TOSHIBA

MICROWAVE SEMICONDUCTOR

TECHNICAL DATA

MICROWAVE POWER GaAs FET

TIM3536-60

FEATURES :

- HIGH POWER
  P1dB=48dBm at 3.5GHz to 3.6GHz
- HIGH GAIN
  G1dB=9dB at 3.5GHz to 3.6GHz
- INTERNALLY MATCHED TYPE
- HERMETICALLY SEALED PACKAGE

RF PERFORMANCE SPECIFICATIONS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Output Power at 1dB Compression Point	P1dB	VDS= 12 V f=3.5-3.6 GHz IDS (RF Off) ≒ 9A	dBm	47.0	48.0	—
Power Gain at 1dB Compression Point	G1dB		dB	8.0	9.0	—
Drain Current	IDS		A	—	12.0	15.0
Power Added Efficiency	ηadd		%	—	38	—
Channel-Temperature Rise	ΔTch	Note1	°C	—	—	100

Note 1 : $\Delta Tch=(VDS\times IDS+Pin-Po)\times Rth(c\text{-}c)$

ELECTRICAL CHARACTERISTICS (Ta= 25°C)

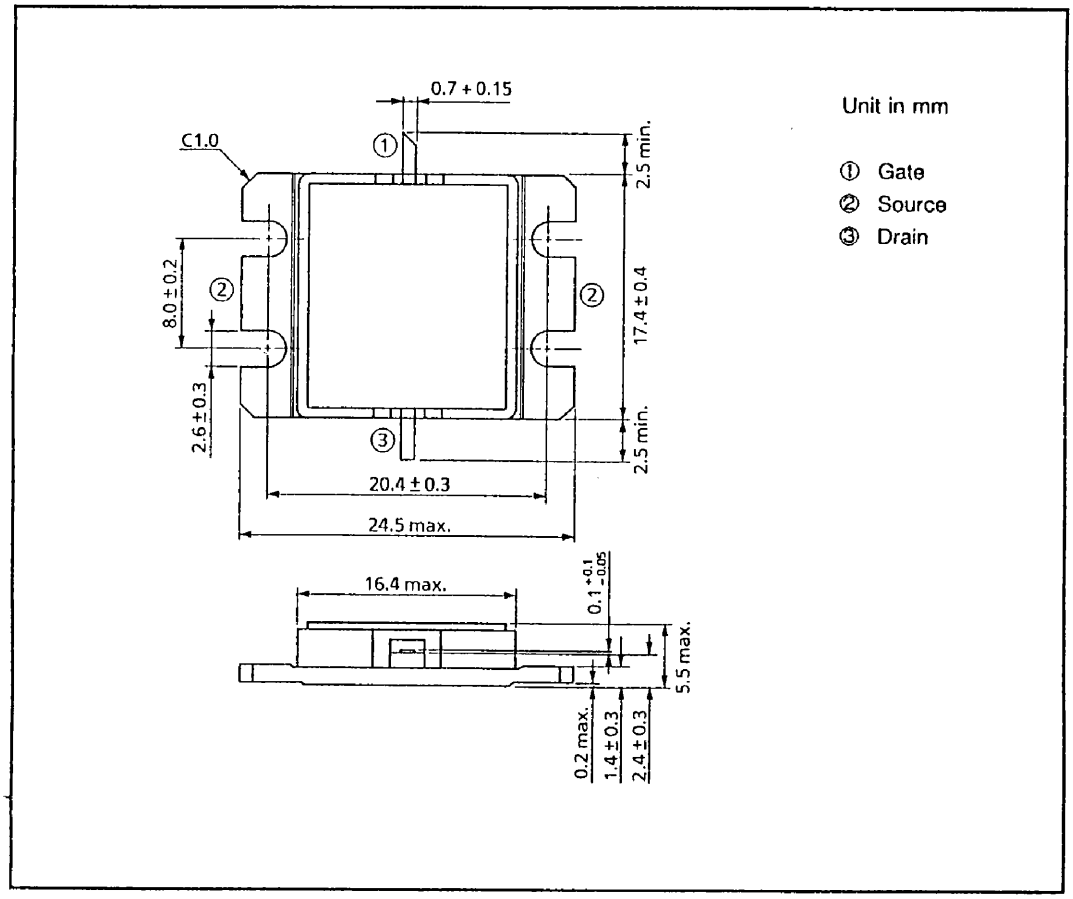
CHARACTERISTICS	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 3V IDS= 12.0A	S	—	20	—
Pinch-off Voltage	VGSoff	VDS= 3V IDS= 300mA	V	-0.5	-1.8	-2.5
Saturated Drain Current	IDSS	VDS= 3V VGS= 0V	A	—	38	46
Gate-Source Breakdown Voltage	VGSO	IGS= -500μA	V	-5	—	—
Thermal Resistance	Rth(c-c)	Channel to Case	℃/W	—	0.6	0.8

Recommended Gate Resistance(Rg) : Rg=Rg1(10 Ω)+Rg2(18 Ω)=28 Ω (MAX.)

