

TOSHIBA

MICROWAVE SEMICONDUCTOR
TECHNICAL DATA

MICROWAVE POWER GaAs FET TIM6472-6UL

FEATURES

n **HIGH POWER**

P1dB=38.5dBm at 6.4GHz to 7.2GHz

n **HIGH GAIN**

G1dB=9.5dB at 6.4GHz to 7.2GHz

n **BROAD BAND INTERNALLY MATCHED FET**

n **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 f = 6.4 to 7.2GHz	dBm	37.5	38.5	—
Power Gain at 1dB Gain Compression Point	G1dB		dB	8.5	9.5	—
Drain Current	IDS1		A	—	1.6	1.9
Gain Flatness	ΔG		dB	—	—	±0.6
Power Added Efficiency	ηadd		%	—	39	—
3rd Order Intermodulation Distortion	IM3		Two-Tone Test Po= 27.5dBm	dBc	-44	-47
Drain Current	IDS2	(Single Carrier Level)	A	—	1.6	1.9
Channel Temperature Rise	ΔTch	(VDS X IDS +Pin-P1dB) X Rth(c-c)	°C	—	—	80

Recommended gate resistance(Rg) : Rg= 150 W(MAX.)

ELECTRICAL CHARACTERISTICS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 3V IDS= 2.0A	mS	—	1240	—
Pinch-off Voltage	VGSoff	VDS= 3V IDS= 20mA	V	-1.0	-2.5	-4.0
Saturated Drain Current	IDSS	VDS= 3V VGS= 0V	A	—	3.6	—
Gate-Source Breakdown Voltage	VGSO	IGS= -70μA	V	-5	—	—
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W	—	3.8	4.6

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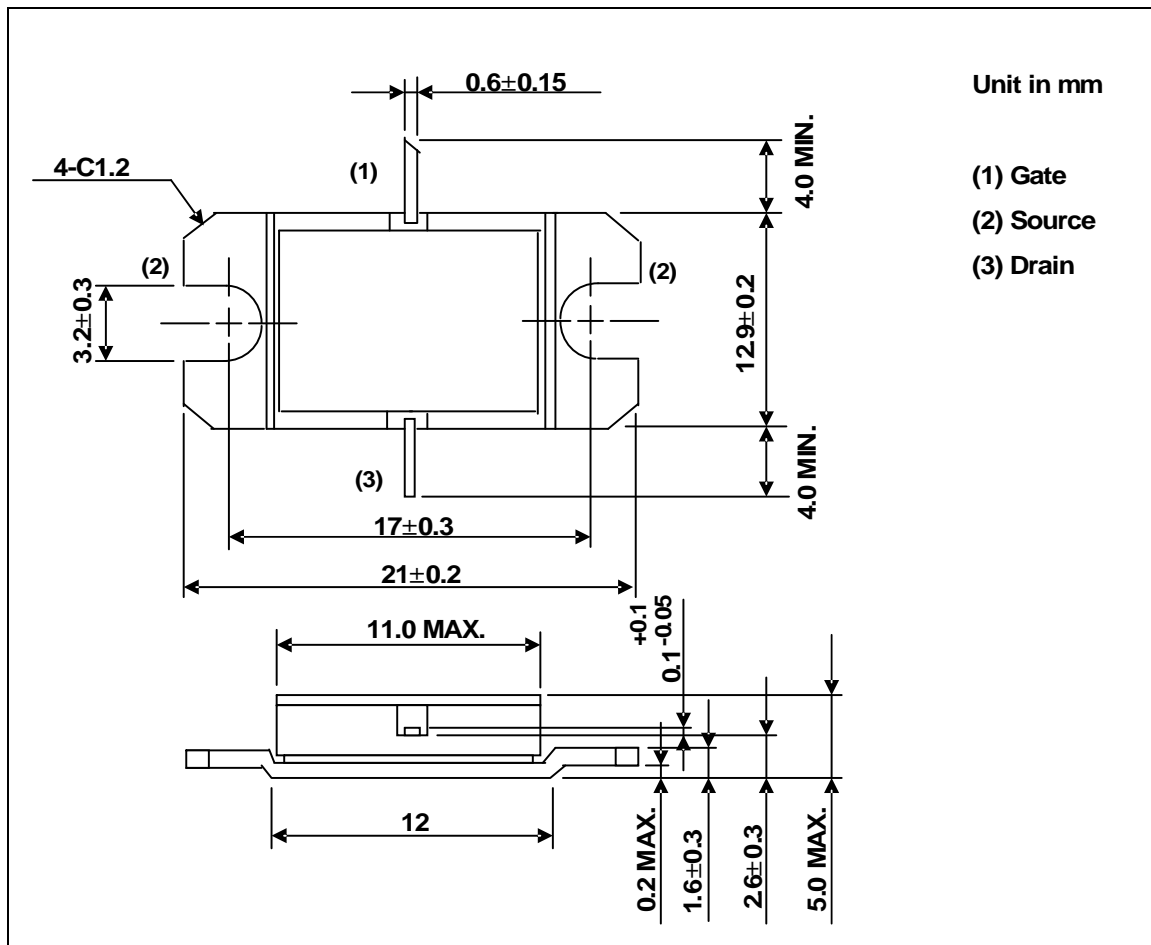
TOSHIBA CORPORATION

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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	A	5.0
Total Power Dissipation (Tc= 25 °C)	PT	W	32.6
Channel Temperature	Tch	°C	175
Storage	Tstg	°C	-65 to +175

PACKAGE OUTLINE (2-11D1B)

