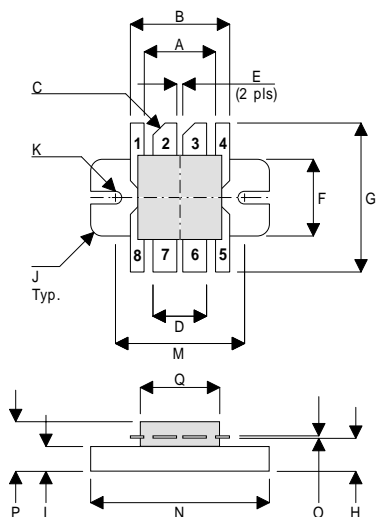


MECHANICAL DATA



DD

PIN 1	SOURCE (COMMON)	PIN 2	DRAIN 1
PIN 3	DRAIN 2	PIN 4	SOURCE (COMMON)
PIN 5	SOURCE (COMMON)	PIN 6	GATE 2
PIN 7	GATE 1	PIN 8	SOURCE (COMMON)

DIM	mm	Tol.	Inches	Tol.
A	9.14	0.13	0.360	0.005
B	12.70	0.13	0.500	0.005
C	45°	5°	45°	5°
D	6.86	0.13	0.270	0.005
E	0.76	0.13	0.030	0.005
F	9.78	0.13	0.385	0.005
G	19.05	0.25	0.750	0.010
H	4.19	0.13	0.165	0.005
I	3.17	0.13	0.125	0.005
J	1.52R	0.13	0.060R	0.005
K	1.65R	0.13	0.065R	0.005
M	16.51	0.13	0.650	0.005
N	22.86	0.13	0.900	0.005
O	0.13	0.02	0.005	0.001
P	6.35	0.64	0.250	0.025
Q	10.77	0.13	0.424	0.005

**GOLD METALLISED  
MULTI-PURPOSE SILICON  
DMOS RF FET  
40W – 12.5V – 500MHz  
PUSH-PULL**

FEATURES

- SIMPLIFIED AMPLIFIER DESIGN
- SUITABLE FOR BROAD BAND APPLICATIONS
- LOW  $C_{rss}$
- SIMPLE BIAS CIRCUITS
- LOW NOISE
- HIGH GAIN – 10 dB MINIMUM

APPLICATIONS

- HF/VHF/UHF COMMUNICATIONS  
from 1 MHz to 500 MHz

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

$P_D$	Power Dissipation	175W
$BV_{DSS}$	Drain – Source Breakdown Voltage	40V
$BV_{GSS}$	Gate – Source Breakdown Voltage	$\pm 20V$
$I_{D(sat)}$	Drain Current	20A
$T_{stg}$	Storage Temperature	-65 to 150°C
$T_j$	Maximum Operating Junction Temperature	200°C

## ELECTRICAL CHARACTERISTICS (T<sub>case</sub> = 25°C unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit	
<b>PER SIDE</b>						
B <sub>V</sub> DSS	Drain–Source Breakdown Voltage	V <sub>GS</sub> = 0	I <sub>D</sub> = 100mA	40	V	
I <sub>D</sub> DSS	Zero Gate Voltage Drain Current	V <sub>DS</sub> = 12.5V	V <sub>GS</sub> = 0	2	mA	
I <sub>G</sub> DSS	Gate Leakage Current	V <sub>GS</sub> = 20V	V <sub>DS</sub> = 0	1	μA	
V <sub>GS(th)</sub>	Gate Threshold Voltage*	I <sub>D</sub> = 10mA	V <sub>DS</sub> = V <sub>GS</sub>	1	5.5	V
g <sub>fs</sub>	Forward Transconductance*	V <sub>DS</sub> = 10V	I <sub>D</sub> = 2A	1.6	S	
<b>TOTAL DEVICE</b>						
G <sub>PS</sub>	Common Source Power Gain	P <sub>O</sub> = 40W		10	dB	
η	Drain Efficiency	V <sub>DS</sub> = 12.5V	I <sub>DQ</sub> = 1.6A	50	%	
VSWR	Load Mismatch Tolerance	f = 400MHz		20:1	—	
<b>PER SIDE</b>						
C <sub>i</sub> SS	Input Capacitance	V <sub>DS</sub> = 0V	V <sub>GS</sub> = -5V f = 1MHz		120	pF
C <sub>o</sub> SS	Output Capacitance	V <sub>DS</sub> = 12.5V	V <sub>GS</sub> = 0 f = 1MHz		80	pF
C <sub>r</sub> SS	Reverse Transfer Capacitance	V <sub>DS</sub> = 12.5V	V <sub>GS</sub> = 0 f = 1MHz		8	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 <sub>THj-case</sub>	Thermal Resistance Junction – Case	Max. 1.0°C / W
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