Internally Matched Power GaAs FETs (X, Ku-Band)

Features

- High power
  - P_{1dB} = 40.5 dBm at 12.7 GHz to 13.2 GHz
- High gain
  - G_{1dB} = 6.0 dB at 12.7 GHz to 13.2 GHz
- Broadband internally matched
- Hermetically sealed package

RF Performance Specifications (T_a = 25°C)

Characteristic	Symbol	Condition	Unit	Min.	Typ.	Max
Output Power at 1dB Compression Point	P_{1dB}	V_{DS} = 9V f = 12.7 - 13.2 GHz	dBm	40.0	40.5	–
Power Gain at 1dB Compression Point	G_{1dB}		dB	5.0	6.0	–
Drain Current	I_{DS}		A	–	4.0	5.0
Power Added Efficiency	η_{add}		%	–	20	–
Channel-Temperature Rise	ΔT_{ch}	V_{DS} x I_{DS} x $R_{th\ (c-c)}$	°C	–	–	90

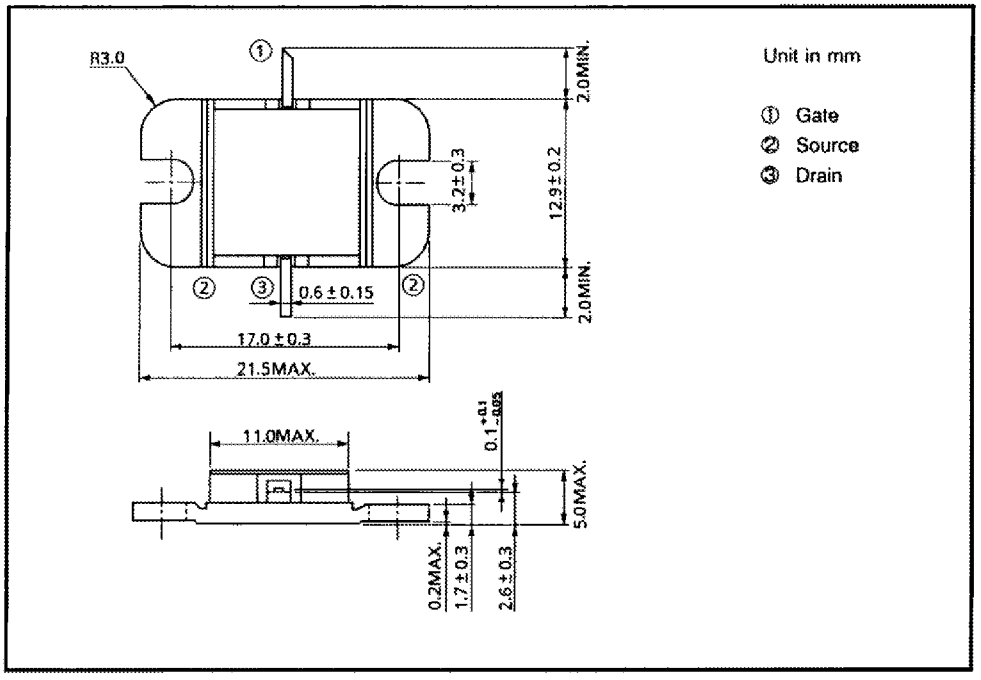
Electrical Characteristics (T_a = 25°C)

Characteristic	Symbol	Condition	Unit	Min.	Typ.	Max.
Transconductance	gm	V_{DS} = 3V I_{DS} = 4.8A	mS	–	2800	–
Pinch-off Voltage	V_{GSoff}	V_{DS} = 3V I_{DS} = 145 mA	V	-2	-3.5	-5
Saturated Drain Current	I_{DSS}	V_{DS} = 3V V_{GS} = 0V	A	–	10.0	11.5
Gate-Source Breakdown Voltage	V_{GSO}	I_{GS} = -145 μA	V	-5	–	–
Thermal Resistance	$R_{th\ (c-c)}$	Channel to Case	°C/W	–	2.0	2.5

Absolute Maximum Ratings (T_a = 25°C)

