

**FEATURES**

n **HIGH POWER**

P1dB=44.5dBm at 3.7GHz to 4.2GHz

n **HIGH GAIN**

G1dB=10.5dB at 3.7GHz to 4.2GHz

n **BROAD BAND INTERNALLY MATCHED FET**

n **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 f = 3.7 to 4.2GHz	dBm	43.5	44.5	—
Power Gain at 1dB Gain Compression Point	G1dB		dB	9.5	10.5	—
Drain Current	IDS1		A	—	6.8	7.6
Gain Flatness	ΔG		dB	—	—	±0.6
Power Added Efficiency	η <sub>add</sub>		%	—	38	—
3rd Order Intermodulation Distortion	IM3		Two-Tone Test Po=33.5dBm	dBc	-44	-47
Drain Current	IDS2	(Single Carrier Level)	A	—	6.8	7.6
Channel Temperature Rise	ΔT <sub>ch</sub>	(VDS X IDS + Pin – P1dB) X Rth(c-c)	°C	—	—	80

**Recommended gate resistance(Rg) : Rg= 28 W(MAX.)**

**ELECTRICAL CHARACTERISTICS ( Ta= 25°C )**

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 3V IDS= 8.0A	mS	—	5000	—
Pinch-off Voltage	VGS <sub>off</sub>	VDS= 3V IDS= 80mA	V	-1.0	-2.5	-4.0
Saturated Drain Current	IDSS	VDS= 3V VGS= 0V	A	—	14.4	—
Gate-Source Breakdown Voltage	VGS <sub>0</sub>	IGS= -280μA	V	-5	—	—
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W	—	1.2	1.5

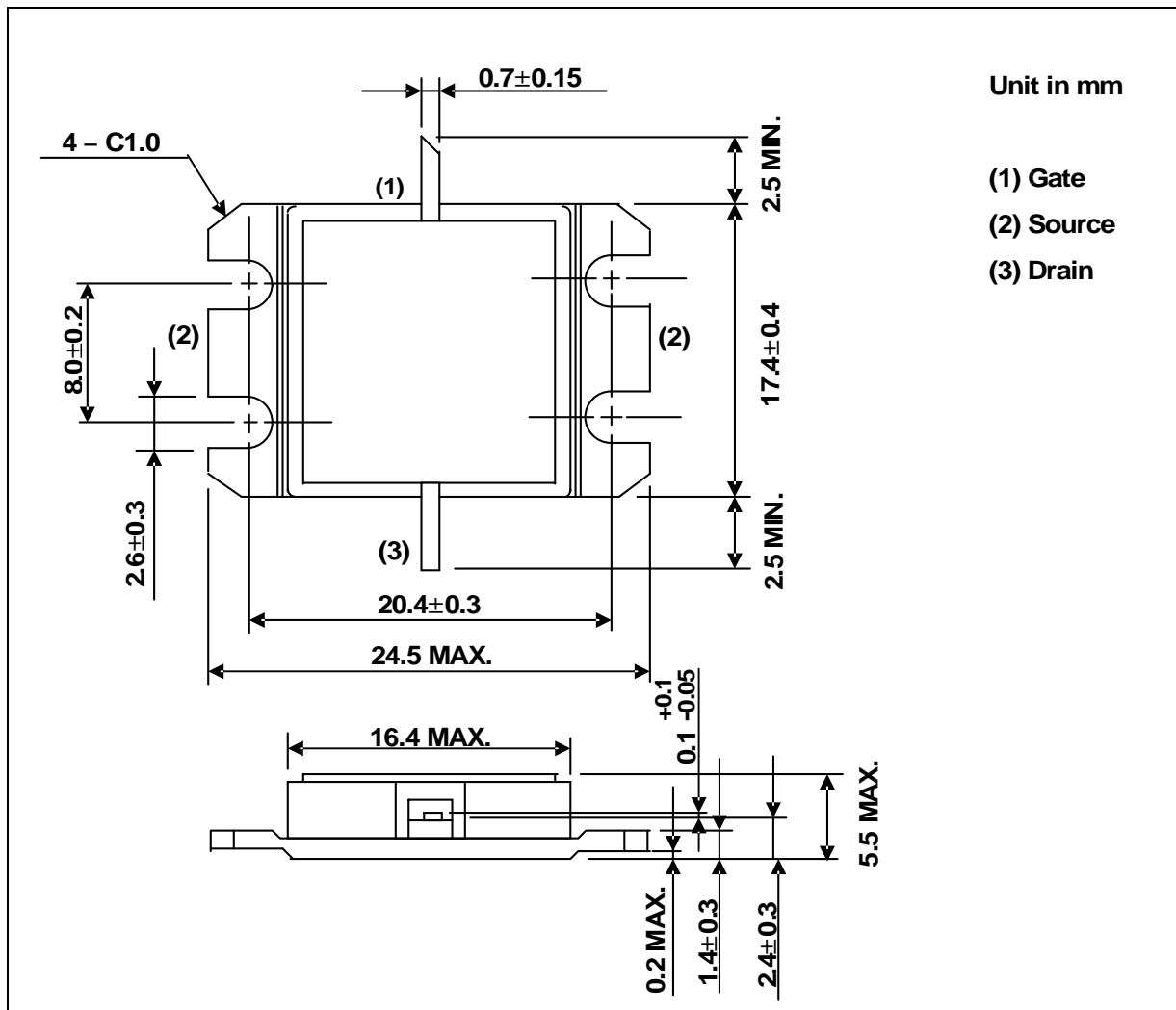
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The information contained herein is subject to change without prior notice. It is therefor advisable to contact TOSHIBA before proceeding with design of equipment incorporating this product.

