TOSHIBA

MICROWAVE POWER GaAs FET TIM8596-15

MICROWAVE SEMICONDUCTOR TECHNICAL DATA

FEATURES

- **·BROAD BAND INTERNALLY MATCHED FET**
- ·HIGH POWER
- P1dB= 42.0dBm at 8.5GHz to 9.6GHz

·HIGH GAIN

- G1dB= 7.0dB at 8.5GHz to 9.6GHz
- 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= 9V IDSset= 4.0A f = 8.5 to 9.6GHz	dBm	41.0	42.0	_
Power Gain at 1dB Gain Compression Point	G1dB		dB	6.0	7.0	
Drain Current	IDS		А		4.5	5.5
Power Added Efficiency	ηadd		%	_	31	
Channel Temperature Rise	∆Tch	(VDS X IDS + Pin – P1dB) X Rth(c-c)	°C			100

Recommended Gate Resistance(Rg): 100 Ω

ELECTRICAL CHARACTERISTICS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 3V IDS= 4.8A	S	_	3.0	_
Pinch-off Voltage	VGSoff	VDS= 3V IDS= 145mA	V	-1.5	-3.0	-4.5
Saturated Drain Current	IDSS	VDS= 3V VGS= 0V	А		10.0	_
Gate-Source Breakdown Voltage	VGSO	IGS=145μA	V	-5	_	_
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W		2.0	2.5

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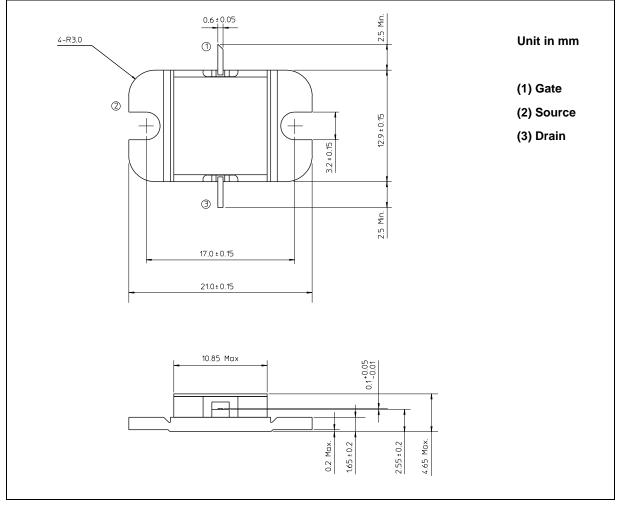
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MICROWAVE SEMICONDUCTOR TECHNICAL DATA

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	10.4
Total Power Dissipation (Tc= 25°C)	PT	W	60
Channel Temperature	Tch	°C	175
Storage	Tstg	°C	-65 to +175

PACKAGE OUTLINE (2-11C1B)



HANDLING PRECAUTIONS FOR PACKAGE MODEL

Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C or 3 seconds at 350°C.

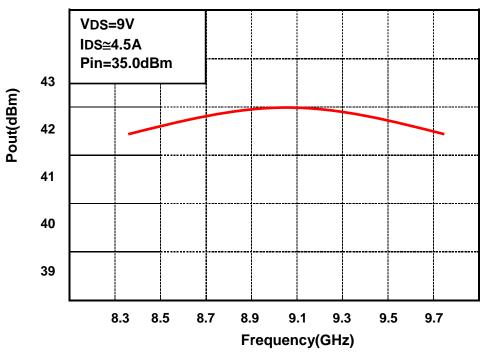
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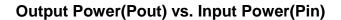
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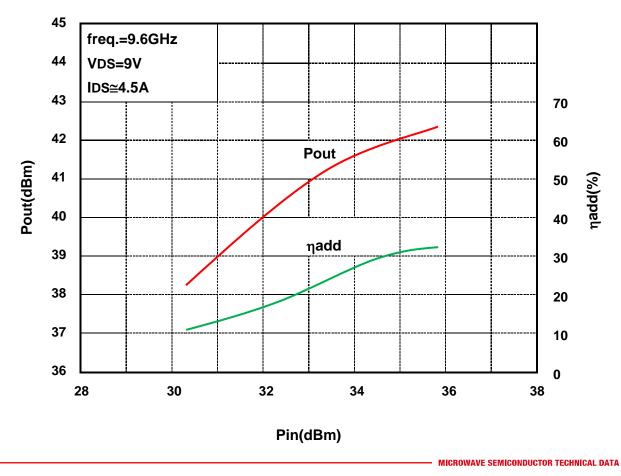
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RF PERFORMANCE

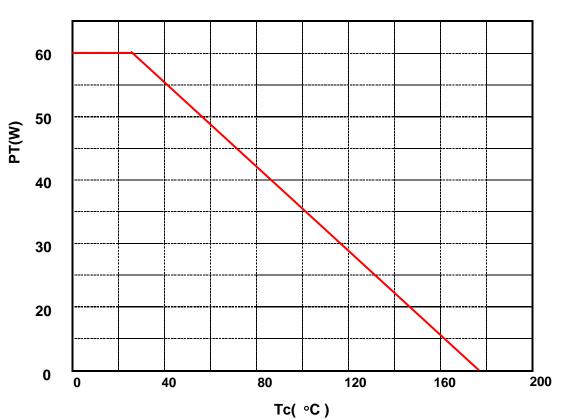
Output Power (Pout) vs. Frequency







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