

FEATURES

- **LOW INTERMODULATION DISTORTION**
 IM3=-45 dBc at Po= 34.5 dBm,
 Single Carrier Level
- **HIGH POWER**
 P1dB=45.0 dBm at 6.4GHz to 7.2GHz
- **HIGH GAIN**
 G1dB=7.0dB at 6.4GHz to 7.2GHz
- **BROAD BAND INTERNALLY MATCHED FET**
- **HERMETICALLY SEALED PACKAGE**

RF PERFORMANCE SPECIFICATIONS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Output Power at 1dB Gain Compression Point	P1dB	VDS=10V f = 6.4 to 7.2GHz	dBm	44.0	45.0	—
Power Gain at 1dB Gain Compression Point	G1dB		dB	6.0	7.0	—
Drain Current	IDS1		A	—	7.0	8.0
Gain Flatness	ΔG		dB	—	—	±0.8
Power Added Efficiency	ηadd		%	—	36	—
3rd Order Intermodulation Distortion	IM3	Two-Tone Test Po=34.5 dBm	dBc	-42	-45	—
Drain Current	IDS2	(Single Carrier Level)	A	—	7.0	8.0
Channel Temperature Rise	ΔTch	(VDS X IDS +Pin – P1dB) X Rth(c-c)	°C	—	—	100

Recommended gate resistance(Rg) : Rg= 28 Ω(MAX.)

ELECTRICAL CHARACTERISTICS (Ta= 25°C)

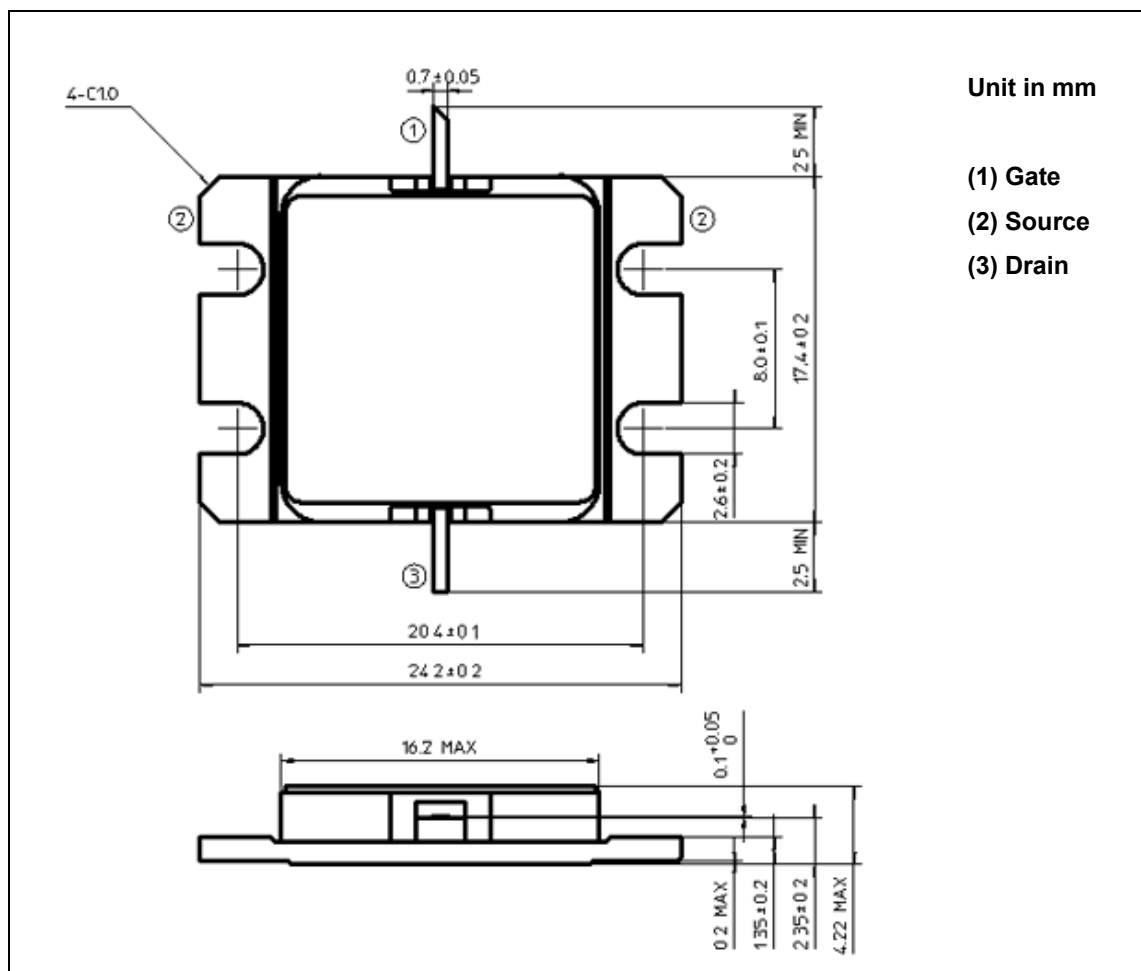
CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 3V IDS= 10A	mS	—	6300	—
Pinch-off Voltage	VGSoff	VDS= 3V IDS= 100mA	V	-1.0	-2.5	-4.0
Saturated Drain Current	IDSS	VDS= 3V VGS= 0V	A	—	18	—
Gate-Source Breakdown Voltage	VGSO	IGS= -350μA	V	-5	—	—
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W	—	1.0	1.3

