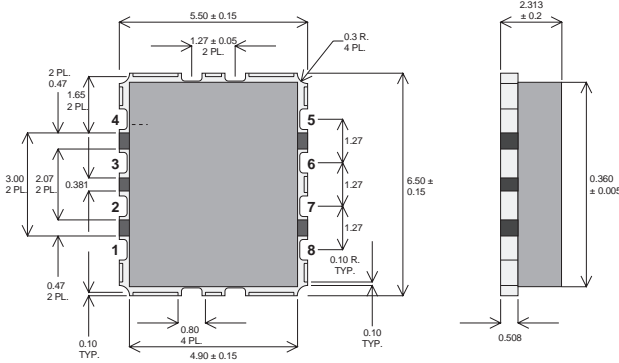


**MECHANICAL DATA**

Dimensions in mm.

**GOLD METALLISED  
MULTI-PURPOSE SILICON  
DMOS RF FET  
5W – 28V – 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 – 13 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 1 GHz

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

$P_D$	Power Dissipation	30W
$BV_{DSS}$	Drain – Source Breakdown Voltage *	65V
$BV_{GSS}$	Gate – Source Breakdown Voltage*	±20V
$I_{D(sat)}$	Drain Current	2A
$T_{stg}$	Storage Temperature	-65 to 150°C
$T_j$	Maximum Operating Junction Temperature	200°C

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$BV_{DSS}$ Drain–Source Breakdown Voltage	$V_{GS} = 0$ $I_D = 10\text{mA}$	65			V
$I_{DSS}$ Zero Gate Voltage Drain Current	$V_{DS} = 28\text{V}$ $V_{GS} = 0$			2	mA
$I_{GSS}$ Gate Leakage Current	$V_{GS} = 20\text{V}$ $V_{DS} = 0$			1	$\mu\text{A}$
$V_{GS(th)}$ Gate Threshold Voltage*	$I_D = 10\text{mA}$ $V_{DS} = V_{GS}$	1		5	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	$P_O = 5\text{W}$	13			dB
$\eta$ Drain Efficiency	$V_{DS} = 28\text{V}$ $I_{DQ} = 0.4\text{A}$	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	$V_{DS} = 28\text{V}$ $V_{GS} = 0$ $f = 1\text{MHz}$			12	pF
$C_{rss}$ Reverse Transfer Capacitance	$V_{DS} = 28\text{V}$ $V_{GS} = 0$ $f = 1\text{MHz}$			1	pF

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

**THERMAL DATA**

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