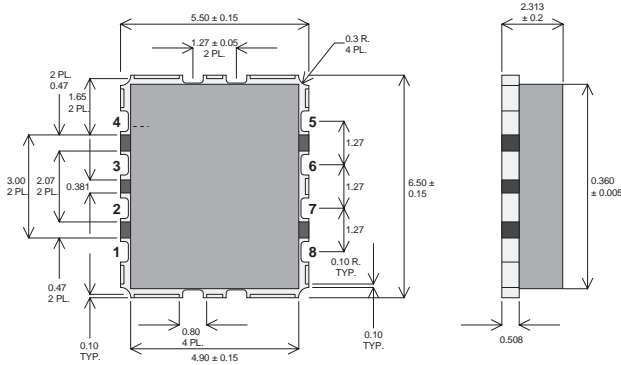


MECHANICAL DATA

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_{DSS} Drain–Source Breakdown Voltage	$V_{\text{GS}} = 0$ $I_{\text{D}} = 10\text{mA}$	40			V
I_{DSS} Zero Gate Voltage Drain Current	$V_{\text{DS}} = 12.5\text{V}$ $V_{\text{GS}} = 0$			1	mA
I_{GSS} Gate Leakage Current	$V_{\text{GS}} = 20\text{V}$ $V_{\text{DS}} = 0$			4	μA
$V_{\text{GS(th)}}$ Gate Threshold Voltage*	$I_{\text{D}} = 10\text{mA}$ $V_{\text{DS}} = V_{\text{GS}}$	0.5		7	V
g_{fs} Forward Transconductance*	$V_{\text{DS}} = 10\text{V}$ $I_{\text{D}} = 0.8\text{A}$	0.72			S
G_{PS} Common Source Power Gain	$P_{\text{O}} = 5\text{W}$	7			dB
η 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_{iss} Input Capacitance	$V_{\text{DS}} = 0\text{V}$ $V_{\text{GS}} = -5\text{V}$ $f = 1\text{MHz}$			48	pF
C_{oss} Output Capacitance	$V_{\text{DS}} = 12.5\text{V}$ $V_{\text{GS}} = 0$ $f = 1\text{MHz}$			40	pF
C_{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 μs , Duty Cycle $\leq 2\%$

THERMAL DATA

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