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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	20
Total Power Dissipation (Tc= 25 °C)	PT	W	115.4
Channel Temperature	Tch	°C	175
Storage	Tstg	°C	-65 to +175

PACKAGE OUTLINE (2-16G1B)

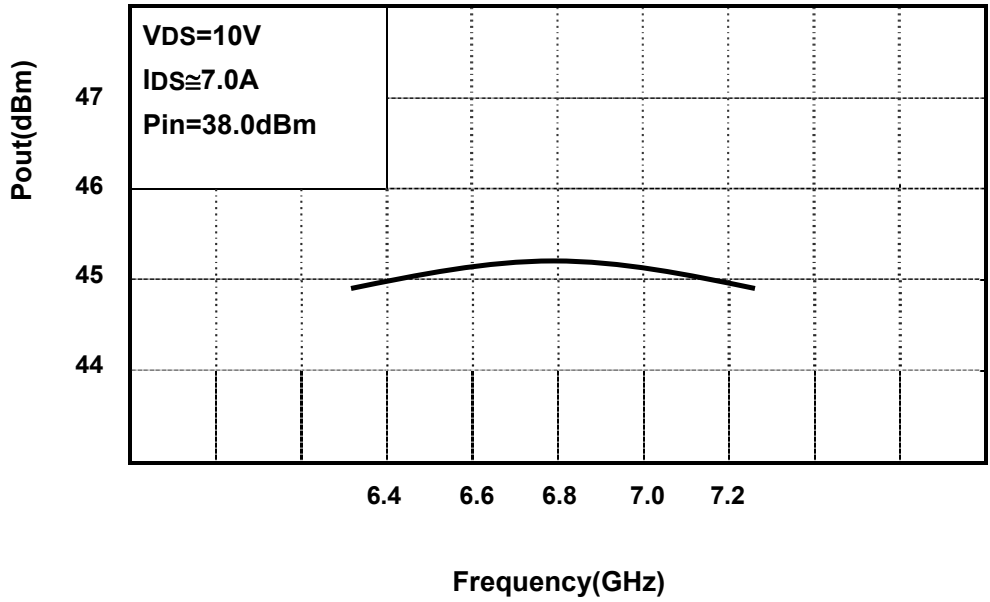


HANDLING PRECAUTIONS FOR PACKAGE MODEL

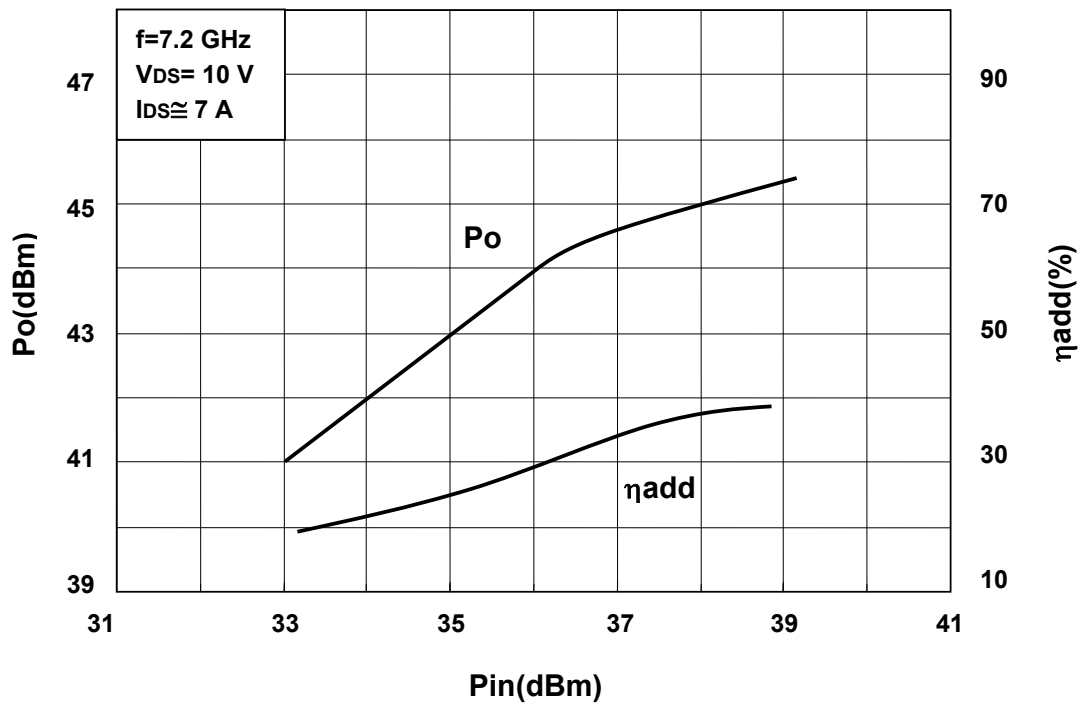
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C.

