# **TOSHIBA**

## **MICROWAVE SEMICONDUCTOR** TECHNICAL DATA

## **MICROWAVE POWER GaAs FET** TIM5359-8SL **PRELIMINARY**

■ BROAD BAND INTERNALLY MATCHED

#### **FEATURES**

- **HIGH POWERT** 
  - P1dB=39.5dBm at 5.3GHz to 5.9GHz
- **HERMETICALLY SEALED PACKAGE**

#### **■ HIGH GAIN**

G1dB=9.0dB at 5.3GHz to 5.9GHz

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

CHARACTERISTICS	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Output Power at 1dB	P1dB		dBm	38.5	39.5	
Compression Point						
Power Gain at 1dB	G1dB	VDS= 10V	dB	8.0	9.0	
Compression Point		f= 5.3 to 5.9GHz				
Drain Current	IDS1		Α		2.2	2.6
Gain Flatness	ΔG		dB	_	_	±0.6
Power Added Efficiency	ηadd		%	_	35	
3 <sup>rd</sup> Order Intermodulation	IM3		dBc	-42	-45	
Distortion		NOTE				
Drain Current	IDS2		Α		2.2	2.6
Channel Temperature Rise	ΔTch	VDS X IDS X Rth(c-c)	°C	_	_	80

NOTE: Two Tone Test, Po=28.5dBm (Single Carrier Level)

### ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTICS	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Transconductance	Gm	VDS= 3V	mS	_	1800	_
		IDS= 3.0A				
Pinch-off Voltage	VGSoff	VDS= 3V	V	-1.0	-2.5	-4.0
		IDS= 30mA				
Saturated Drain Current	IDSS	VDS= 3V	Α		5.2	7.0
		VGS= 0V				
Gate-Source Breakdown	VGSO	IGS= -100μA	V	-5		_
Voltage						
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W		2.5	3.8

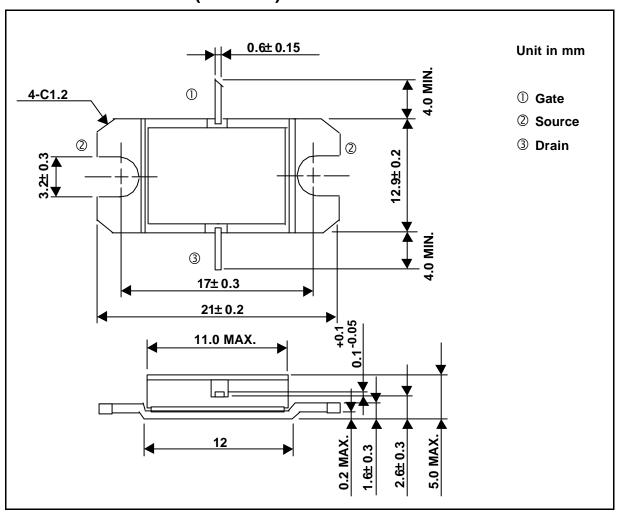
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# ABSOLUTE MAXIMUM RATINGS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	UNIT	RATING
Drain-Source Voltage	VDS	V	15
Gate-Source Voltage	VGS	V	-5
Drain Current	IDS	Α	7.0
Total Power Dissipation (Tc= 25 °C)	РТ	W	37.5
Channel Temperature	Tch	°C	175
Storage Temperature	Tstg	°C	-65 to +175

# **PACKAGE OUTLINE (2-11D1B)**



### **HANDLING PRECAUTIONS FOR PACKAGED TYPE**

Soldering iron should be grounded and the operating time should not exceed 10 seconds at  $260^{\circ}$  C.