

TOSHIBA
MICROWAVE SEMICONDUCTOR
TECHNICAL DATA

MICROWAVE POWER GaAs FET
TIM8596-15

PRELIMINARY

FEATURES

■ **HIGH POWER**

P1dB=42.0dBm at 8.5GHz to 9.6GHz

■ **HIGH GAIN**

G1dB=7.0dB at 8.5GHz to 9.6GHz

■ **BROAD BAND INTERNALLY MATCHED**

■ **HERMETICALLY SEALED PACKAGE**

RF PERFORMANCE SPECIFICATIONS (Ta= 25° C)

CHARACTERISTICS	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Output Power at 1dB Compression Point	P1dB	VDS= 9V f = 8.5 – 9.6GHz	dBm	41.0	42.0	—
Power Gain at 1dB Compression Point	G1dB		dB	6.0	7.0	—
Drain Current	IDS		A	—	4.5	5.5
Power Added Efficiency	η_{add}		%	—	31	—
Channel Temperature Rise	ΔT_{ch}	VDS×IDS×Rth(c-c)	°C	—	—	100

ELECTRICAL CHARACTERISTICS (Ta= 25° C)

CHARACTERISTICS	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 2V IDS= 4.8A	mS	—	3000	—
Pinch-off Voltage	VGSoff	VDS= 2V IDS= 145mA	V	-1.5	-3.0	-4.5
Saturated Drain Current	IDSS	VDS= 3V VGS= 0V	A	—	10.0	11.5
Gate-Source Breakdown Voltage	VGSO	IGS= -145 μ A	V	-5	—	—
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W	—	2.0	2.5

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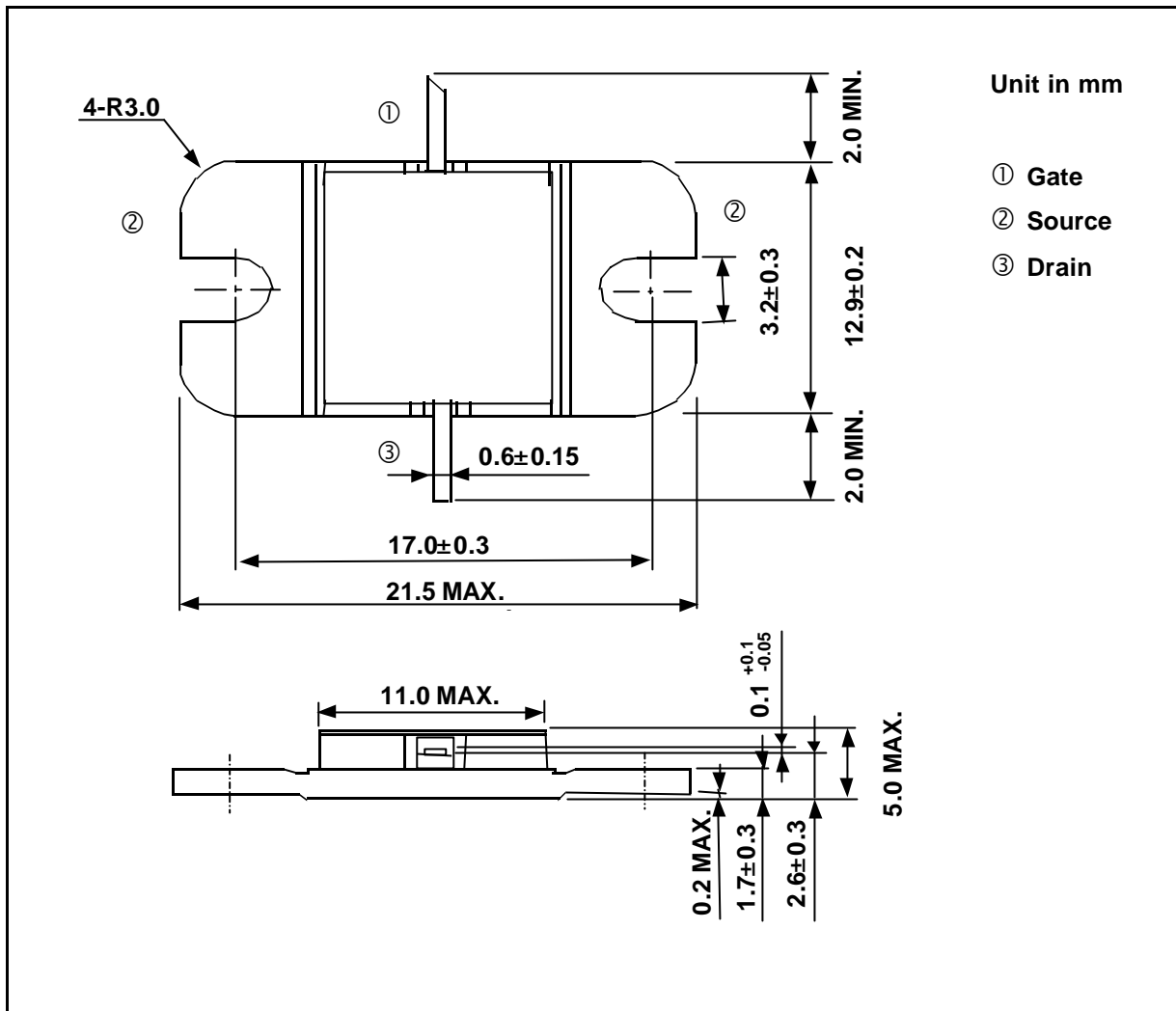
The information contained herein is subject to change without prior notice. It is therefor advisable to contact TOSHIBA before proceeding with design of equipment incorporating this product.



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	11.5
Total Power Dissipation (Tc= 25 °C)	PT	W	60
Channel Temperature	Tch	°C	175
Storage	Tstg	°C	-65 ~ +175

PACKAGE OUTLINE (2-11C1B)



HANDLING PRECAUTIONS FOR PACKAGED TYPE

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