RF PERFORMANCE

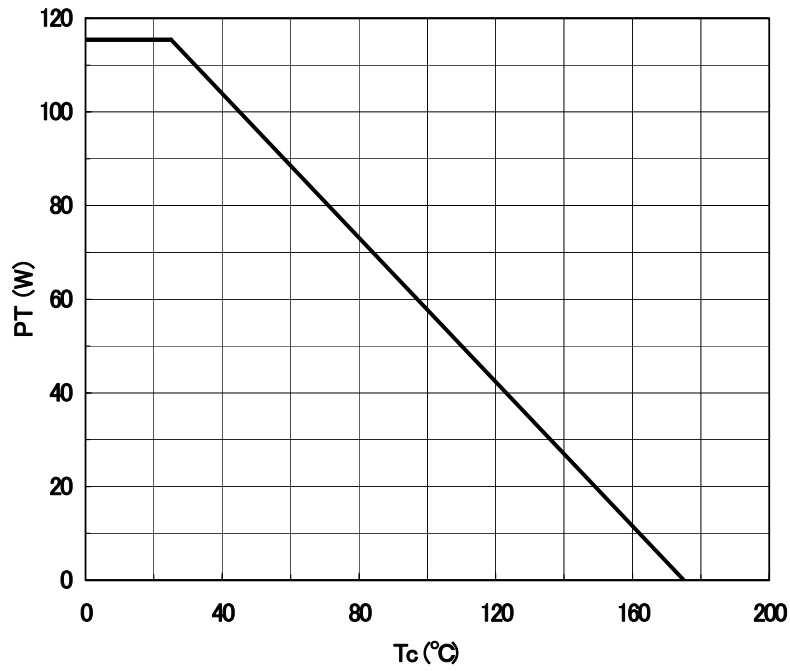
Output Power (Pout) vs. Frequency



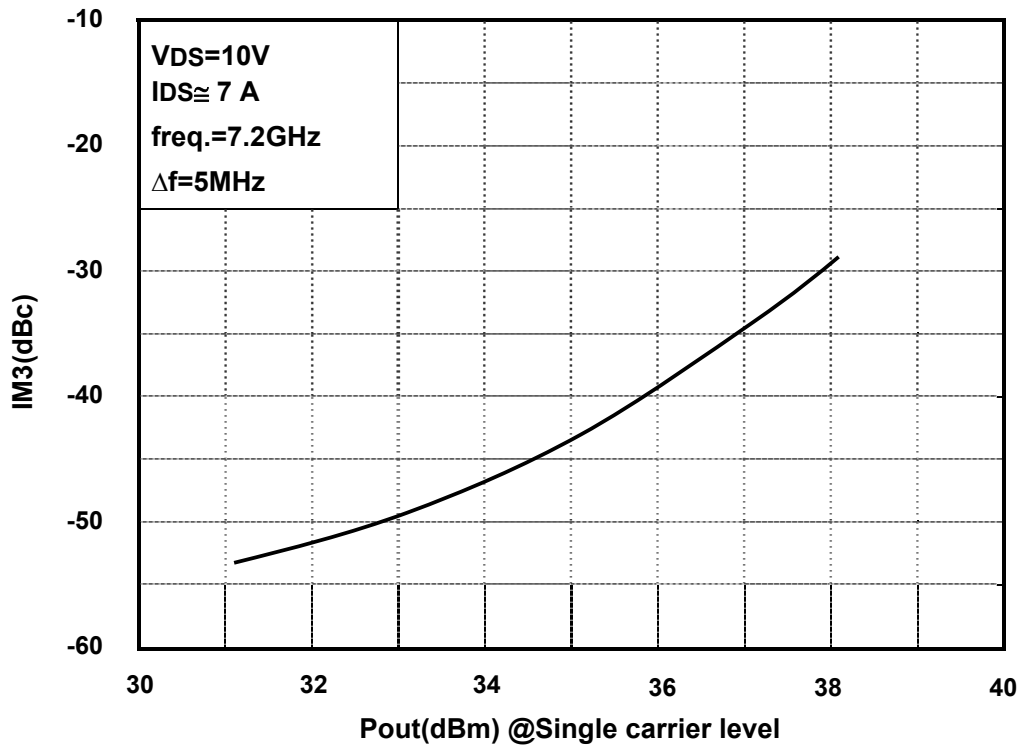
Output Power vs. Input Power



Power Dissipation vs. Case Temperature



IM3 vs. Output Power Characteristics



TOSHIBA

MICROWAVE SEMICONDUCTOR

TECHNICAL DATA

MICROWAVE POWER GaAs FET

TIM6472-25UL

FEATURES

■ HIGH POWER

P1dB=44.5dBm at 6.4GHz to 7.2GHz

■ HIGH GAIN

G1dB=9.5dB at 6.4GHz to 7.2GHz

■ BROAD BAND INTERNALLY MATCHED FET

■ HERMETICALLY SEALED PACKAGE

RF PERFORMANCE SPECIFICATIONS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Output Power at 1dB Gain Compression Point	P1dB	VDS= 10V f = 6.4 to 7.2GHz	dBm	43.5	44.5	—
Power Gain at 1dB Gain Compression Point	G1dB		dB	8.5	9.5	—
Drain Current	IDS1		A	—	6.8	7.6
Gain Flatness	ΔG		dB	—	—	±0.6
Power Added Efficiency	ηadd		%	—	37	—
3rd Order Intermodulation Distortion	IM3		Two-Tone Test Po=33.5dBm	dBc	-44	-47
Drain Current	IDS2	(Single Carrier Level)	A	—	6.8	7.6
Channel Temperature Rise	ΔTch	(VDS X IDS + Pin - P1dB) X Rth(c-c)	°C	—	—	80

Recommended gate resistance(Rg) : Rg= 28 Ω(MAX.)

ELECTRICAL CHARACTERISTICS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 3V IDS= 8.0A	mS	—	5000	—
Pinch-off Voltage	VGSoff	VDS= 3V IDS= 80mA	V	-1.0	-2.5	-4.0
Saturated Drain Current	IDSS	VDS= 3V VGS= 0V	A	—	14.4	—
Gate-Source Breakdown Voltage	VGSO	IGS= -280μA	V	-5	—	—
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W	—	1.2	1.5

