

**FEATURES**

- n **LOW INTERMODULATION DISTORTION**  
 IM3=-45 dBc at Pout= 35.5dBm  
 Single Carrier Level
- n **HIGH POWER**  
 P1dB=46.5dBm at 7.7GHz to 8.5GHz
- n **HIGH GAIN**  
 G1dB=6.0dB at 7.7GHz to 8.5GHz
- 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 = 7.7 to 8.5GHz	dBm	46.0	46.5	—
Power Gain at 1dB Gain Compression Point	G1dB		dB	5.0	6.0	—
Drain Current	IDS		A	—	9.6	10.8
Gain Flatness	ΔG		dB	—	—	±0.8
Power Added Efficiency	ηadd		%	—	35	—
3rd Order Intermodulation Distortion	IM3	Two-Tone Test Po=35.5dBm (Single Carrier Level)	dBc	-42	-45	—
Channel Temperature Rise	ΔTch	(VDS X IDS + Pin - P1dB) X Rth(c-c)	°C	—	—	100

**Recommended Gate Resistance(Rg): 28 W (Max.)**

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

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 3V IDS= 11.0A	mS	—	8000	—
Pinch-off Voltage	VGSoff	VDS= 3V IDS= 170mA	V	-1.0	-2.5	-4.0
Saturated Drain Current	IDSS	VDS= 3V VGS= 0V	A	—	24	—
Gate-Source Breakdown Voltage	VGSO	IGS= -500μA	V	-5	—	—
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W	—	0.8	1.2

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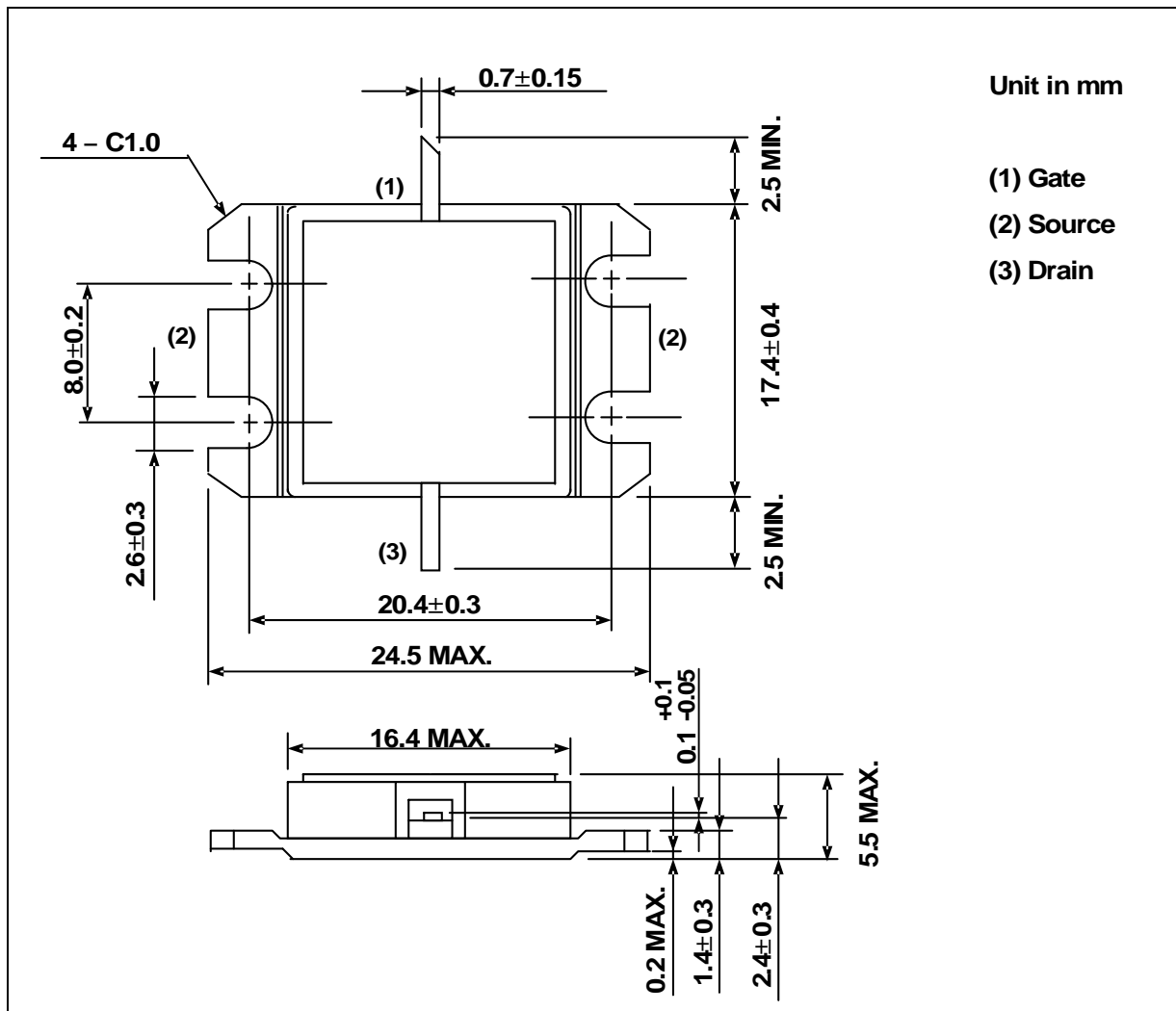
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The information contained herein is subject to change without prior notice. It is therefor advisable to contact TOSHIBA before proceeding with design of equipment incorporating this product.

