

#### FEATURES :

- HIGH POWER  
     $P_{1dB} = 48.0 \text{ dBm}$  at 1.9 GHz
- HIGH GAIN  
     $G_{1dB} = 13 \text{ dB}$  at 1.9 GHz
- PARTIALLY MATCHED TYPE
- 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	$P_{1dB}$	$V_{DS} = 12\text{V}$ $f = 1.9 \text{ GHz}$ $I_{DS} \text{ (RF Off)} \doteq 6\text{A}$	dBm	47.0	48.0	—
Power Gain at 1dB Compression Point	$G_{1dB}$		dB	12.0	13.0	—
Drain Current	$I_{DS}$		A	—	12.0	15.0
Power Added Efficiency	$\eta_{add}$		%	—	40	—
Channel-Temperature Rise	$\Delta T_{ch}$	NOTE1	$^\circ\text{C}$	—	—	100

#### ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

CHARACTERISTICS	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Transconductance	$g_m$	$V_{DS} = 3 \text{ V}$ $I_{DS} = 12.0\text{A}$	S	—	20.0	—
Pinch-off Voltage	$V_{GSoff}$	$V_{DS} = 3 \text{ V}$ $I_{DS} = 300\text{mA}$	V	-1.0	-1.8	-3.0
Saturated Drain Current	$I_{DSS}$	$V_{DS} = 3 \text{ V}$ $V_{GS} = 0 \text{ V}$	A	—	38	46
Gate-Source Breakdown Voltage	$V_{GSO}$	$I_{GS} = -10\text{mA}$	V	-5	—	—
Thermal Resistance	$R_{th (c-c)}$	Channel to Case	$^\circ\text{C/W}$	—	0.6	0.8

NOTE1 :  $\Delta T_{ch} = (V_{DS} \times I_{DS} + P_{in} - P_o) \times R_{th (C-C)}$

\* RECOMMENDED GATE RESISTANCE ( $R_g$ ) :  $R_g = 30 \Omega$  (MAX.)

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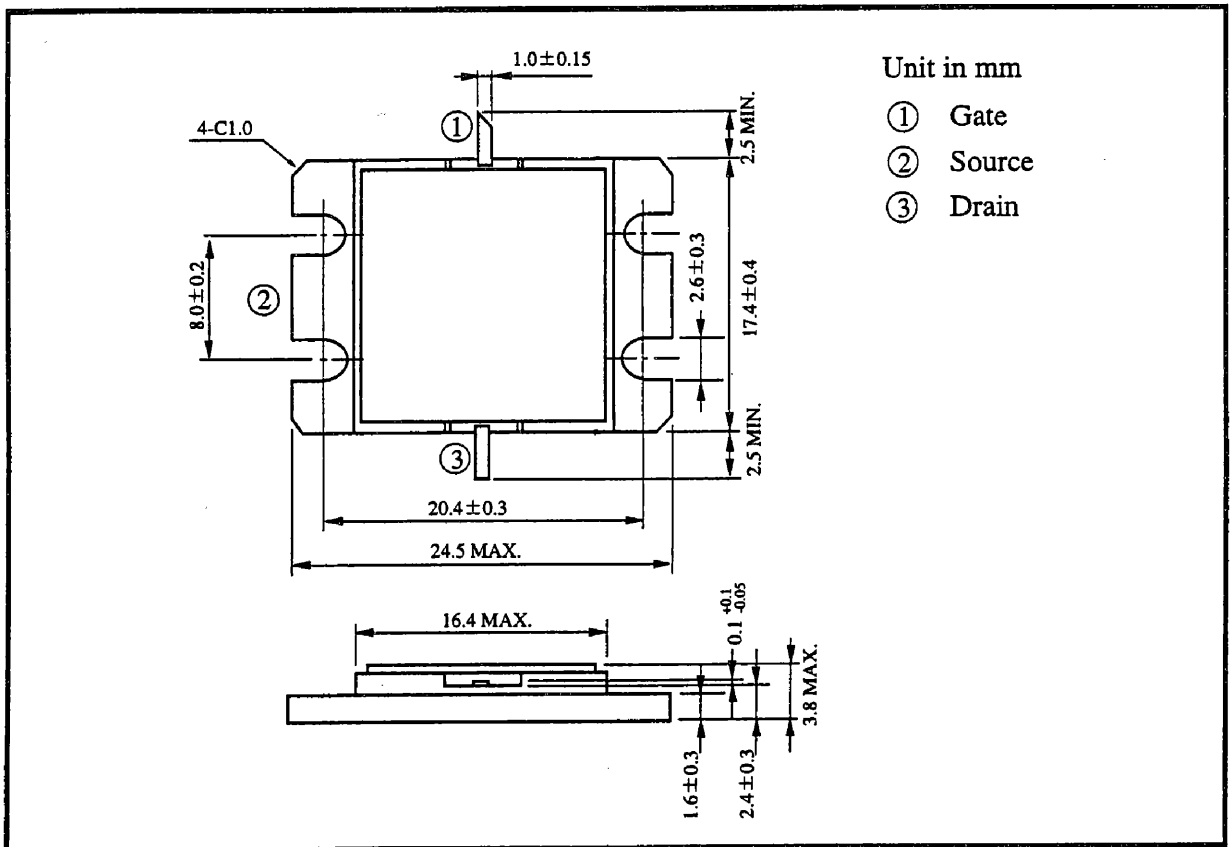