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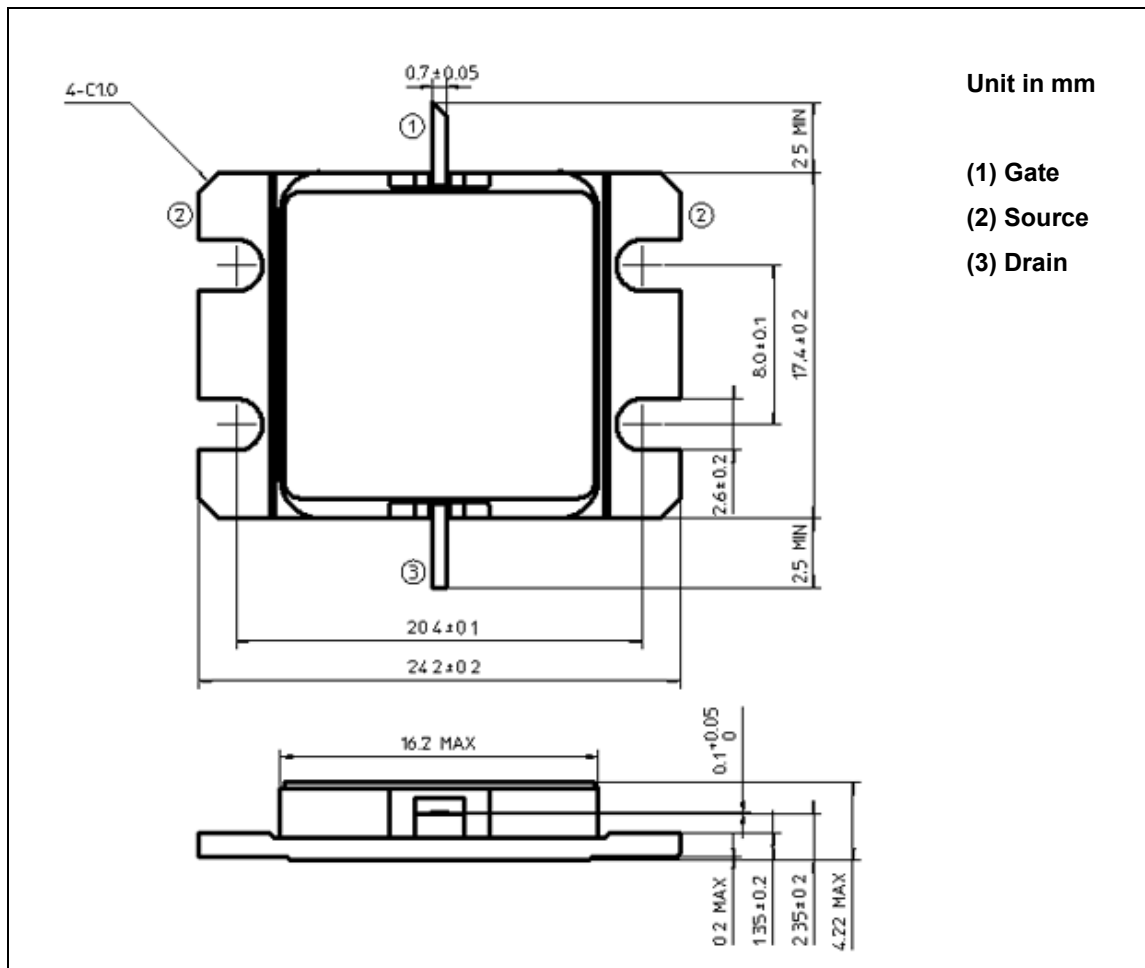
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TOSHIBA CORPORATION

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ABSOLUTE MAXIMUM RATINGS (Ta= 25°C)

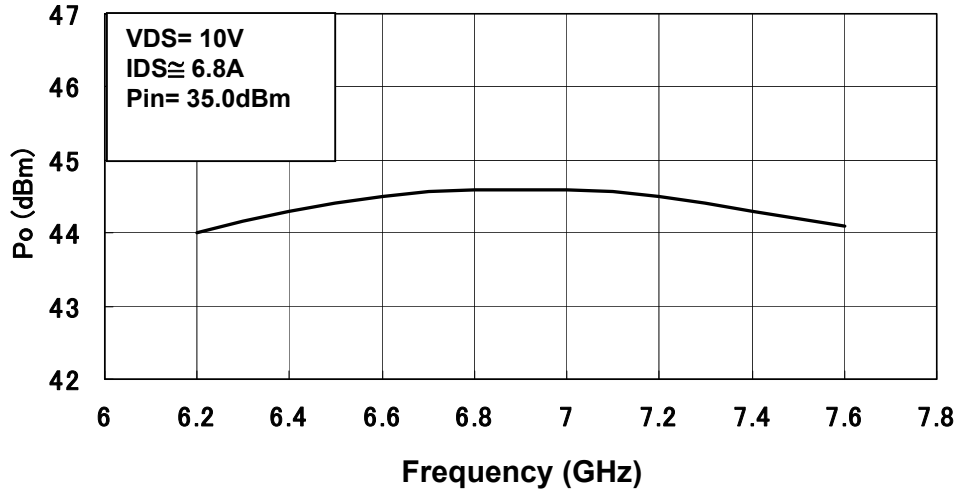
CHARACTERISTICS	SYMBOL	UNIT	RATING
Drain-Source Voltage	VDS	V	15
Gate-Source Voltage	VGS	V	-5
Drain Current	IDS	A	20.0
Total Power Dissipation (Tc= 25 °C)	PT	W	100
Channel Temperature	Tch	°C	175
Storage	Tstg	°C	-65 to +175

