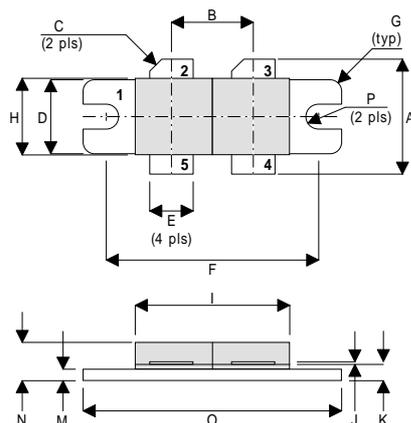


MECHANICAL DATA

**GOLD METALLISED
MULTI-PURPOSE SILICON
DMOS RF FET
400W – 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	1.61R	0.08	0.064R	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	500W
BV_{DSS}	Drain – Source Breakdown Voltage	70V
BV_{GSS}	Gate – Source Breakdown Voltage	$\pm 20V$
$I_{D(sat)}$	Drain Current	40A
T_{stg}	Storage Temperature	-65 to $150^{\circ}C$
T_j	Maximum Operating Junction Temperature	$200^{\circ}C$

Semelab Plc reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

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 _D DSS	Zero Gate Voltage Drain Current	V _{DS} = 28V	V _{GS} = 0	8	mA	
I _G DSS	Gate Leakage Current	V _{GS} = 20V	V _{DS} = 0	1	μA	
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 = 8A	6.4	mhos	
V _{GS(th)match}	Gate Threshold Voltage Matching Between Sides	I _D = 10mA	V _{DS} = V _{GS}	0.1	V	
TOTAL DEVICE						
G _{PS}	Common Source Power Gain	P _O = 400W		13	dB	
η	Drain Efficiency	V _{DS} = 28V	I _{DQ} = 2A	50	%	
VSWR	Load Mismatch Tolerance	f = 175MHz		20:1	—	
PER SIDE						
C _{iss}	Input Capacitance	V _{DS} = 28V	V _{GS} = -5V f = 1MHz		480	pF
C _{oss}	Output Capacitance	V _{DS} = 28V	V _{GS} = 0 f = 1MHz		240	pF
C _{rss}	Reverse Transfer Capacitance	V _{DS} = 28V	V _{GS} = 0 f = 1MHz		20	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. 0.35°C / W
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