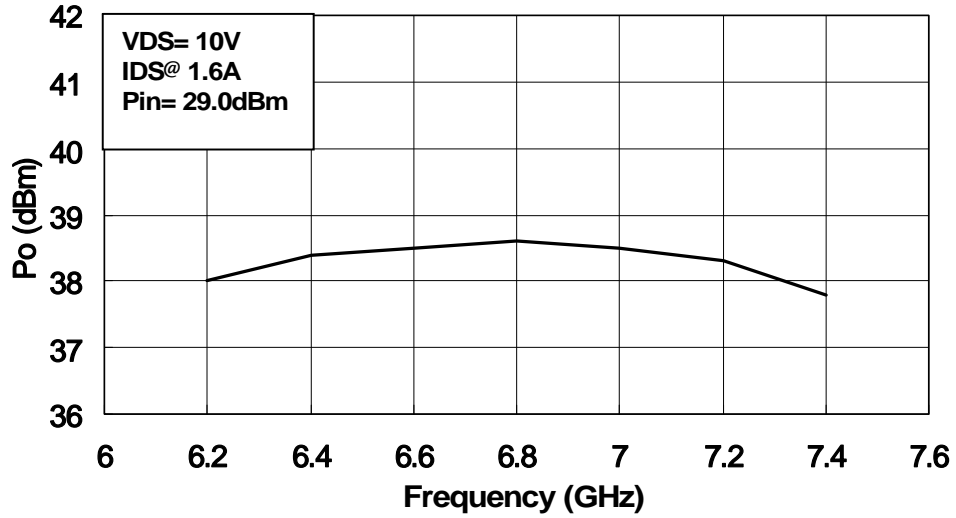


HANDLING PRECAUTIONS FOR PACKAGE MODEL

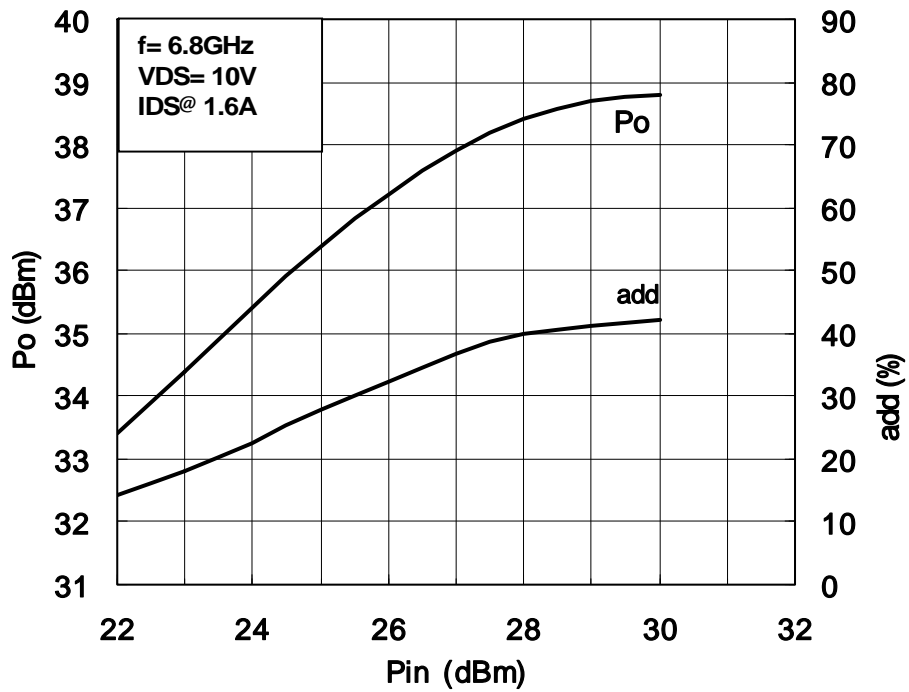
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C.

RF PERFORMANCE

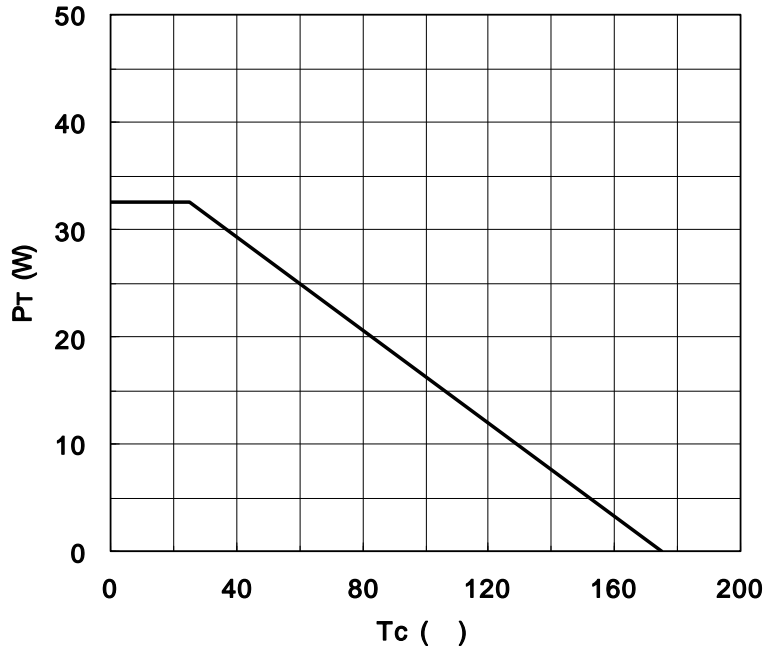
Output Power vs. Frequency



Output Power vs. Input Power



Power Dissipation vs. Case Temperature



IM3 vs. Output Power Characteristics