PACKAGE OUTLINE (2-16G1B)**HANDLING PRECAUTIONS FOR PACKAGE MODEL**

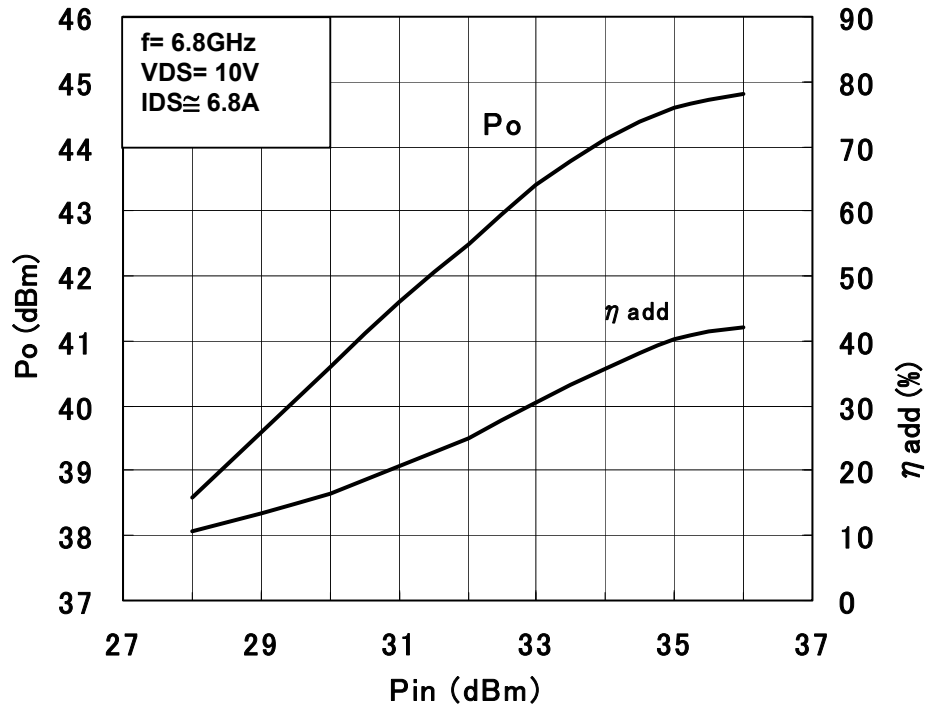
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RF PERFORMANCE

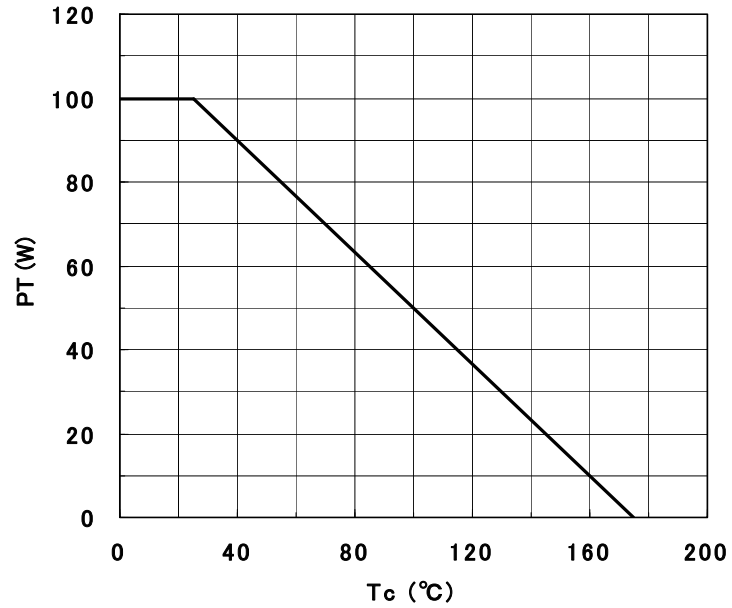
Output Power vs. Frequency



Output Power vs. Input Power



Power Dissipation vs. Case Temperature



IM3 vs. Output Power Characteristics

