High Power GaAs FETs (L, S-Band)

Features

- High power
  - P_{1dB} = 44.5 dBm at 1.8 GHz
- High gain
  - G_{1dB} = 12 dB at 1.8 GHz
- Partially matched type
- Hermetically sealed package

RF Performance Specifications (T_a = 25° C)

Characteristics	Symbol	Condition	Unit	Min.	Typ.	Max
Output Power at 1dB Compression Point	P_{1dB}	V_{DS} = 10V f = 1.8 GHz	dBm	43.5	44.5	–
Power Gain at 1dB Compression Point	G_{1dB}		dB	11.0	12.0	–
Drain Current	I_{DS}		A	–	7.5	9.0
Power Added Efficiency	N_{add}		%	–	35	–
Channel-Temperature Rise	ΔT_{ch}	NOTE 1	°C	–	–	80

Electrical Characteristics (T_a = 25° C)

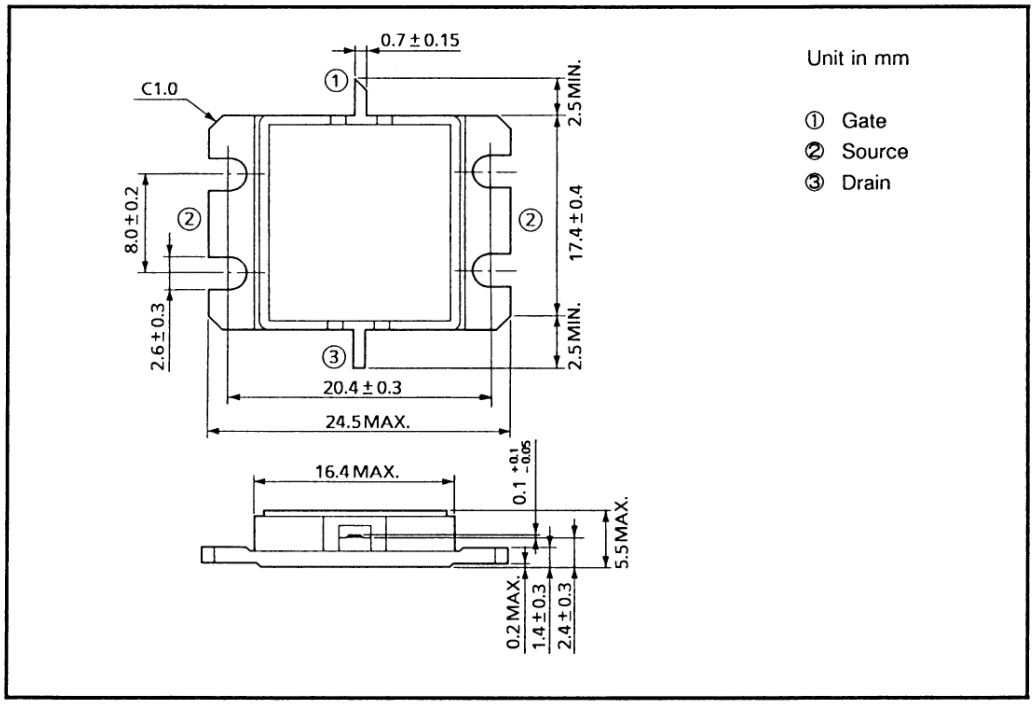
Characteristic	Symbol	Condition	Unit	Min.	Typ.	Max
Trans-conductance	gm	V_{DS}=3V I_{DS}=7.0A	mS	–	6300	–
Pinch-off Voltage	V_{GSoff}	V_{DS}=3V I_{DS}=140mA	V	-1.0	-3.0	-4.0
Saturated Drain Current	I_{DSS}	V_{DS}=3V V_{GS}=0V	A	–	20	26
Gate to Source Breakdown Voltage	V_{GSO}	I_{GS}=-420 µA	V	-5	–	–
Thermal Resistance	$R_{th\ (c-c)}$	Channel to case	°C/W	–	1.1	1.4