ABSOLUTE MAXIMUM RATINGS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	RATING	UNIT
Drain-Source Voltage	VDS	15	V
Gate-Source Voltage	VGS	-5	V
Drain Current	IDS	46	A
Total Power Dissipation (Tc= 25 °C)	PT	185	W
Channel Temperature	Tch	175	°C
Storage	Tstg	-65 ~ +175	°C

PACKAGE OUTLINE (2-16G1B)

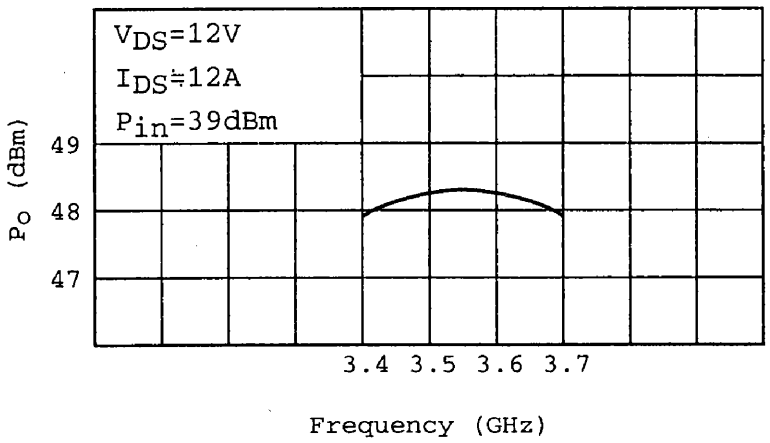


HANDLING PRECAUTIONS FOR PACKAGED TYPE

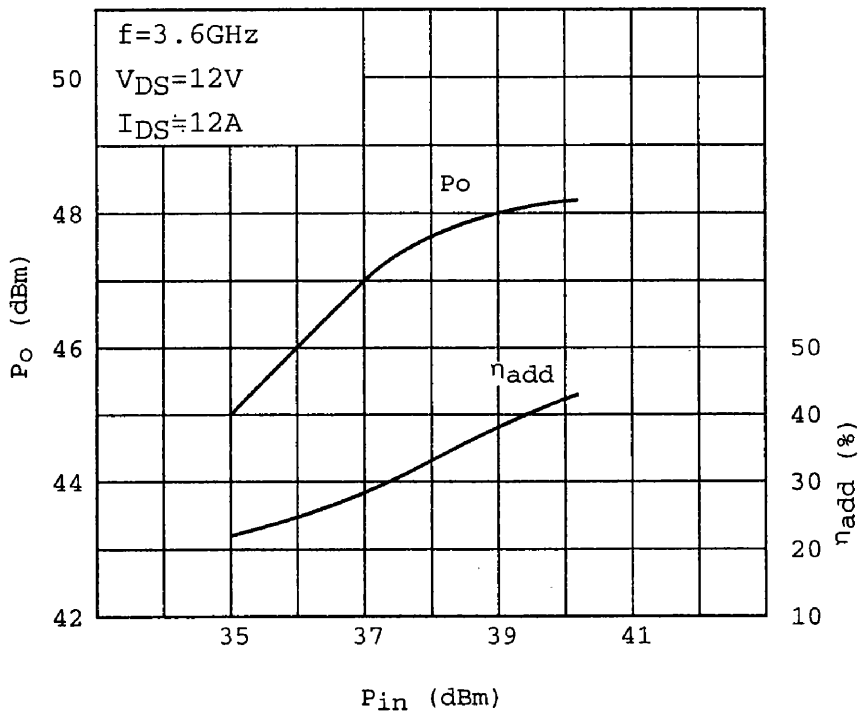
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C

RF PERFORMANCES

Output Power vs. Frequency



Output Power vs. Input Power



POWER DISSIPATION VS. CASE TEMPERATURE