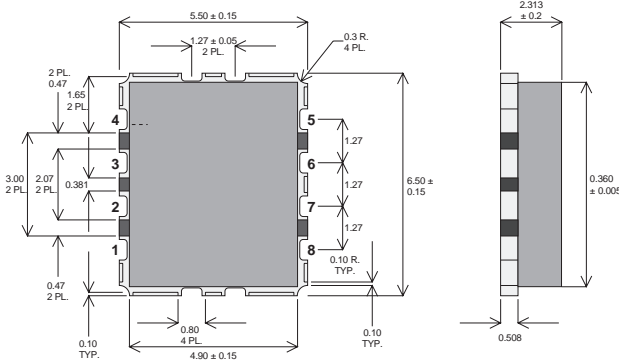


MECHANICAL DATA

Dimensions in mm.

**GOLD METALLISED
MULTI-PURPOSE SILICON
DMOS RF FET
7.5W – 12.5V – 1GHz
SINGLE ENDED**



F-0127 PACKAGE

- PIN 1 – SOURCE
- PIN 2 – DRAIN
- PIN 3 – DRAIN
- PIN 4 – SOURCE
- PIN 5 – SOURCE
- PIN 6 – GATE
- PIN 7 – GATE
- PIN 8 – SOURCE

FEATURES

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

Ceramic Material: Alumina.
Parts can also be supplied with AlN or BeO for improved thermal resistance.
Contact Semelab for details.

APPLICATIONS

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

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

P_D	Power Dissipation	17.5W
BV_{DSS}	Drain – Source Breakdown Voltage	40V
BV_{GSS}	Gate – Source Breakdown Voltage	±20V
$I_{D(sat)}$	Drain Current	6A
T_{stg}	Storage Temperature	-65 to 150°C
T_j	Maximum Operating Junction Temperature	200°C

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
BV_{DSS} Drain–Source Breakdown Voltage	$V_{GS} = 0$ $I_D = 10mA$	40			V
I_{DSS} Zero Gate Voltage Drain Current	$V_{DS} = 12.5V$ $V_{GS} = 0$			3	mA
I_{GSS} Gate Leakage Current	$V_{GS} = 20V$ $V_{DS} = 0$			1	μA
$V_{GS(th)}$ Gate Threshold Voltage*	$I_D = 10mA$ $V_{DS} = V_{GS}$	0.5		7	V
g_{fs} Forward Transconductance*	$V_{DS} = 10V$ $I_D = 0.6A$	0.54			S
G_{PS} Common Source Power Gain	$P_O = 7.5W$	10			dB
η Drain Efficiency	$V_{DS} = 12.5V$ $I_{DQ} = 0.3A$	40			%
VSWR Load Mismatch Tolerance	$f = 1GHz$	20:1			—
C_{iss} Input Capacitance	$V_{DS} = 0V$ $V_{GS} = -5V$ $f = 1MHz$			36	pF
C_{oss} Output Capacitance	$V_{DS} = 12.5V$ $V_{GS} = 0$ $f = 1MHz$			30	pF
C_{rss} Reverse Transfer Capacitance	$V_{DS} = 12.5V$ $V_{GS} = 0$ $f = 1MHz$			3	pF

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

THERMAL DATA

$R_{THj-case}$	Thermal Resistance Junction – Case	Max. 6°C / W
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