**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
Total Power Dissipation (T <sub>c</sub> = 25 °C)	PT	W	125
Channel Temperature	T <sub>ch</sub>	°C	175
Storage Temperature	T <sub>stg</sub>	°C	-65 to +175

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

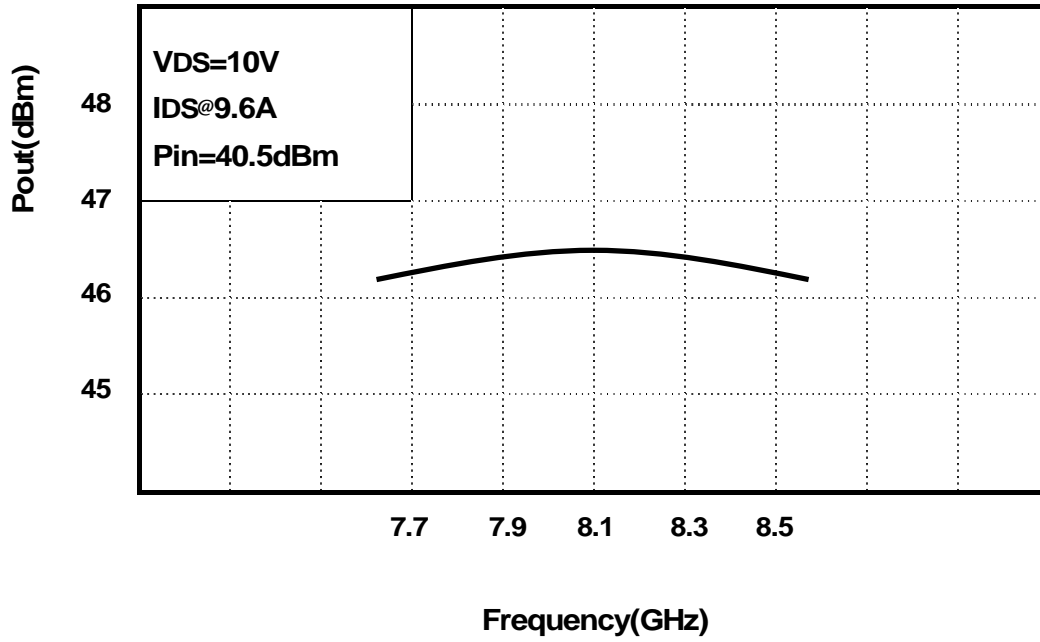