Characteristic	Symbol	Unit	Rating
Drain-Source Voltage	V_{DS}	V	15
Gate-Source Voltage	V_{GS}	V	-5
Drain Current	I_D	A	11.5
Total Power Dissipation (T_c = 25°C)	P_T	W	60
Channel Temperature	T_{ch}	°C	175
Storage Temperature	T_{stg}	°C	-65 ~ 175

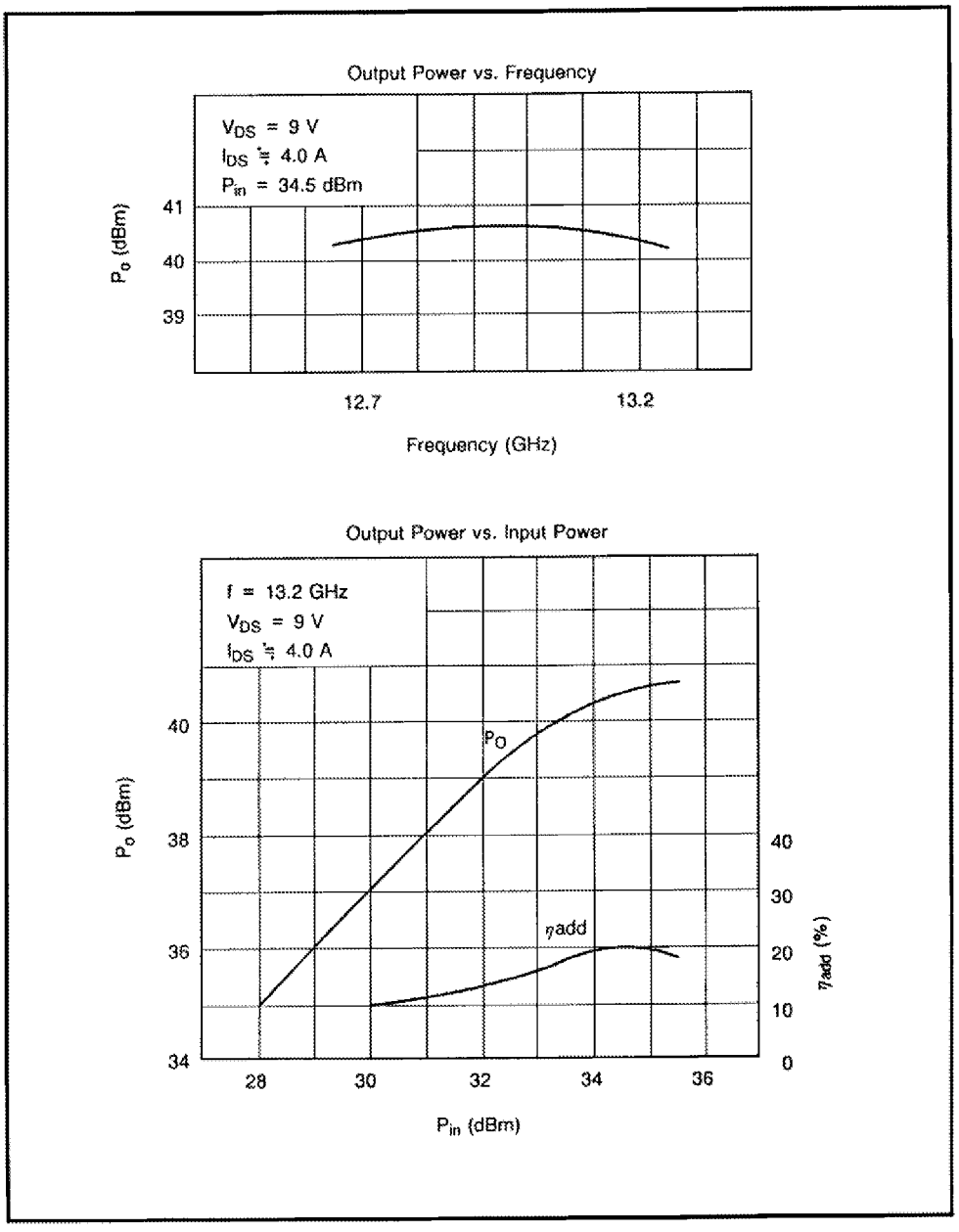
Package Outline (2-11C1B)



Handling Precautions for Packaged Type

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

RF Performances



Power Dissipation vs. Case Temperature