MICROWAVE POWER GaAs FET

TIM1415-2

FEATURES

- **BROAD BAND INTERNALLY MATCHED FET**
- **HIGH POWER**

  P1dB= 33.5dBm at 14.5GHz to 15.0GHz
- **HIGH GAIN**

  G1dB= 6.0dB at 14.5GHz to 15.0GHz
- **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= 9V IDSset= 1.0A f= 14.5 to 15,0GHz	dBm	32.5	33.5	—
Power Gain at 1dB Gain Compression Point	G1dB		dB	5.0	6.0	—
Drain Current	IDS		A	—	0.85	1.1
Power Added Efficiency	ηadd		%	—	22	—
Channel Temperature Rise	ΔTch	(VDS X IDS + Pin – P1dB) X Rth(c-c)	°C	—	—	60

Recommended Gate Resistance(Rg): 100 Ω

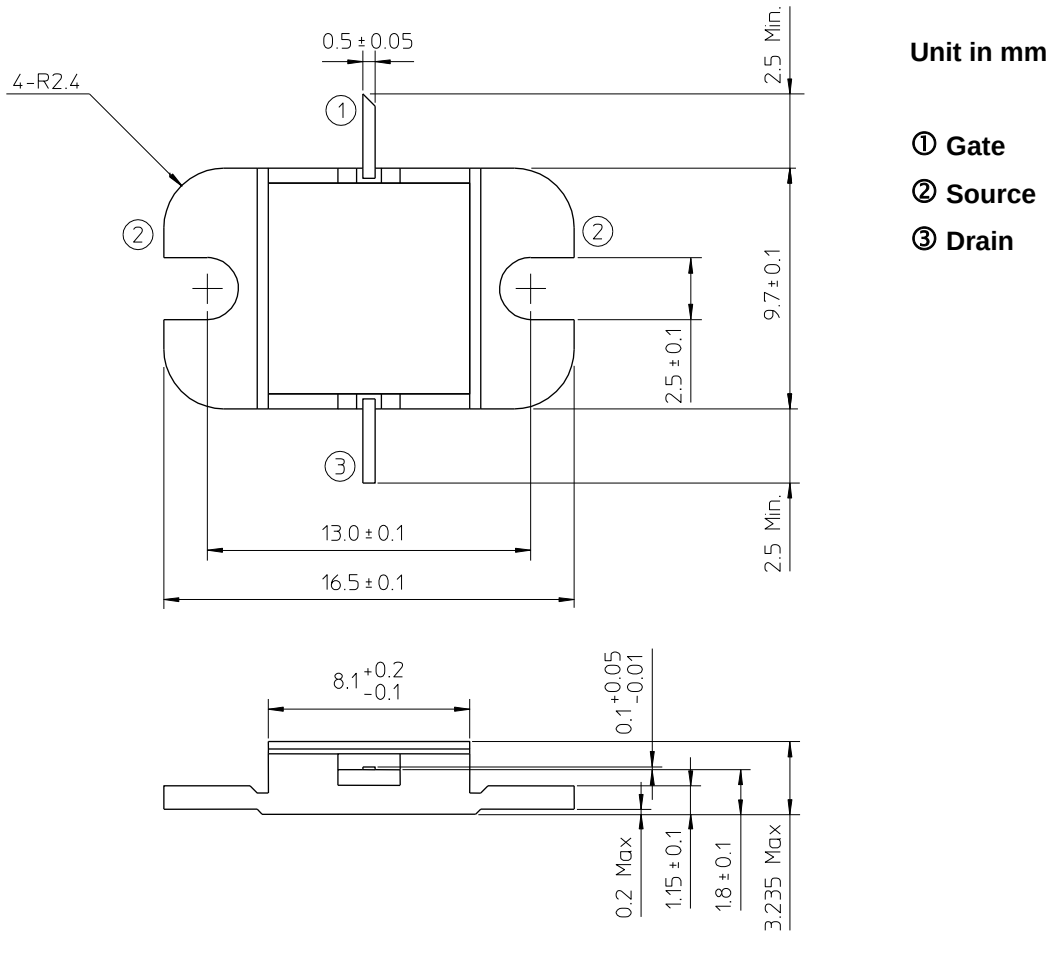
ELECTRICAL CHARACTERISTICS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 3V IDS= 1.0A	S	—	0.6	—
Pinch-off Voltage	VGSoff	VDS= 3V IDS= 30mA	V	-2.0	-3.0	-5.0
Saturated Drain Current	IDSS	VDS= 3V VGS= 0V	A	—	2.0	2.6
Gate-Source Breakdown Voltage	VGSO	IGS= -30μA	V	-5	—	—
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W	—	5.0	6.0

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	2.6
Total Power Dissipation (Tc= 25°C)	PT	W	25
Channel Temperature	Tch	°C	175
Storage Temperature	Tstg	°C	-65 to +175

PACKAGE OUTLINE (2-9D1B)

