## **TOSHIBA**

# MICROWAVE SEMICONDUCTOR TECHNICAL DATA

# MICROWAVE POWER GaAs FET TIM6472-4UL

#### **FEATURES**

- HIGH POWER
  P1dB=36.5dBm at 6.4GHz to 7.2GHz
- HIGH GAIN
  G1dB= 9.5dB at 6.4GHz to 7.2GHz
- BROAD BAND INTERNALLY MATCHED FET
- HERMETICALLY SEALED PACKAGE

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

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Output Power at 1dB Gain	P1dB		dBm	35.5	36.5	_
Compression Point						
Power Gain at 1dB Gain	G1dB	VDS= 10V	dB	8.5	9.5	
Compression Point		IDSset=0.9A				
Drain Current	IDS1	f = 6.4 to 7.2GHz	Α		1.1	1.3
Gain Flatness	ΔG		dB			±0.6
Power Added Efficiency	ηadd		%		36	
3rd Order Intermodulation	IM3	Two-Tone Test	dBc	-44	-47	
Distortion		Po= 25.5dBm				
Drain Current	IDS2	(Single Carrier Level)	Α		1.1	1.3
Channel Temperature Rise	∆Tch	(VDS X IDS + Pin – P1dB) X Rth(c-c)	°C	_	_	80

Recommended gate resistance(Rg) : Rg= 150  $\Omega$ (MAX.)

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

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 3V	mS		900	_
		IDS= 1.5A				
Pinch-off Voltage	VGSoff	VDS= 3V	V	-1.0	-2.5	-4.0
		IDS= 15mA				
Saturated Drain Current	IDSS	VDS= 3V	Α		2.6	_
		VGS= 0V				
Gate-Source Breakdown	VGSO	IGS= -50μA	V	-5		_
Voltage						
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W		4.5	6.0

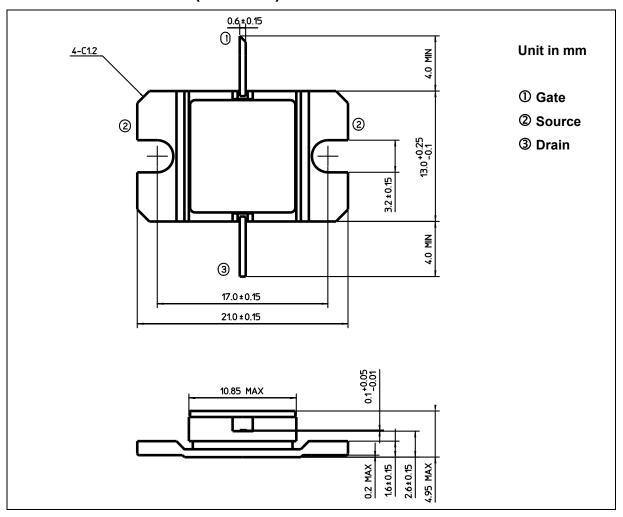
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The information contained herein is subject to change without prior notice. It is therefor advisable to contact TOSHIBA before proceeding with design of equipment incorporating this product.

## 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	Α	3.5
Total Power Dissipation (Tc= 25 °C)	РТ	W	25
Channel Temperature	Tch	°C	175
Storage	Tstg	°C	-65 to +175

# PACKAGE OUTLINE (2-11D1B)

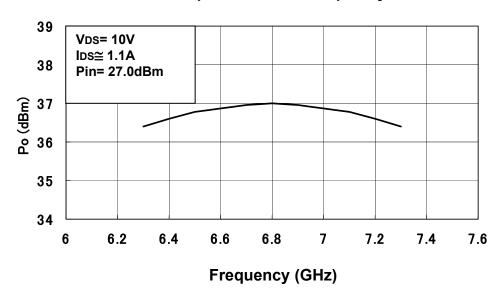


#### HANDLING PRECAUTIONS FOR PACKAGE MODEL

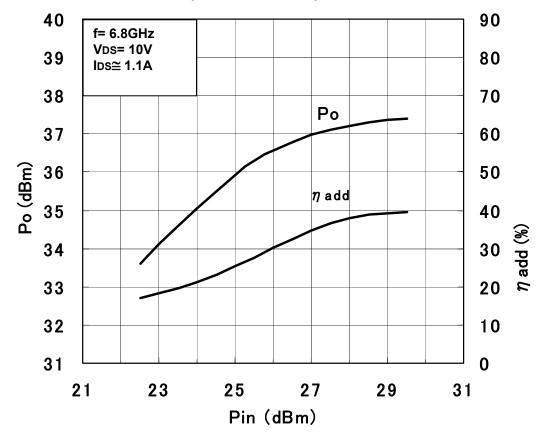
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C.

#### **RF PERFORMANCE**

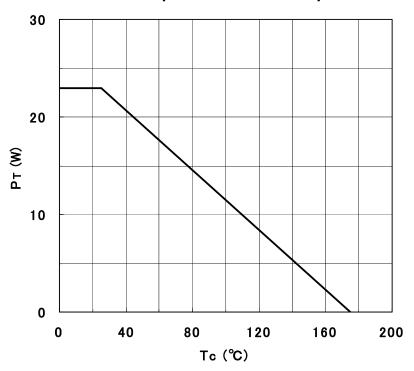
## **Output Power vs. Frequency**



### **Output Power vs. Input Power**



## Power Dissipation vs. Case Temperature



IM3 vs. Output Power Characteristics

