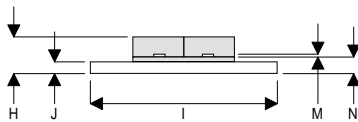
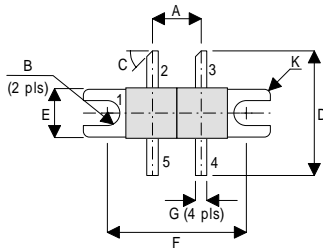


MECHANICAL DATA

**GOLD METALLISED  
MULTI-PURPOSE SILICON  
DMOS RF FET  
20W – 12.5V – 1GHz  
PUSH-PULL**



DK

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

DIM	mm	Tol.	Inches	Tol.
A	6.45	0.13	0.254	0.005
B	1.65R	0.13	0.065R	0.005
C	45°	5°	45°	5°
D	16.51	0.76	0.650	0.03
E	6.47	0.13	0.255	0.005
F	18.41	0.13	0.725	0.005
G	1.52	0.13	0.060	0.005
H	4.82	0.25	0.190	0.010
I	24.76	0.13	0.975	0.005
J	1.52	0.13	0.060	0.005
K	0.81R	0.13	0.032R	0.005
M	0.13	0.02	0.005	0.001
N	2.16	0.13	0.085	0.005

FEATURES

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

APPLICATIONS

- HF/VHF/UHF COMMUNICATIONS  
from 1MHz to 2 GHz

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

$P_D$	Power Dissipation	83W
$BV_{DSS}$	Drain – Source Breakdown Voltage *	40V
$BV_{GSS}$	Gate – Source Breakdown Voltage *	$\pm 20V$
$I_{D(sat)}$	Drain Current *	8A
$T_{stg}$	Storage Temperature	$-65$ to $150^{\circ}C$
$T_j$	Maximum Operating Junction Temperature	$200^{\circ}C$

\* Per Side

## 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> = 10mA	40	V
I <sub>D</sub> DSS	Zero Gate Voltage Drain Current	V <sub>DS</sub> = 12.5V	V <sub>GS</sub> = 0	4	mA
I <sub>G</sub> DSS	Gate Leakage Current	V <sub>GS</sub> = 20V	V <sub>DS</sub> = 0	4	μA
V <sub>GS(th)</sub>	Gate Threshold Voltage *	I <sub>D</sub> = 10mA	V <sub>DS</sub> = V <sub>GS</sub>	0.5	V
g <sub>fs</sub>	Forward Transconductance *	V <sub>DS</sub> = 10V	I <sub>D</sub> = 0.8A	0.72	S
<b>TOTAL DEVICE</b>					
G <sub>PS</sub>	Common Source Power Gain	P <sub>O</sub> = 20W		10	dB
η	Drain Efficiency	V <sub>DS</sub> = 12.5V	I <sub>DQ</sub> = 0.8A	40	%
VSWR	Load Mismatch Tolerance	f = 1GHz		20:1	—
<b>PER SIDE</b>					
C <sub>i</sub> SS	Input Capacitance	V <sub>DS</sub> = 0	V <sub>GS</sub> = -5V f = 1MHz		48 pF
C <sub>o</sub> SS	Output Capacitance	V <sub>DS</sub> = 12.5V	V <sub>GS</sub> = 0 f = 1MHz		40 pF
C <sub>r</sub> SS	Reverse Transfer Capacitance	V <sub>DS</sub> = 12.5V	V <sub>GS</sub> = 0 f = 1MHz		4 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. 2.1°C / W
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