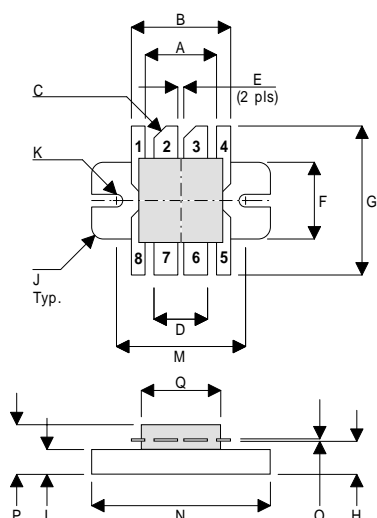


MECHANICAL DATA

www.DataSheet4U.net



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 $150^{\circ}C$ |
| T_j | Maximum Operating Junction Temperature | $200^{\circ}C$ |

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 | 40 | | | V |
| I _D SS Zero Gate Voltage Drain Current | V _{DS} = 12.5V V _{GS} = 0 | | | 2 | mA |
| I _G SS 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 | | 5.5 | V |
| g _{fs} Forward Transconductance* | V _{DS} = 10V I _D = 2A | 1.6 | | | S |
| TOTAL DEVICE | | | | | |
| G _{PS} Common Source Power Gain | P _O = 40W | 10 | | | dB |
| η Drain Efficiency | V _{DS} = 12.5V I _{DQ} = 1.6A | 50 | | | % |
| VSWR Load Mismatch Tolerance | f = 400MHz | 20:1 | | | — |
| PER SIDE | | | | | |
| C _{iss} Input Capacitance | V _{DS} = 0V 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. 1.0°C / W |
|-----------------------|------------------------------------|----------------|