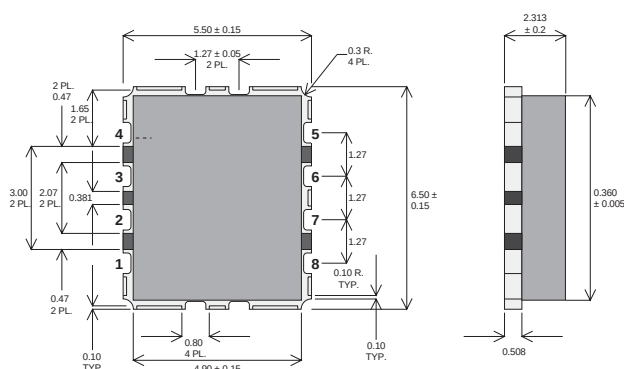


MECHANICAL DATA

Dimensions in mm.



F-0127 PACKAGE

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

Ceramic Material: Alumina.

Parts can also be supplied with AlN or BeO for improved thermal resistance.

Contact Semelab for details.

GOLD METALLISED MULTI-PURPOSE SILICON DMOS RF FET 5W – 12.5V – 1GHz SINGLE ENDED

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 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	4A
T_{stg}	Storage Temperature	–65 to 150°C
T_j	Maximum Operating Junction Temperature	200°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 ($T_{case} = 25^{\circ}\text{C}$ unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
BV_{DSS} Drain-Source Breakdown Voltage	$V_{GS} = 0$ $I_D = 10\text{mA}$	40			V
I_{DSS} Zero Gate Voltage Drain Current	$V_{DS} = 12.5\text{V}$ $V_{GS} = 0$			2	mA
I_{GSS} Gate Leakage Current	$V_{GS} = 20\text{V}$ $V_{DS} = 0$			1	μA
$V_{GS(th)}$ Gate Threshold Voltage*	$I_D = 10\text{mA}$ $V_{DS} = V_{GS}$	0.5		7	V
g_{fs} Forward Transconductance*	$V_{DS} = 10\text{V}$ $I_D = 0.4\text{A}$	0.36			S
G_{PS} Common Source Power Gain	$P_O = 5\text{W}$	10			dB
η Drain Efficiency	$V_{DS} = 12.5\text{V}$ $I_{DQ} = 0.2\text{A}$	40			%
VSWR Load Mismatch Tolerance	$f = 1\text{GHz}$	20:1			—
C_{iss} Input Capacitance	$V_{DS} = 0\text{V}$ $V_{GS} = -5\text{V}$ $f = 1\text{MHz}$			24	pF
C_{oss} Output Capacitance	$V_{DS} = 12.5\text{V}$ $V_{GS} = 0$ $f = 1\text{MHz}$			20	pF
C_{rss} Reverse Transfer Capacitance	$V_{DS} = 12.5\text{V}$ $V_{GS} = 0$ $f = 1\text{MHz}$			2	pF

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

THERMAL DATA

$R_{THj-case}$	Thermal Resistance Junction – Case	Max. $6^{\circ}\text{C} / \text{W}$
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