TOSHIBA

MICROWAVE SEMICONDUCTOR

TECHNICAL DATA

MICROWAVE POWER GaAs FET

TPM2323-60

FEATURES

- **HIGH POWER**
  P1dB=48.0dBm at 2.4GHz
- **HIGH GAIN**
  G1dB=10.0dB at 2.4GHz
- **PARTIALLY MATCHED TYPE**
- **HERMETICALLY SEALED PACKAGE**

RF PERFORMANCE SPECIFICATIONS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Output Power at 1dB Gain Compression Point	P_{1dB}	V_{DS}= 12V f = 2.4GHz I_{DS}set≅8.0A	dBm	47.0	48.0	—
Power Gain at 1dB Gain Compression Point	G_{1dB}		dB	9.0	10.0	—
Drain Current	I_{DS1}		A	—	12.0	15.0
Power Added Efficiency	η_{add}		%	—	39	—
Channel Temperature Rise	ΔTch	(VDS X IDS + Pin – P1dB) X Rth(c-c)	°C	—	—	100

Recommended gate resistance (Rg) : Rg = 30 Ω (Max.)

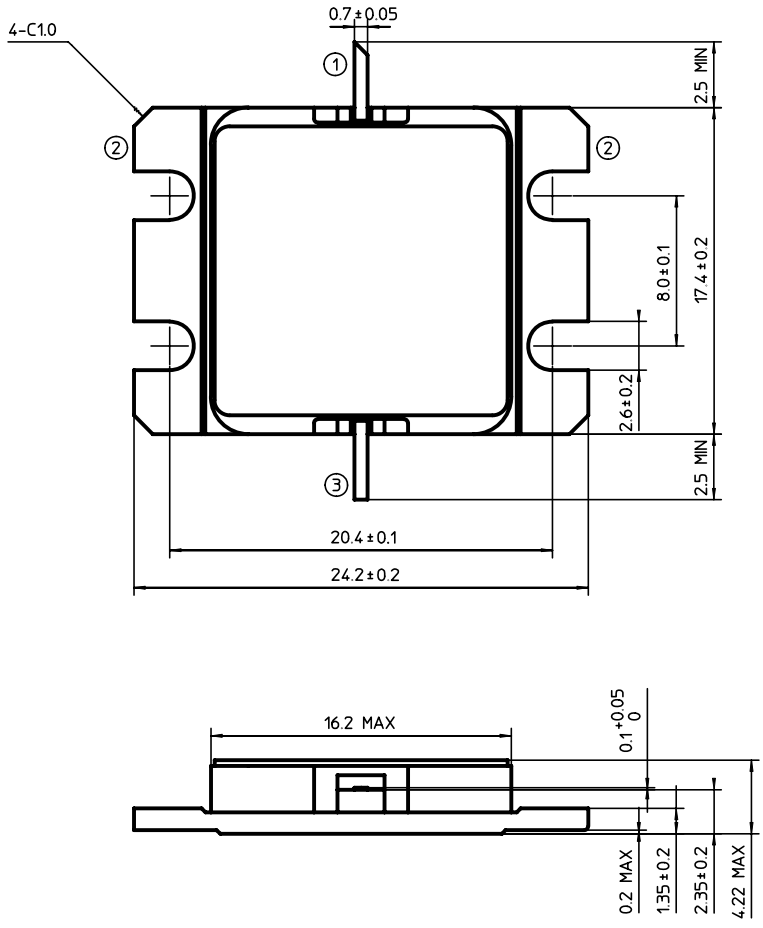
ELECTRICAL CHARACTERISTICS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 3V IDS= 12.0A	S	—	20.0	—
Pinch-off Voltage	VGSoff	VDS= 3V IDS= 300mA	V	-1.0	-1.8	-3.0
Saturated Drain Current	IDSS	VDS= 3V VGS= 0V	A	—	38	—
Gate-Source Breakdown Voltage	VGSO	IGS= -10.0mA	V	-5	—	—
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W	—	0.6	0.8

ABSOLUTE MAXIMUM RATINGS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	UNIT	RATING
Drain-Source Voltage	VDS	V	15
Gate-Source Voltage	VGS	V	-5
Drain Current	IDS	A	26.0
Total Power Dissipation (Tc= 25 °C)	PT	W	187.5
Channel Temperature	Tch	°C	175
Storage	Tstg	°C	-65 ~ +175

PACKAGE OUTLINE (2-16G1B)



