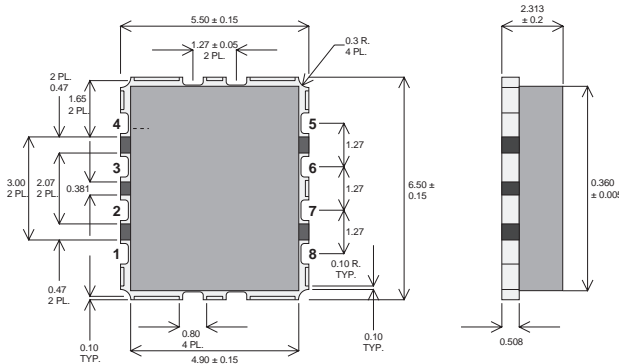


**MECHANICAL DATA**

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 – 7.2V – 850MHz  
SINGLE ENDED**

**FEATURES**

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

**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	29W
$BV_{DSS}$	Drain – Source Breakdown Voltage	40V
$BV_{GSS}$	Gate – Source Breakdown Voltage	±20V
$I_{D(sat)}$	Drain Current	8A
$T_{stg}$	Storage Temperature	-65 to 150°C
$T_j$	Maximum Operating Junction Temperature	200°C

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$BV_{\text{DSS}}$ Drain–Source Breakdown Voltage	$V_{\text{GS}} = 0$ $I_{\text{D}} = 10\text{mA}$	40			V
$I_{\text{DSS}}$ Zero Gate Voltage Drain Current	$V_{\text{DS}} = 12.5\text{V}$ $V_{\text{GS}} = 0$			1	mA
$I_{\text{GSS}}$ Gate Leakage Current	$V_{\text{GS}} = 20\text{V}$ $V_{\text{DS}} = 0$			4	$\mu\text{A}$
$V_{\text{GS(th)}}$ Gate Threshold Voltage*	$I_{\text{D}} = 10\text{mA}$ $V_{\text{DS}} = V_{\text{GS}}$	0.5		7	V
$g_{\text{fs}}$ Forward Transconductance*	$V_{\text{DS}} = 10\text{V}$ $I_{\text{D}} = 0.8\text{A}$	0.72			S
$G_{\text{PS}}$ Common Source Power Gain	$P_{\text{O}} = 5\text{W}$	7			dB
$\eta$ Drain Efficiency	$V_{\text{DS}} = 7.2\text{V}$ $I_{\text{DQ}} = 0.4\text{A}$	50			%
VSWR Load Mismatch Tolerance	$f = 850\text{MHz}$	20:1			—
$C_{\text{iss}}$ Input Capacitance	$V_{\text{DS}} = 0\text{V}$ $V_{\text{GS}} = -5\text{V}$ $f = 1\text{MHz}$			48	pF
$C_{\text{oss}}$ Output Capacitance	$V_{\text{DS}} = 12.5\text{V}$ $V_{\text{GS}} = 0$ $f = 1\text{MHz}$			40	pF
$C_{\text{rss}}$ Reverse Transfer Capacitance	$V_{\text{DS}} = 12.5\text{V}$ $V_{\text{GS}} = 0$ $f = 1\text{MHz}$			4	pF

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

**THERMAL DATA**

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