Efficiency	V _{DS} = 28V	I _{DQ} = 2A	65	%
VSWR	Load Mismatch Tolerance	f = 175MHz		20:1	—
PER SIDE					
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 μs , Duty Cycle ≤ 2%

HAZARDOUS MATERIAL WARNING

The ceramic portion of the device between leads and metal flange is beryllium oxide. Beryllium oxide dust is highly toxic and care must be taken during handling and mounting to avoid damage to this area.

THESE DEVICES MUST NEVER BE THROWN AWAY WITH GENERAL INDUSTRIAL OR DOMESTIC WASTE.

THERMAL DATA

R _{THj-case}	Thermal Resistance Junction – Case	Max. 0.4°C / W
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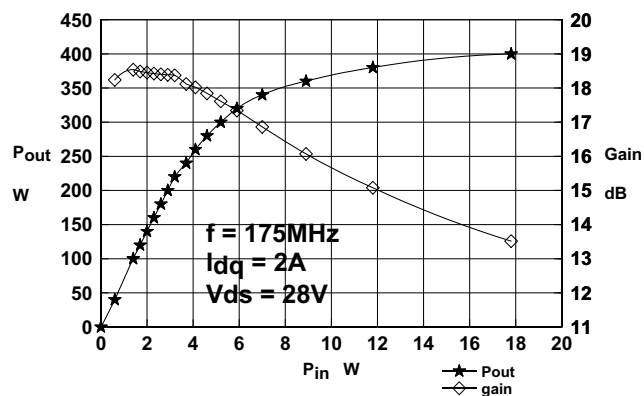


Figure 1
Output Power and Gain vs. Input Power

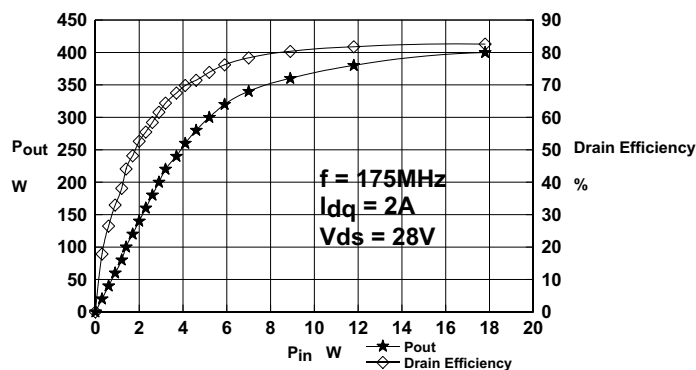


Figure 2
Output Power and Efficiency vs. Input Power

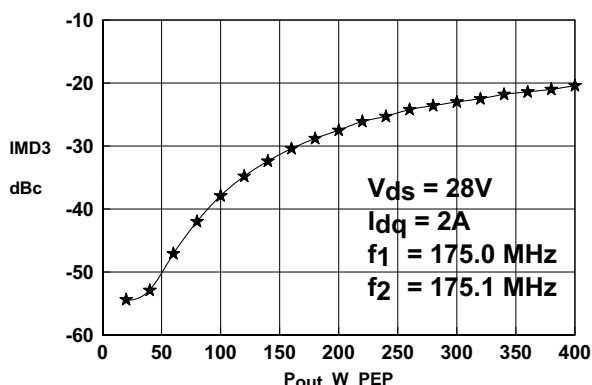


Figure 3
IMD3 vs. Output Power

OPTIMUM SOURCE AND LOAD IMPEDANCE

Frequency MHz	Z_S Ω	Z_L Ω
175	$2.1 + j1.9$	$2.8 + j2.4$
225	$1.8 - j0.5$	$2.9 + j0.7$

