

FEATURES

■ HIGH POWER

P1dB=43.0dBm at 9.5GHz to 10.5GHz

■ BROAD BAND INTERNALLY MATCHED

■ HIGH GAIN

G1dB=7.0dB at 9.5GHz to 10.5GHz

■ 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 = 9.5 – 10.5GHz IDS(RFoff) ≅ 4.5 A	dBm	42.0	43.0	—
Power Gain at 1dB Compression Point	G1dB		dB	6.0	7.0	—
Drain Current	IDS		A	—	6.5	7.5
Power Added Efficiency	η_{add}		%	—	27	—
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= 5.5A	S	—	16	—
Pinch-off Voltage	VGSoff	VDS= 2V IDS= 50mA	V	-0.3	-0.7	-1.1
Saturated Drain Current	IDSS	VDS= 2V VGS= 0V	A	—	11.0	13.0
Gate-Source Breakdown Voltage	VGSO	IGS= -600μA	V	-5	—	—
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W	—	1.6	2.1

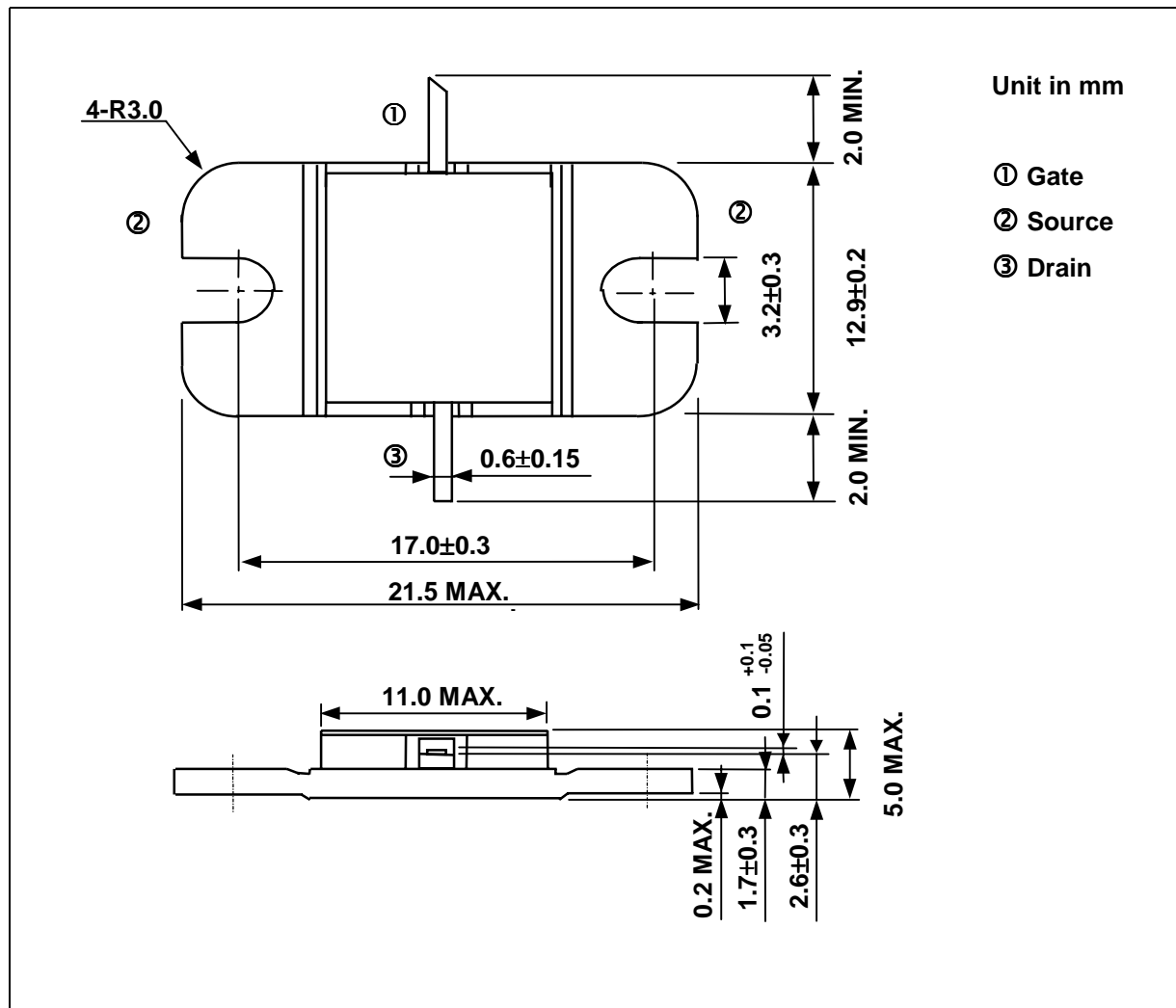
The X/Ku-Band 20W device(TIM0910-20) is a high power GaAs FET that has high transconductance (gm). VGS for setting IDS properly should be low. Therefore, there is a possibility that the positive gate current (IgRF) flows, when output power is as high as P1dB. IgRF and/or IDS fluctuate sharply when the RF input power level or VDS changes abruptly. Please give appropriate attention to the bias circuit design, not to cause the induced voltage that is generated by the inductance and so on.

