# TOSHIBA

MICROWAVE SEMICONDUCTOR TECHNICAL DATA

#### **FEATURES**

#### ■ HIGH POWER

Pout=47.0dBm at Pin=41.0dBm

■ HIGH GAIN GL=9.0dB at 9.5GHz to 10.5GHz

#### MICROWAVE POWER GaN HEMT TGI0910-50

■ BROAD BAND INTERNALLY MATCHED HEMT HERMETICALLY SEALED PACKAGE

### RF PERFORMANCE SPECIFICATIONS (Ta= 25°C)

	i.					
CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Output Power	Pout	Pout VDS= 24V		46.0	47.0	—
Drain Current	IDS1	1 IDSset ≅ 1.5A		-	5.0	6.0
Power Added Efficiency	ηadd	dd f = 9.5G to 10.5GHz		-	31	—
		@Pin = 41dBm				
Linear Gain	GL	@Pin = 20dBm	dB	7.0	9.0	_
Channel Temperature Rise	∆Tch	(VDS X IDS1 + Pin – Pout)X Rth(c-c)	°C	-	130	150

Recommended gate resistance(Rg) : Rg=13.3  $\Omega$ (TYP.)

# ELECTRICAL CHARACTERISTICS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	CONDITIONS		UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 5	V	S		4.5	
		IDS= 5.	.0A				
Pinch-off Voltage	VGSoff	VDS= 5	SV .	V	-1	-4	-6
		IDS= 23	3mA				
Saturated Drain Current	IDSS	VDS= 5	V	А		15	
		VGS= 0	V				
Gate-Source Breakdown	VGSO	IGS= -1	10mA	V	-10		
Voltage							
Thermal Resistance	Rth(c-c)	Channel to Case		°C/W			1.6

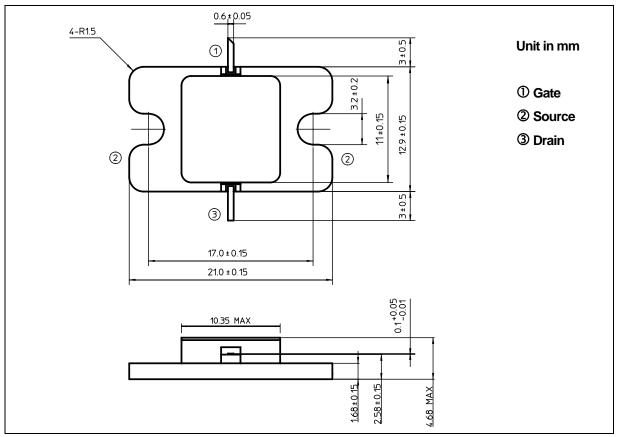
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-	ГG	109	10	-50
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ABSOLUTE MAXIMUM RATINGS	( Ta= 25°C )
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CHARACTERISTICS	SYMBOL	UNIT	RATING
Drain-Source Voltage	VDS	V	50
Gate-Source Voltage	VGS	V	-10
Drain Current	IDS	А	15
Total Power Dissipation (Tc= 25 ∘C)	PT	W	140
Channel Temperature	Tch	°C	250
Storage	Tstg	°C	-65 to +175

## PACKAGE OUTLINE (7- AA04A)



#### HANDLING PRECAUTIONS FOR PACKAGED MODEL

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