# TOSHIBA

# MICROWAVE POWER GaAs FET TIM5964-25UL

MICROWAVE SEMICONDUCTOR TECHNICAL DATA

#### **FEATURES**

- **·BROAD BAND INTERNALLY MATCHED FET**
- ·HIGH POWER
  - P1dB= 44.5dBm at 5.9GHz to 6.4GHz

#### ·HIGH GAIN

- G1dB= 10.0dB at 5.9GHz to 6.4GHz
- ·HERMETICALLY SEALED PACKAGE



CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Output Power at 1dB Gain Compression Point	P1dB	VDS= 10V IDSset= 5.2A f = 5.9 to 6.4GHz	dBm	43.5	44.5	_
Power Gain at 1dB Gain Compression Point	G1dB		dB	9.0	10.0	
Drain Current	IDS1		А	_	6.8	7.6
Gain Flatness	ΔG		dB			±0.6
Power Added Efficiency	ηadd		%		37	
3rd Order Intermodulation Distortion	IM3	Two Tone Test Po= 33.5dBm, ∆f= 5MHz (Single Carrier Level)	dBc	-44	-47	
Drain Current	IDS2		А		5.2	6.0
Channel Temperature Rise	∆Tch	(VDS X IDS + Pin – P1dB) X Rth(c-c)	°C			80

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

Recommended Gate Resistance(Rg): 28  $\Omega$ 

## ELECTRICAL CHARACTERISTICS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 3V IDS= 8.0A	S	_	5.0	_
Pinch-off Voltage	VGSoff	VDS= 3V IDS= 80mA	V	-1.0	-2.5	-4.0
Saturated Drain Current	IDSS	VDS= 3V VGS= 0V	А		14.4	
Gate-Source Breakdown Voltage	VGSO	IGS= -280µA	V	-5		
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W		1.2	1.5

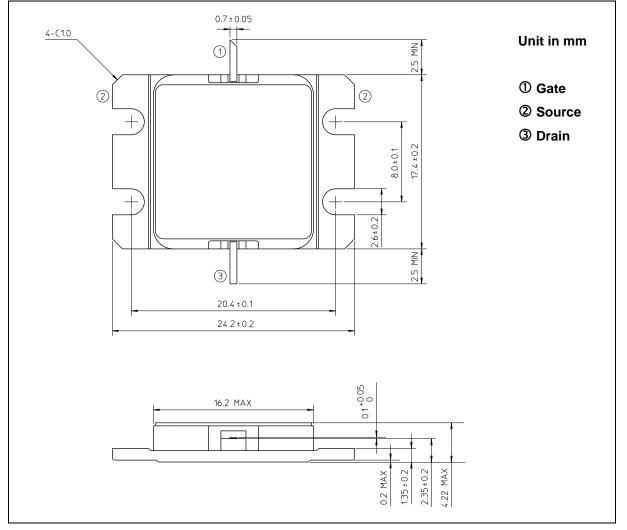
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## ABSOLUTE MAXIMUM RATINGS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	UNIT	RATING		
Drain-Source Voltage	VDS	V	15		
Gate-Source Voltage	VGS	V	-5		
Drain Current	IDS	A	20.0		
Total Power Dissipation (Tc= 25°C)	PT	W	100		
Channel Temperature	Tch	°C	175		
Storage Temperature	Tstg	°C	-65 to +175		

## PACKAGE OUTLINE (2-16G1B)



## 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.

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#### **RF PERFORMANCE**