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ABSOLUTE MAXIMUM RATINGS (Ta= 25°C)

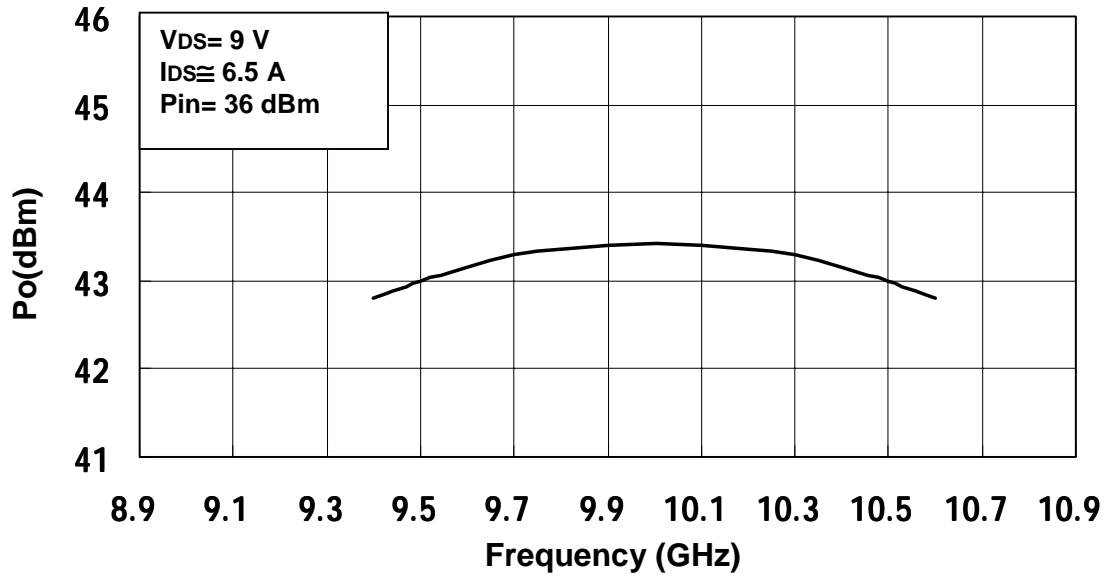
CHARACTERISTICS	SYMBOL	UNIT	RATING
Drain-Source Voltage	VDS	V	15
Gate-Source Voltage	VGS	V	-5
Drain Current	IDS	A	13.0
Total Power Dissipation (Tc= 25 °C)	PT	W	60
Channel Temperature	Tch	°C	175
Storage	Tstg	°C	-65 ~ +175

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.

RF PERFORMANCES

Output Power vs. Frequency



Output Power vs. Input Power