# TPM1919-60

## ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTICS	SYMBOL	UNIT	RATING
Drain-Source Voltage	$V_{DS}$	V	15
Gate-Source Voltage	$V_{GS}$	V	-5
Drain Current	$I_{DS}$	A	46
Total Power Dissipation (T <sub>C</sub> = 25°C)	$P_T$	W	185
Channel Temperature	$T_{ch}$	°C	175
Storage Temperature	$T_{stg}$	°C	-65 ~ 175

## PACKAGE OUTLINE (2-16G6A)



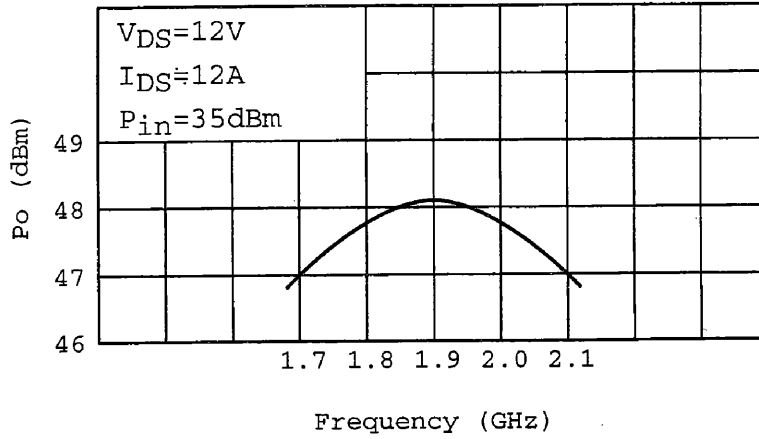
### HANDLING PRECAUTIONS FOR PACKAGED TYPE

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

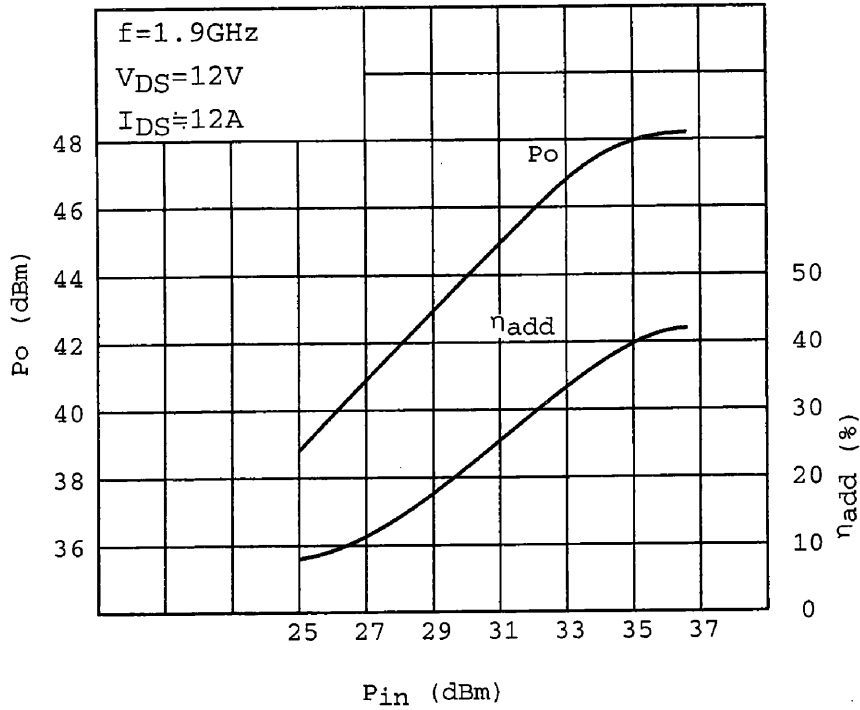
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## RF PERFORMANCES.

Output Power vs. Frequency



Output Power vs. Input Power



# TPM1919-60

## POWER DISSIPATION VS. CASE TEMPERATURE

