

## Internally Matched Power GaAs FETs (C-Band)

## Features

- High power
  - $P_{1dB} = 36.0 \text{ dBm}$  at 4.9 GHz to 5.1 GHz
- High gain
  - $G_{1dB} = 10.0 \text{ dB}$  at 4.9 GHz to 5.10 GHz
- Broad band internally matched
- Hermetically sealed package

RF Performance Specifications ( $T_a = 25^\circ \text{ C}$ )

Characteristics	Symbol	Condition	Unit	Min.	Typ.	Max
Output Power at 1dB Compression Point	$P_{1dB}$	$V_{DS} = 10V$ $f = 4.9 \sim 5.1 \text{ GHz}$	dBm	35.0	36.0	-
Power Gain at 1dB Compression Point	$G_{1dB}$		dB	9.0	10.0	-
Drain Current	$I_{DS}$		A	-	1.1	1.5
Power Added Efficiency	$\eta_{add}$		%	-	33	-
Channel-Temperature Rise	$\Delta T_{ch}$	$V_{DS} \times I_{DS} \times R_{th}(\text{c-c})$	°C	-	-	80

Electrical Characteristics ( $T_a = 25^\circ \text{ C}$ )

Characteristic	Symbol	Condition	Unit	Min.	Typ.	Max
Trans-conductance	$gm$	$V_{DS} = 3V$ $I_{DS} = 1.5A$	mS	-	900	-
Pinch-off Voltage	$V_{GSoff}$	$V_{DS} = 3V$ $I_{DS} = 20mA$	V	-2	-3.5	-5
Saturated Drain Current	$I_{DSS}$	$V_{DS} = 3V$ $V_{GS} = 0V$	A	-	2.9	3.8
Gate to Source Breakdown Voltage	$V_{GSO}$	$I_{GS} = -60 \mu A$	V	-5	-	-
Thermal Resistance	$R_{th}(\text{c-c})$	Channel to case	°C/W	-	4.0	6.0

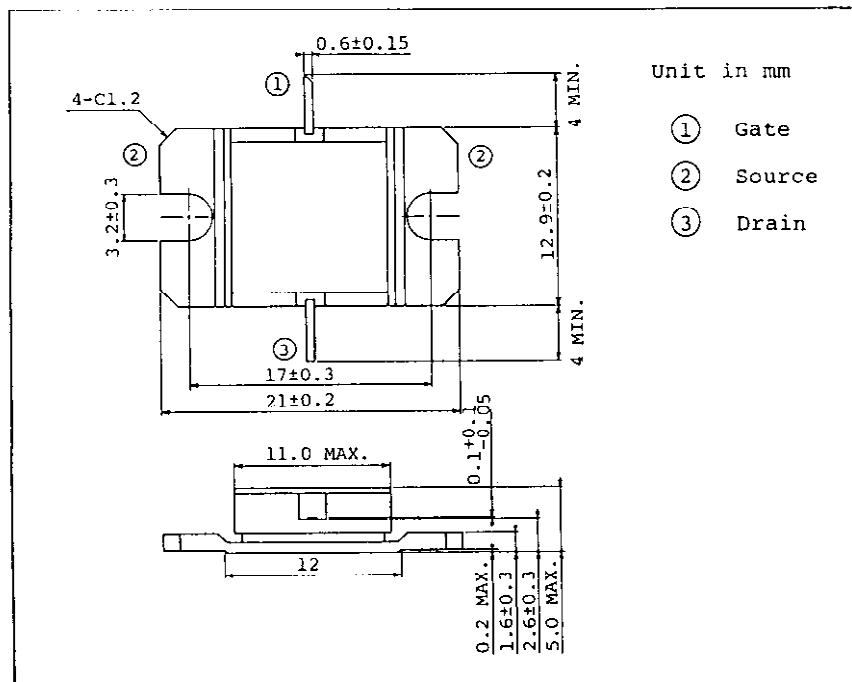
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Absolute Maximum Ratings ( $T_a = 25^\circ C$ )

Characteristic	Symbol	Unit	Rating
Drain Source Voltage	$V_{DS}$	V	15
Gate Source Voltage	$V_{GS}$	V	-5
Drain Current	$I_D$	A	4
Total Power Dissipation ( $T_c = 25^\circ C$ )	$P_T$	W	20
Channel Temperature	$T_{ch}$	$^\circ C$	175
Storage Temperature	$T_{stg}$	$^\circ C$	-65~175

