TOSHIBA

MICROWAVE SEMICONDUCTOR TECHNICAL DATA

MICROWAVE POWER GaAs FET TIM1414-4LA PRELIMINARY

FEATURES

- **HIGH POWERT**
 - P1dB=36.5dBm at 14.0GHz to 14.5GHz
- BROAD BAND INTERNALLY MATCHED
- **HERMETICALLY SEALED PACKAGE**

■ HIGH GAIN

G1dB=6.5dB at 14.0GHz to 14.5GHz

RF PERFORMANCE SPECIFICATIONS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Output Power at 1dB	P1dB		dBm	36.0	36.5	
Compression Point						
Power Gain at 1dB	G1dB	VDS= 9V	dB	6.0	6.5	
Compression Point		f= 14.0 to 14.5GHz				
Drain Current	IDS1		Α		1.7	2.2
Gain Flatness	ΔG		dB	_		±0.8
Power Added Efficiency	ηadd		%		23	
3 rd Order Intermodulation	IM3		dBc	-42	-45	
Distortion		NOTE				
Drain Current	IDS2		Α		1.7	2.2
Channel Temperature Rise	ΔTch	VDS X IDS X Rth(c-c)	°C		_	70

NOTE: Two Tone Test, Po=25dBm (Single Carrier Level)

ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTICS	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 3V	mS		1200	_
		IDS= 2.0A				
Pinch-off Voltage	VGSoff	VDS= 3V	V	-2.0	-3.5	-5.0
		IDS= 60mA				
Saturated Drain Current	IDSS	VDS= 3V	Α		4.0	5.2
		VGS= 0V				
Gate-Source Breakdown	VGSO	IGS= -60μA	V	-5		
Voltage						
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W		2.9	3.5

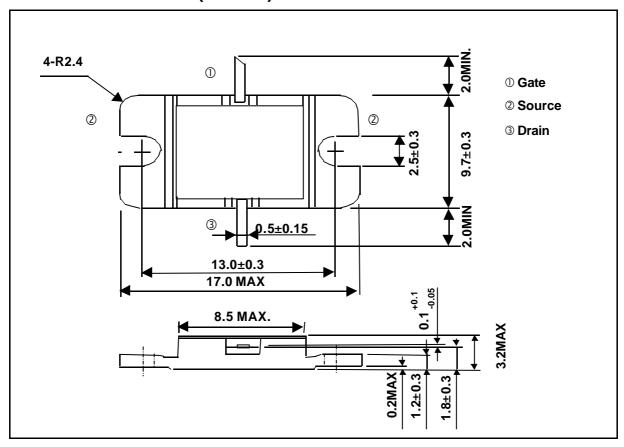
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ABSOLUTE MAXIMUM RATINGS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	UNIT	RATING
Drain-Source Voltage	VDS	V	15
Gate-Source Voltage	VGS	V	-5
Drain Current	IDS	Α	5.2
Total Power Dissipation (Tc= 25 °C)	РТ	W	30
Channel Temperature	Tch	°C	175
Storage Temperature	Tstg	°C	-65 to +175

PACKAGE OUTLINE (2-9D1B)



HANDLING PRECAUTIONS FOR PACKAGED TYPE

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