**HANDLING PRECAUTIONS FOR PACKAGE MODEL**

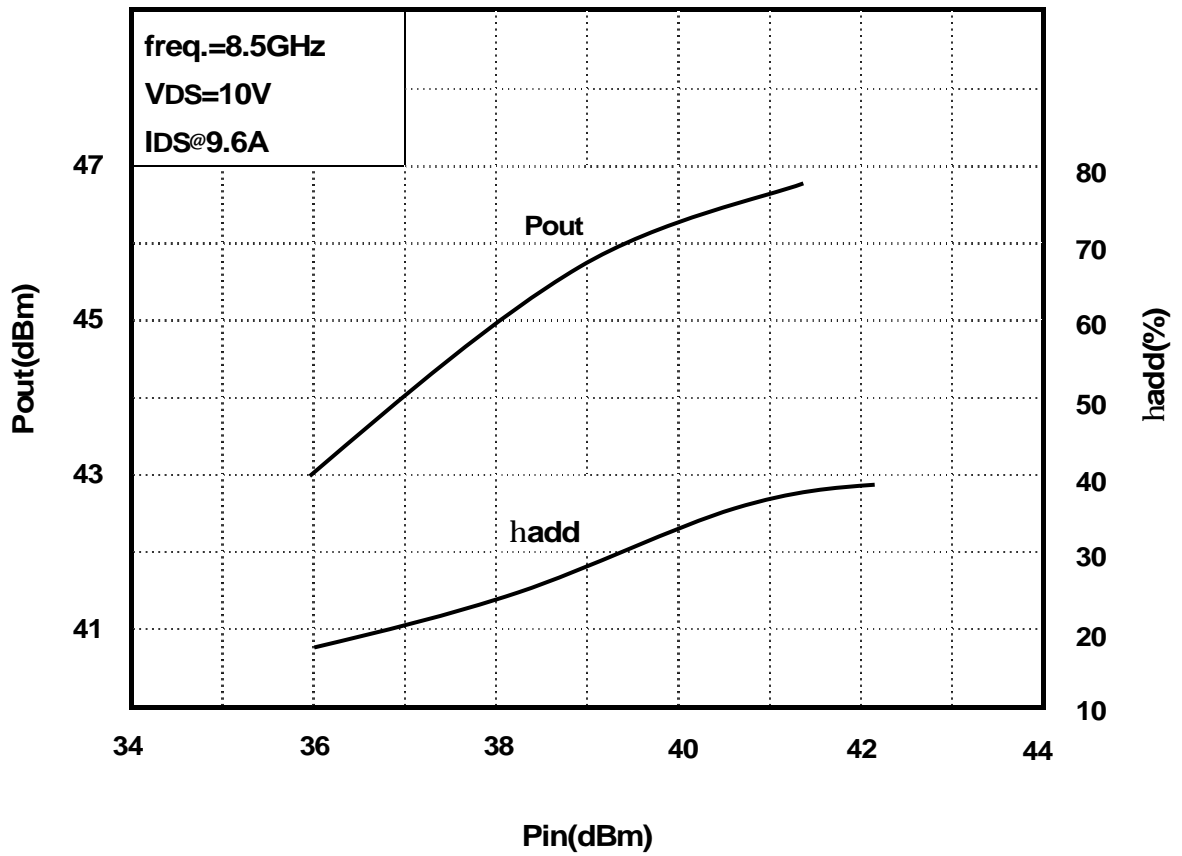
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C.

RF PERFORMANCE

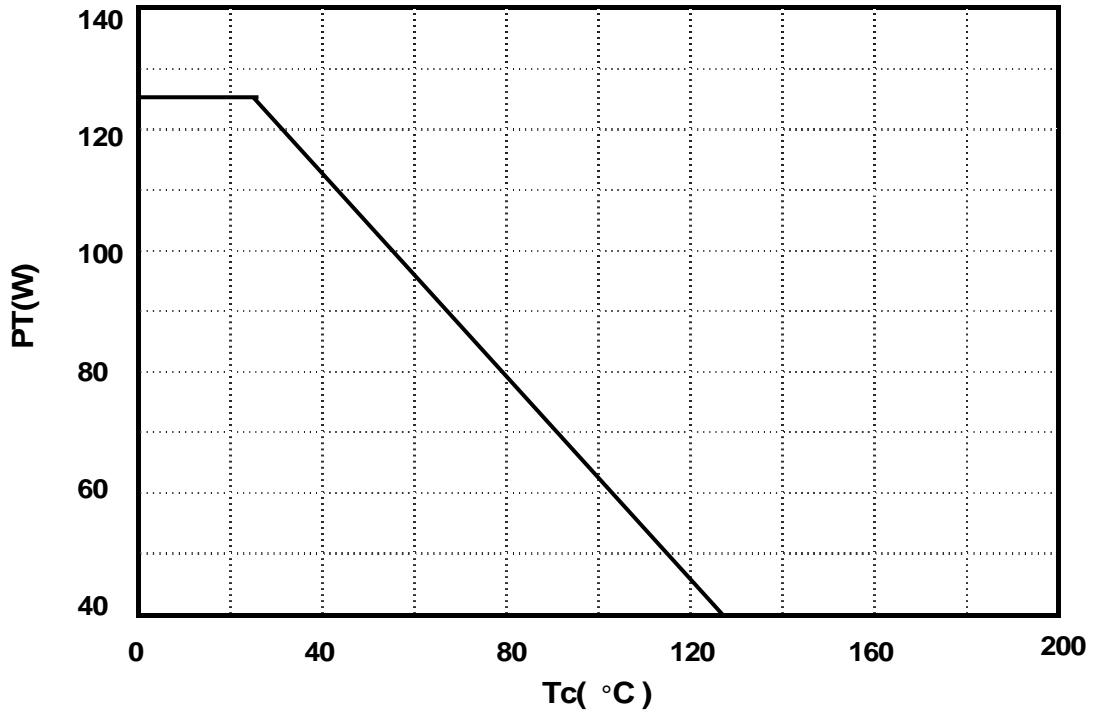
Output Power (Pout) vs. Frequency



Output Power(Pout) vs. Input Power(Pin)



Power Dissipation(PT) vs. Case Temperature(Tc)



IM3 vs. Output Power Characteristics