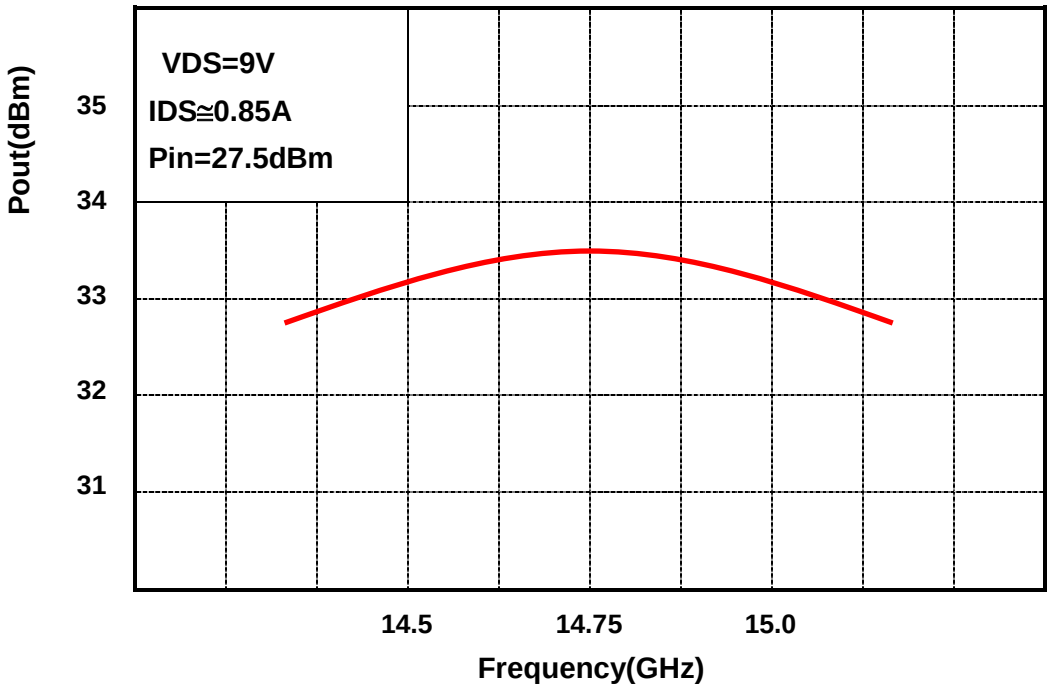


HANDLING PRECAUTIONS FOR PACKAGE MODEL

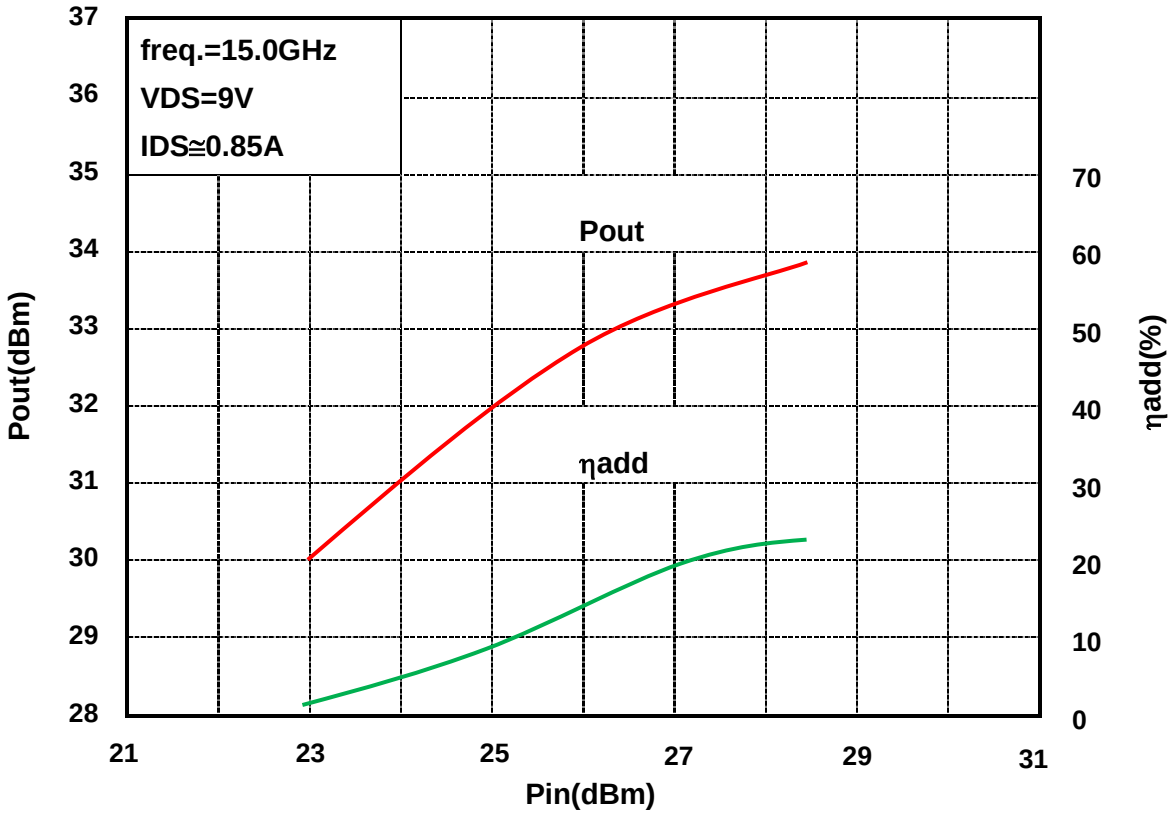
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C or3 seconds at 350°C.

RF PERFORMANCE

Output Power (Pout) vs. Frequency



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



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