Unit in mm

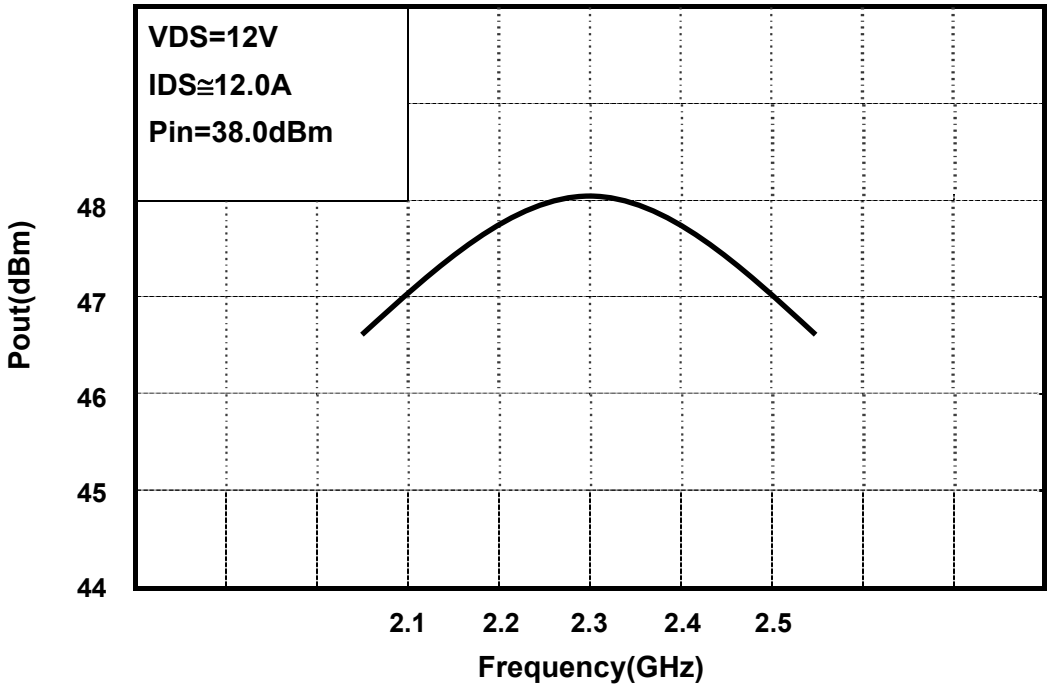
① Gate
② Source
③ Drain

HANDLING PRECAUTIONS FOR PACKAGE MODEL

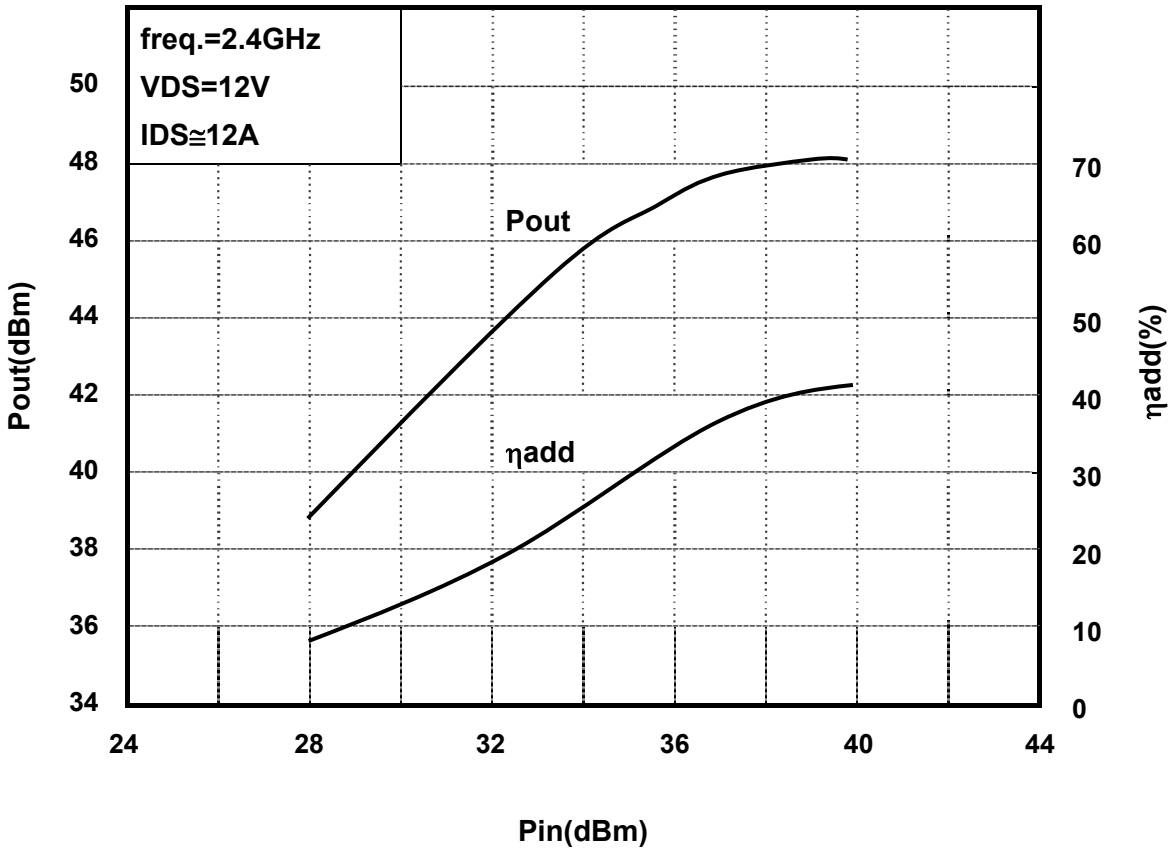
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C.

