

# MICROWAVE POWER GaAs FET

# TIM1011-4UL

#### MICROWAVE SEMICONDUCTOR TECHNICAL DATA

#### **FEATURES**

- **·BROAD BAND INTERNALLY MATCHED FET**
- **HIGH POWER**

P1dB= 36.5dBm at 10.7GHz to 11.7GHz

·HIGH GAIN

G1dB= 9.5dB at 10.7GHz to 11.7GHz

**-LOW INTERMODULATION DISTOTION** 

IM3=-45dBc at Pout= 24.0dBm

Single Carrier Level

·HERMETICALLY SEALED PACKAGE



#### RF PERFORMANCE SPECIFICATIONS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Output Power at 1dB Gain Compression Point	P1dB	VDS= 10V DSset= 1.0A f=10.7 to 11.7 GHz	dBm	35.5	36.5	
Power Gain at 1dB Gain Compression Point	G1dB		dB	8.5	9.5	
Drain Current	IDS1		Α		1.1	1.6
Gain Flatness	ΔG		dB	_	_	±0.8
Power Added Efficiency	ηadd		%		36	
3rd Order Intermodulation Distortion	IM3	Two Tone Test Po= 24.0dBm, ∆f= 5MHz (Single Carrier Level)	dBc	-42	-45	
Drain Current	IDS2		Α	_	1.1	1.6
Channel Temperature Rise	∆Tch	(VDS X IDS + Pin – P1dB) X Rth(c-c)	°C		_	60

Recommended Gate Resistance(Rg): 150  $\Omega$ 

# **ELECTRICAL CHARACTERISTICS (Ta= 25°C)**

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 3V IDS= 1.2A	S	_	1.2	_
Pinch-off Voltage	VGSoff	VDS= 3V IDS= 40mA	V	-0.5	-2.0	-4.5
Saturated Drain Current	IDSS	VDS= 3V VGS= 0V	Α	_	2.2	_
Gate-Source Breakdown Voltage	VGSO	IGS= -40μA	V	-5	_	_
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W	_	3.8	4.4

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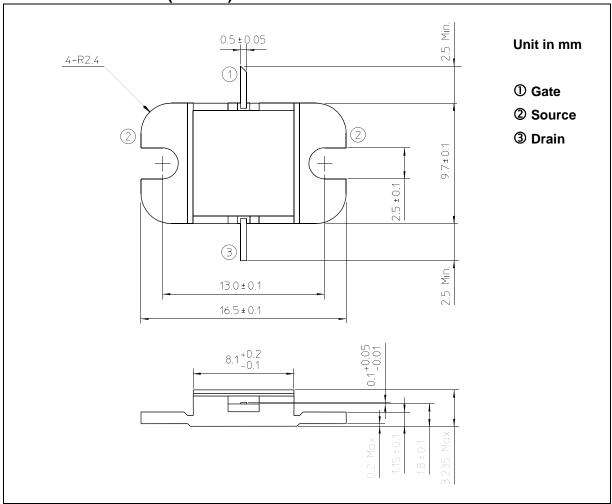


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## ABSOLUTE MAXIMUM RATINGS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	UNIT	RATING
Drain-Source Voltage	VDS	V	15
Gate-Source Voltage	VGS	V	-5
Drain Current	IDS	А	3.3
Total Power Dissipation (Tc= 25°C)	PT	W	34.1
Channel Temperature	Tch	°C	175
Storage Temperature	Tstg	°C	-65 to +175

### **PACKAGE OUTLINE (2-9D1B)**



#### HANDLING PRECAUTIONS FOR PACKAGE MODEL

Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C or 3 seconds at 350°C.