

### MICROWAVE POWER GAAS FET

MICROWAVE SEMICONDUCTOR TECHNICAL DATA

TIM0910-8

#### **FEATURES**

- ·BROAD BAND INTERNALLY MATCHED FET
- ·HIGH POWER

P1dB= 39.5dBm at 9.5GHz to 10.5GHz

·HIGH GAIN

G1dB= 6.0dB at 9.5GHz to 10.5GHz

·HERMETICALLY SEALED PACKAGE



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

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Output Power at 1dB Gain Compression Point	P1dB		dBm	38.5	39.5	_
Power Gain at 1dB Gain Compression Point	G1dB	VDS= 9V IDSset= 4.0A	dB	5.0	6.0	_
Drain Current	IDS	f = 9.5 to 10.5GHz	Α	_	3.4	4.4
Power Added Efficiency	ηadd		%	_	22	_
Channel Temperature Rise	ΔTch	(VDS X IDS + Pin – P1dB) X Rth(c-c)	°C			80

Recommended Gate Resistance(Rg): 100  $\Omega$ 

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

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 3V IDS= 4.0A	S	_	2.4	_
Pinch-off Voltage	VGSoff	VDS= 3V IDS= 120mA	V	-2.0	-3.5	-5.0
Saturated Drain Current	IDSS	VDS= 3V VGS= 0V	Α	_	8.0	_
Gate-Source Breakdown Voltage	VGSO	IGS= -120 <sub>μ</sub> A	V	-5	_	_
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W		1.6	2.5

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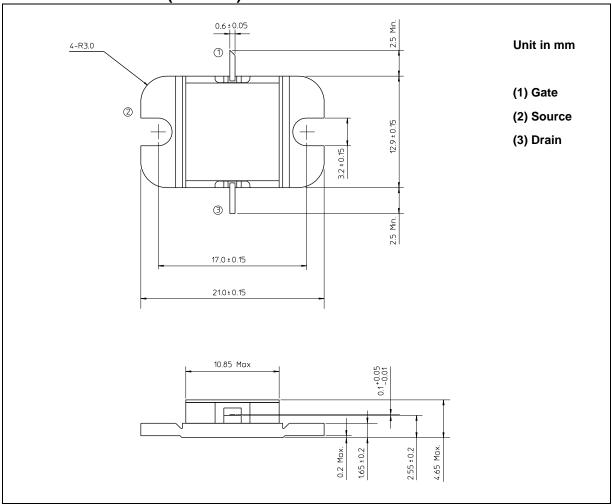


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## ABSOLUTE MAXIMUM RATINGS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	UNIT	RATING
Drain-Source Voltage	VDS	V	15
Gate-Source Voltage	VGS	V	-5
Drain Current	IDS	А	10.4
Total Power Dissipation (Tc= 25°C)	PT	W	60
Channel Temperature	Tch	°C	175
Storage	Tstg	°C	-65 to +175

## **PACKAGE OUTLINE (2-11C1B)**



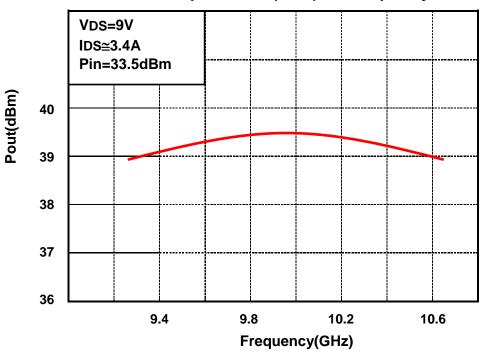
#### HANDLING PRECAUTIONS FOR PACKAGE MODEL

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

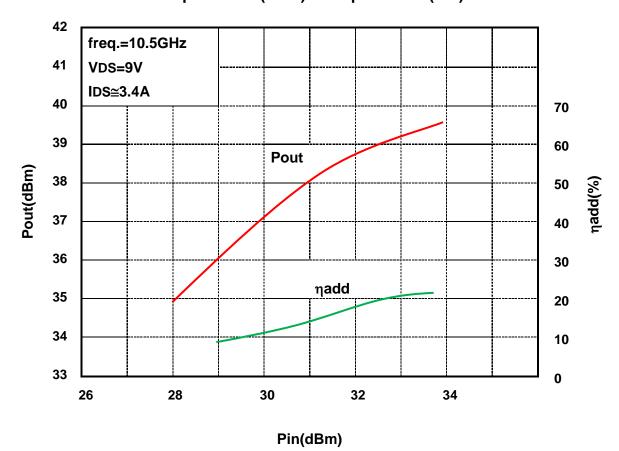


#### **RF PERFORMANCE**

**Output Power (Pout) vs. Frequency** 



## **Output Power(Pout) vs. Input Power(Pin)**



# **Power Dissipation(PT) vs. Case Temperature(Tc)**

