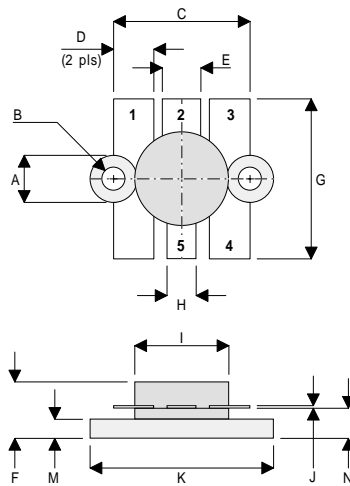


MECHANICAL DATA



DT

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

DIM	mm	Tol.	Inches	Tol.
A	6.35 DIA	0.13	0.250 DIA	0.005
B	3.17 DIA	0.13	0.125 DIA	0.005
C	18.41	0.25	0.725	0.010
D	5.46	0.13	0.215	0.005
E	5.21	0.13	0.205	0.005
F	7.62	MAX	0.300	MAX
G	21.59	0.38	0.850	0.015
H	3.94	0.13	0.155	0.005
I	12.70	0.13	0.500	0.005
J	0.13	0.03	0.005	0.001
K	24.76	0.13	0.975	0.005
M	2.59	0.13	0.102	0.005
N	4.06	0.25	0.160	0.010

**GOLD METALLISED  
MULTI-PURPOSE SILICON  
DMOS RF FET  
40W – 12.5V – 175MHz  
SINGLE ENDED**

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$BV_{DSS}$ Drain-Source Breakdown Voltage	$V_{GS} = 0$ $I_D = 100mA$	40			V
$I_{DSS}$ Zero Gate Voltage Drain Current	$V_{DS} = 12.5V$ $V_{GS} = 0$			1	mA
$I_{GSS}$ Gate Leakage Current	$V_{GS} = 20V$ $V_{DS} = 0$			1	$\mu A$
$V_{GS(th)}$ Gate Threshold Voltage *	$I_D = 10mA$ $V_{DS} = V_{GS}$	1		7	V
$g_{fs}$ Forward Transconductance *	$V_{DS} = 10V$ $I_D = 4A$	3.2			S
$G_{PS}$ Common Source Power Gain	$P_O = 40W$	10			dB
$\eta$ Drain Efficiency	$V_{DS} = 12.5V$ $I_{DQ} = 0.8A$	50			%
VSWR Load Mismatch Tolerance	$f = 175MHz$	20:1			—
$C_{iss}$ Input Capacitance	$V_{DS} = 0$ $V_{GS} = -5V$ $f = 1MHz$			240	pF
$C_{oss}$ Output Capacitance	$V_{DS} = 12.5V$ $V_{GS} = 0$ $f = 1MHz$			160	pF
$C_{rss}$ Reverse Transfer Capacitance	$V_{DS} = 12.5V$ $V_{GS} = 0$ $f = 1MHz$			16	pF

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

**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. 1.0°C / W
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