

TOSHIBA**MICROWAVE SEMICONDUCTOR**
TECHNICAL DATA**MICROWAVE POWER GaAs FET**
TIM1011-4UL

FEATURES

■ LOW INTERMODULATION DISTORTION

IM3=-45 dBc at Pout= 24.0dBm

Single Carrier Level

■ HIGH POWER

P1dB=36.5dBm at 10.7GHz to 11.7GHz

■ HIGH GAIN

G1dB=9.5dB at 10.7GHz to 11.7GHz

■ 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 Compression Point	P1dB	VDS= 10V IDSset \leq 1.0A f= 10.7 to 11.7GHz	dBm	35.5	36.5	—
Power Gain at 1dB Gain Compression Point	G1dB		dB	8.5	9.5	—
Drain Current	IDS1		A	—	1.1	1.6
Gain Flatness	ΔG		dB	—	—	± 0.8
Power Added Efficiency	η_{add}		%	—	36	—
3 rd Order Intermodulation Distortion	IM3	Two-Tone Test Po=24.0 dBm (Single Carrier Level)	dBc	-42	-45	—
Drain Current	IDS2		A	—	1.1	1.6
Channel Temperature Rise	ΔT_{ch}	(VDS x IDS + Pin - P1dB) x Rth(c-c)	°C	—	—	60

Recommended gate resistance(Rg) : Rg= 150 Ω (MAX.)**ELECTRICAL CHARACTERISTICS (Ta= 25°C)**

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 3V IDS= 1.2A	mS	—	1200	—
Pinch-off Voltage	VGSoff	VDS= 3V IDS= 40mA	V	-0.5	-2.0	-4.5
Saturated Drain Current	IDSS	VDS= 3V VGS= 0V	A	—	2.2	—
Gate-Source Breakdown Voltage	VGSO	IGS= -40 μ A	V	-5	—	—
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W	—	3.8	4.4

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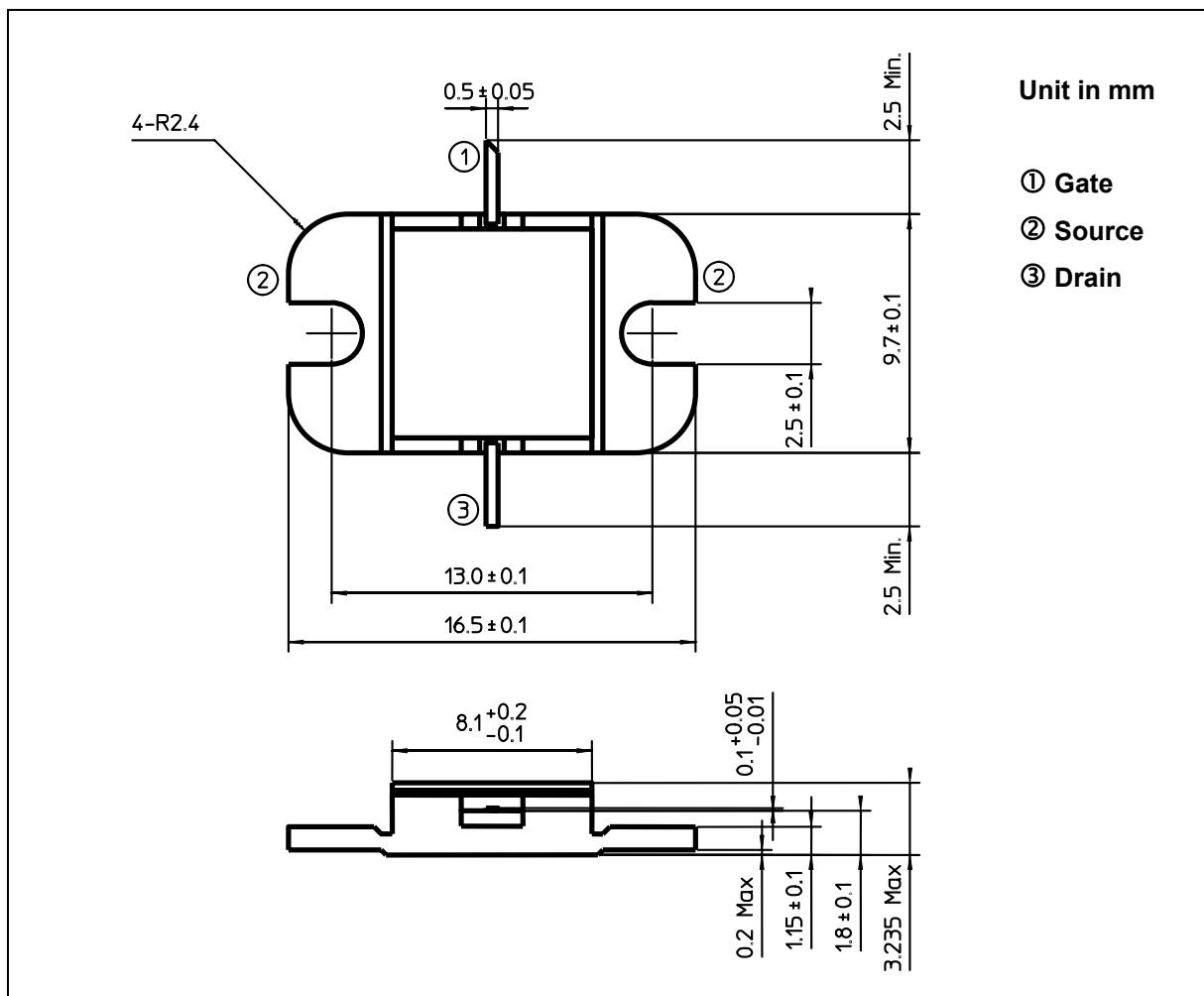
The information contained herein is subject to change without prior notice. It is therefore advisable to contact TOSHIBA before proceeding with design of equipment incorporating this product.

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	3.3
Total Power Dissipation (Tc= 25 °C)	PT	W	34.1
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.