NOTE 1: $\Delta Tch = (V_{DS} \times I_{DS} + Pin - P_{1dB}) \times R_{th(c-c)}$

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	20
Total Power Dissipation (Tc = 25°C)	P_T	W	100
Channel Temperature	T_{ch}	˚C	175
Storage Temperature	T_{stg}	˚C	-65~175

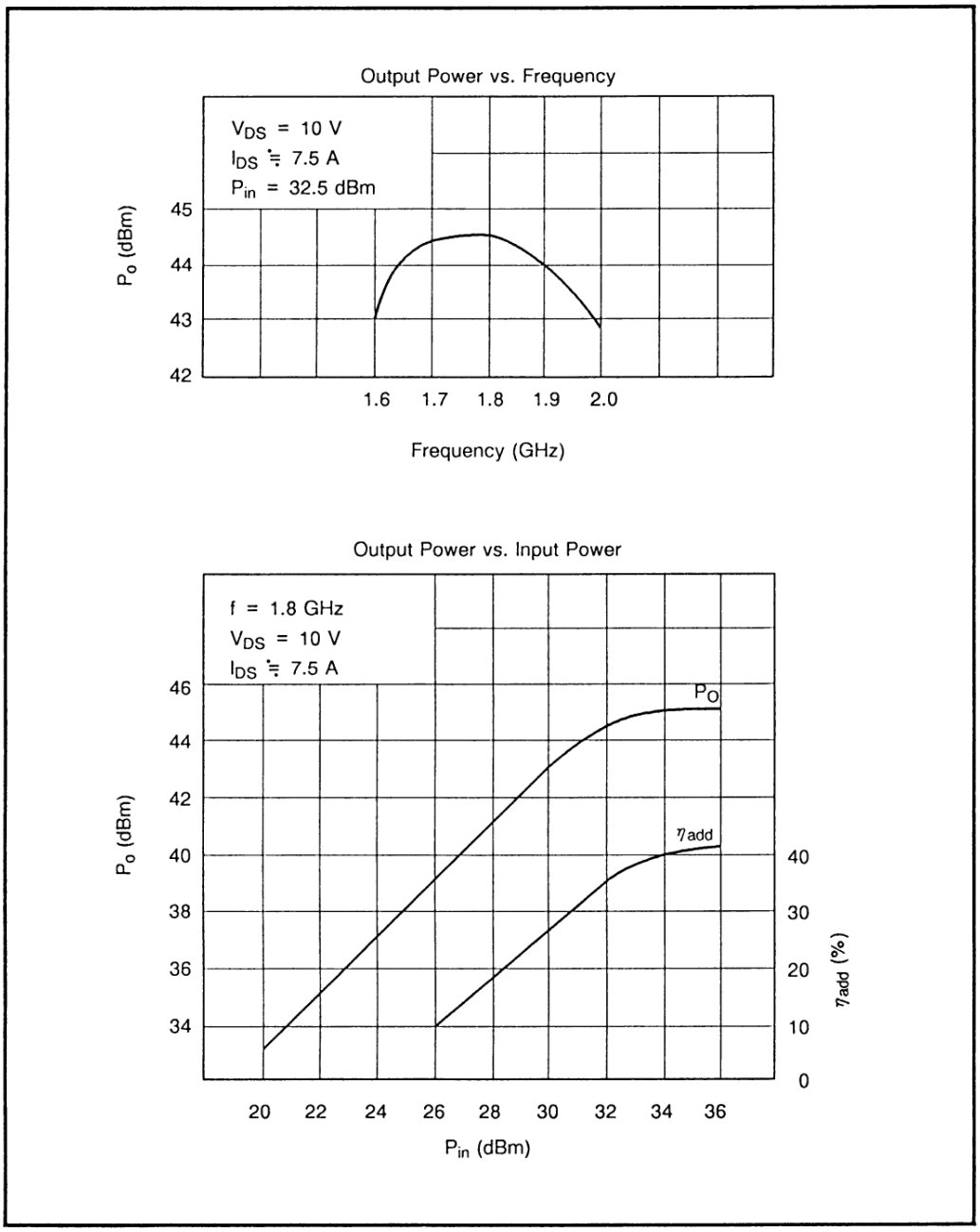
Package Outline (2-16G1B)



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