RF PERFORMANCE

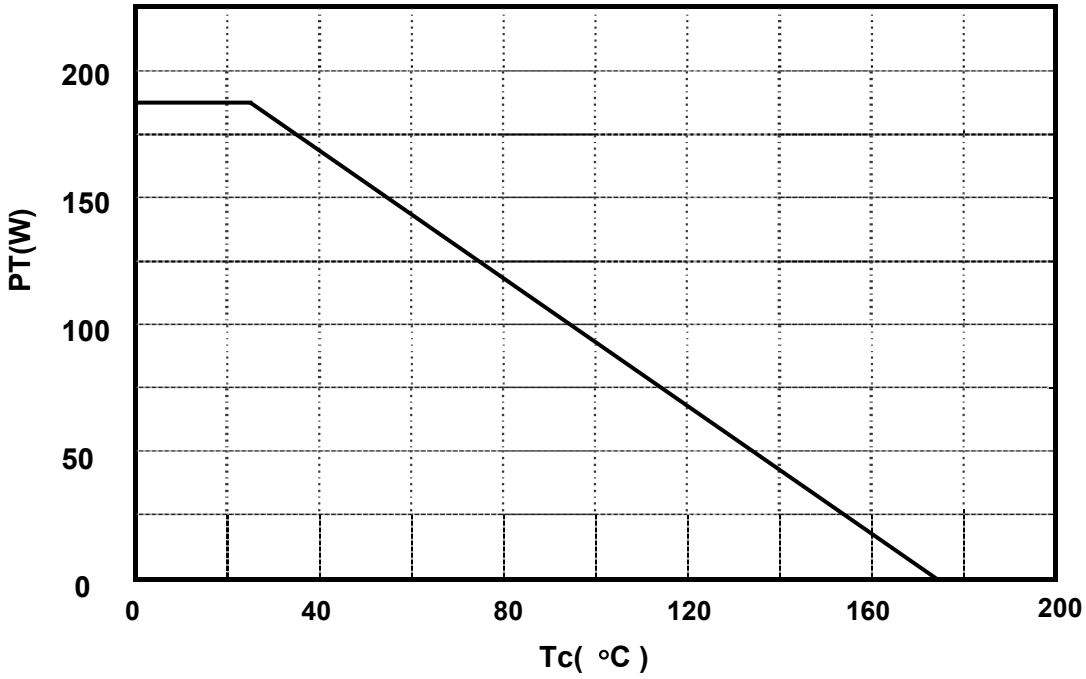
Output Power (Pout) vs. Frequency



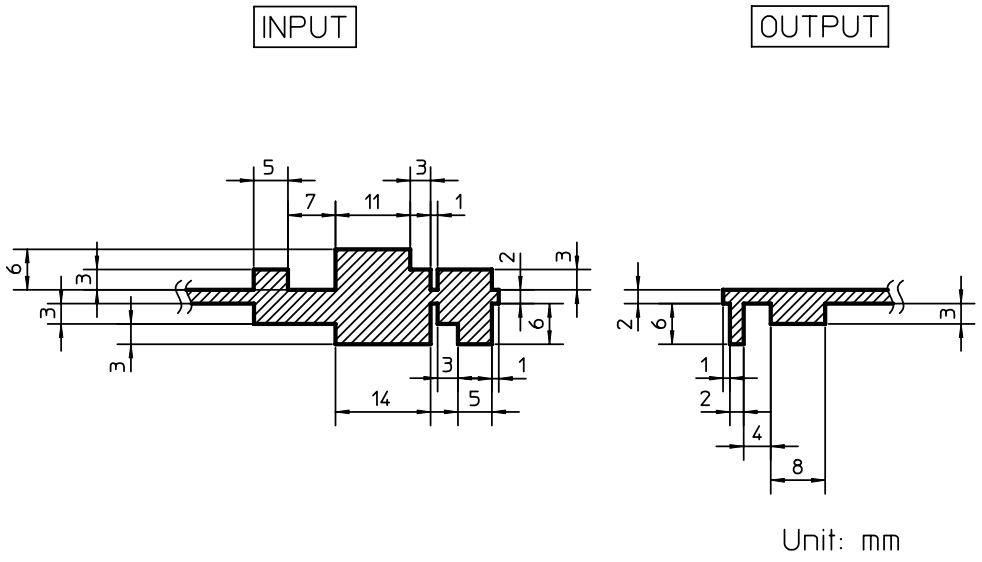
Output Power(Pout) vs. Input Power(Pin)



Power Dissipation(PT) vs. Case Temperature(Tc)



DRAWING OF RECOMMENDABLE MATCHING NETWORK



Unit: mm

Substrate Material: Teflon (εr=2.8)
Thickness: 0.76mm