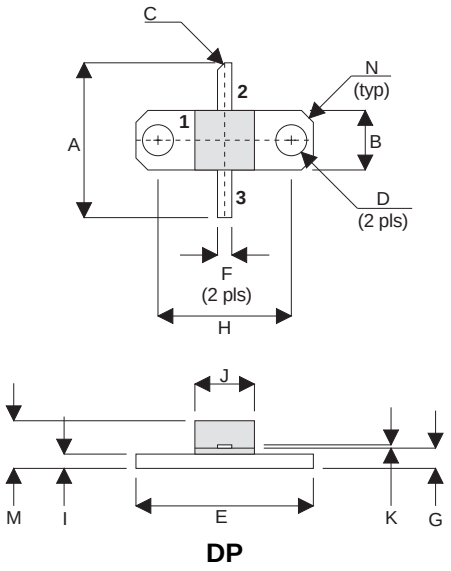
TetraFET

D1202UK

ROHS COMPLIANT METAL GATE RF SILICON FET

MECHANICAL DATA



DP

PIN 1 SOURCE PIN 2 DRAIN

PIN 3 GATE

DIM	mm	Tol.	Inches	Tol.
A	16.51	0.25	0.650	0.010
B	6.35	0.13	0.250	0.005
C	45°	5°	45°	5°
D	3.30	0.13	0.130	0.005
E	18.92	0.08	0.745	0.003
F	1.52	0.13	0.060	0.005
G	2.16	0.13	0.085	0.005
H	14.22	0.08	0.560	0.003
I	1.52	0.13	0.060	0.005
J	6.35	0.13	0.250	0.005
K	0.13	0.03	0.005	0.001
M	5.08	0.51	0.200	0.020
N	1.27 x 45°	0.13	0.050 x 45°	0.005

GOLD METALLISED MULTI-PURPOSE SILICON DMOS RF FET 20W – 12.5V – 400MHz SINGLE ENDED

FEATURES

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

APPLICATIONS

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

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C unless otherwise stated)

P_D	Power Dissipation	87W
BV_{DSS}	Drain – Source Breakdown Voltage	40V
BV_{GSS}	Gate – Source Breakdown Voltage	±20V
$I_{D(sat)}$	Drain Current	20A
T_{stg}	Storage Temperature	–65 to 150°C
T_j	Maximum Operating Junction Temperature	200°C

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ELECTRICAL CHARACTERISTICS (T_{case} = 25°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	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 = 2A	1.6			S
G_{PS}	Common Source Power Gain	P_O = 20W	10			dB
η	Drain Efficiency	V_{DS} = 12.5V I_{DQ} = 0.4A	50			%
VSWR	Load Mismatch Tolerance	f = 400MHz	20:1			—
C_{iss}	Input Capacitance	V_{DS} = 0 V_{GS} = –5V f = 1MHz			120	pF
C_{oss}	Output Capacitance	V_{DS} = 12.5V V_{GS} = 0 f = 1MHz			80	pF
C_{rss}	Reverse Transfer Capacitance	V_{DS} = 12.5V V_{GS} = 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

$R_{THj–case}$	Thermal Resistance Junction – Case	Max. 2.0°C / W

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