TOSHIBA

MICROWAVE POWER GaAs FET TIM1414-2L

MICROWAVE SEMICONDUCTOR TECHNICAL DATA

FEATURES

- ·BROAD BAND INTERNALLY MATCHED FET ·HIGH POWER
- P1dB= 33.5dBm at 14.0GHz to 14.5GHz

·HIGH GAIN

G1dB= 7.5dB at 14.0GHz to 14.5GHz

HERMETICALLY SEALED PACKAGE



CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Output Power at 1dB Gain Compression Point	P1dB	VDS= 9V IDSset= 1.0A f= 14.0 to 14.5GHz	dBm	32.5	33.5	
Power Gain at 1dB Gain Compression Point	G1dB		dB	6.5	7.5	
Drain Current	IDS1		А		0.85	1.1
Gain Flatness	ΔG		dB			±0.8
Power Added Efficiency	ηadd		%		24	
3rd Order Intermodulation Distortion	IM3	Two Tone Test Po= 22.0dBm, ∆f= 5MHz (Single Carrier Level)	dBc	-42	-45	
Drain Current	IDS2		А		0.85	1.1
Channel Temperature Rise	∆Tch	(VDS X IDS + Pin – P1dB) X Rth(c-c)	°C			60

RF PERFORMANCE SPECIFICATIONS (Ta= 25°C)

Recommended Gate Resistance(Rg): 150 Ω

ELECTRICAL CHARACTERISTICS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 3V IDS= 1.0A	S	_	0.6	_
Pinch-off Voltage	VGSoff	VDS= 3V IDS= 30mA	V	-2.0	-3.5	-5.0
Saturated Drain Current	IDSS	VDS= 3V VGS= 0V	А	_	2.0	_
Gate-Source Breakdown Voltage	VGSO	IGS= -30μΑ	V	-5		_
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W	_	5.0	6.0

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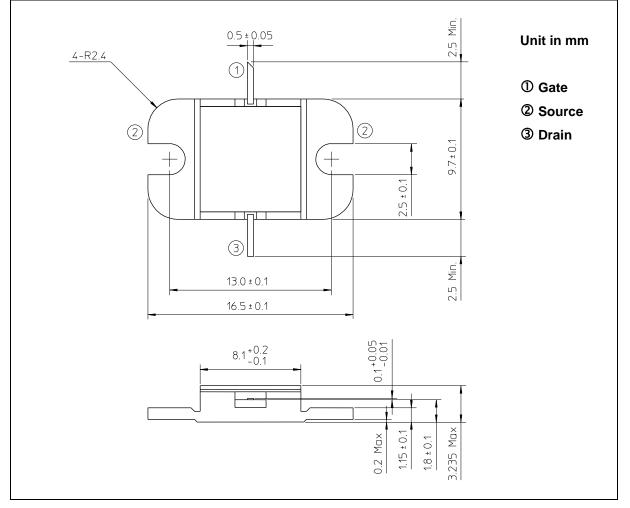
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ABSOLUTE MAXIMUM RATINGS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	UNIT	RATING
Drain-Source Voltage	VDS	V	15
Gate-Source Voltage	VGS	V	-5
Drain Current	IDS	A	2.6
Total Power Dissipation (Tc= 25°C)	PT	W	25
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.