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

CHARACTERISTICS	SYMBOL	UNIT	RATING
Drain-Source Voltage	V <sub>DS</sub>	V	15
Gate-Source Voltage	V <sub>GS</sub>	V	-5
Drain Current	I <sub>DS</sub>	A	20.0
Total Power Dissipation (T <sub>c</sub> = 25 °C)	PT	W	100
Channel Temperature	T <sub>ch</sub>	°C	175
Storage	T <sub>stg</sub>	°C	-65 to +175

**PACKAGE OUTLINE (2-16G1B)**

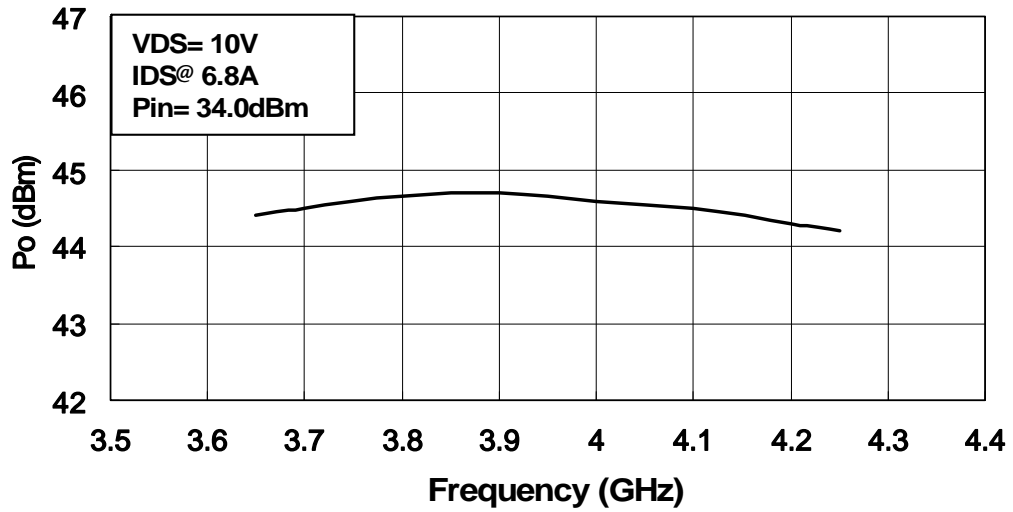


**HANDLING PRECAUTIONS FOR PACKAGE MODEL**

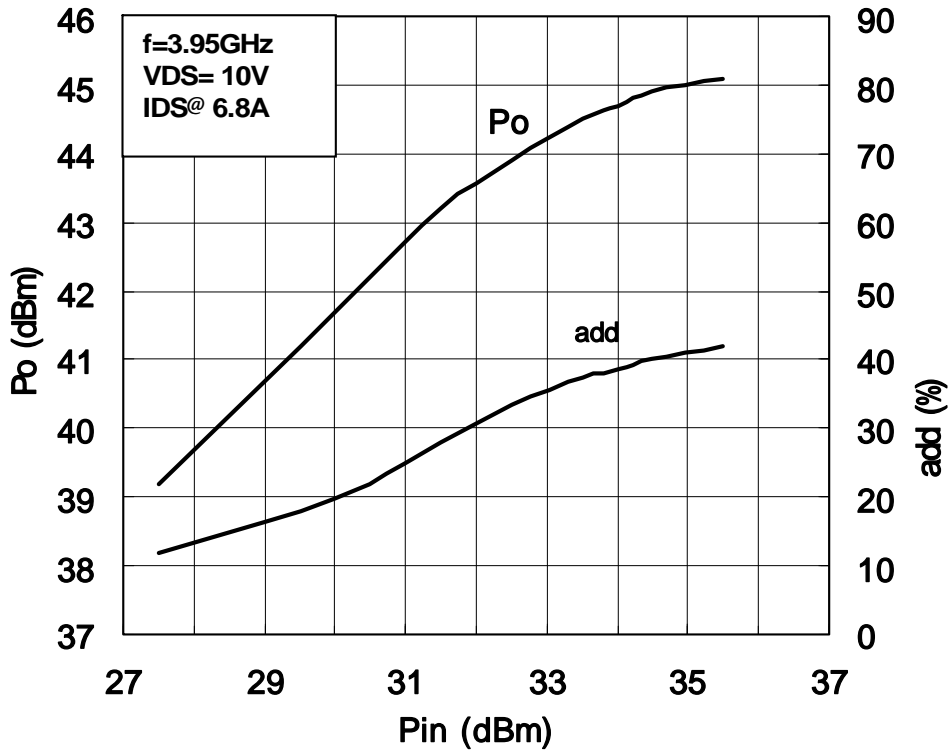
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C.

RF PERFORMANCE

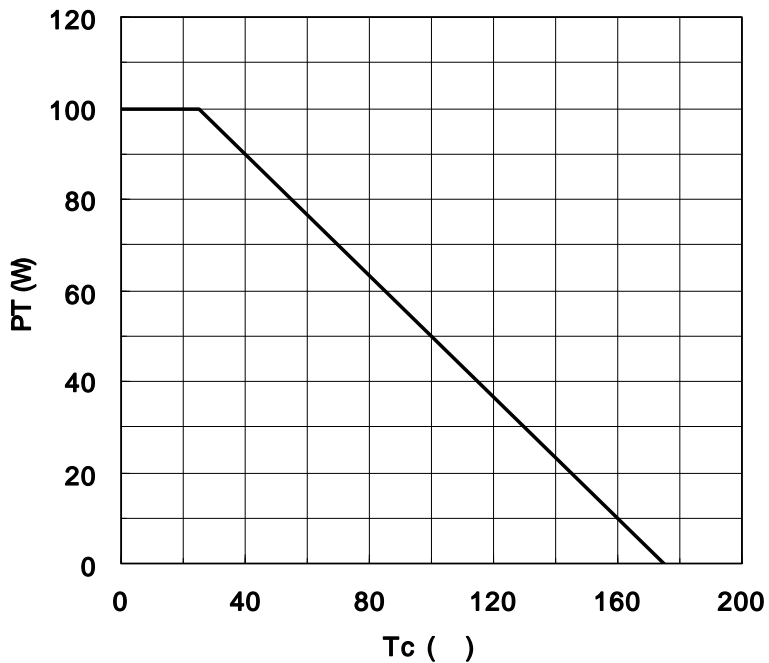
Output Power vs. Frequency



Output Power vs. Input Power



**Power Dissipation vs. Case Temperature**



**IM3 vs. Output Power Characteristics**