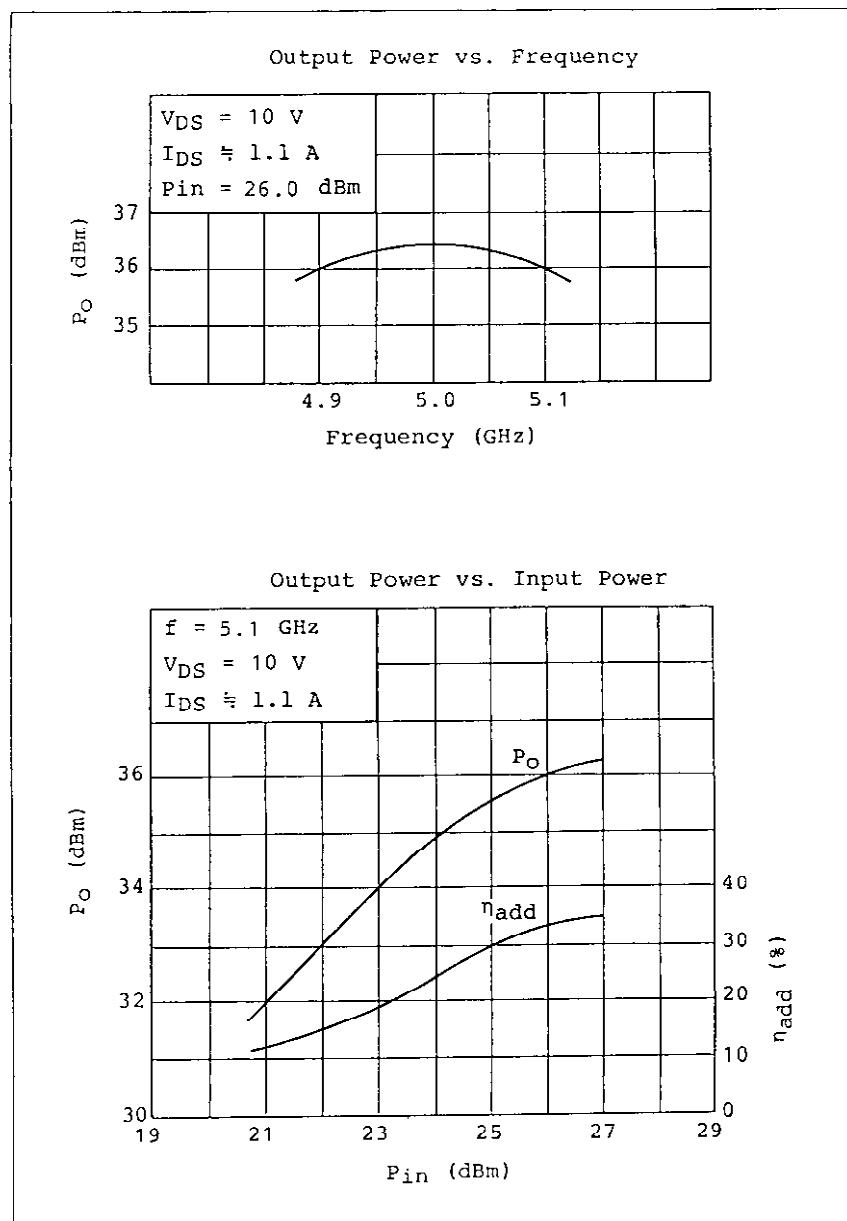
## Package Outline (2-11D1B)



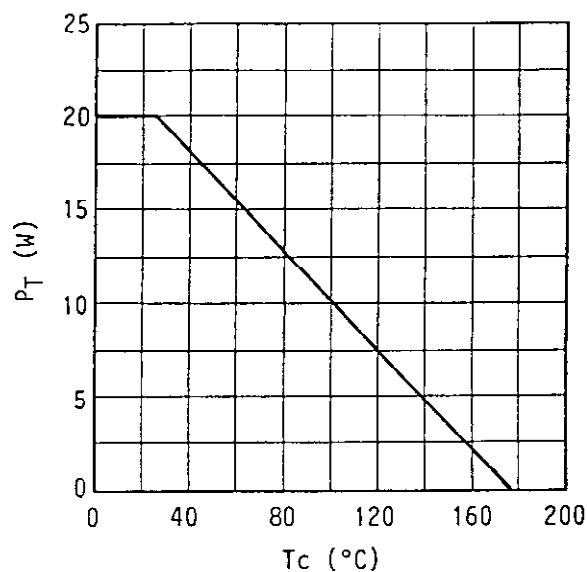
## Handling Precautions for Packaged Type

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

## RF Performances



**Power Dissipation vs. Case Temperature**



**TIM4951-4 S-Parameters**  
**(MAGN. and ANGLES)**

$V_{DS} = 10$  V,  $I_{DS} = 1.0$  A

$f = 4.4-5.4$  GHz

