

**MICROWAVE SEMICONDUCTOR
TECHNICAL DATA**

MICROWAVE POWER GaAs FET

S9G72

Preliminary

■ HIGH POWER

$P_{1dB}=36.5\text{dBm}$

■ HIGH GAIN

$G_{1dB}=13\text{dB}$

■ NON-MATCHED TYPE

■ HERMETICALLY SEALED PACKAGE

1. RF PERFORMANCE SPECIFICATIONS (Ta= 25 °C)

CHARACTERISTICS	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Output Power at 1dB Compression Point	P_{1dB}	$V_{DS}= 10V$ $f= 1.5GHz$	35.5	36.5	—	dBm
Power Gain at 1dB Compression Point	G_{1dB}		12.0	13.0	—	dB
Drain Current	I_{DS}		—	1.1	1.5	A
Power Added Efficiency	η_{add}		—	40	—	%
Thermal Resistance	$R_{th(c-c)}$	Channel to Case	—	—	8.5	°C/W

2. ELECTRICAL CHARACTERISTICS (Ta= 25 °C)

CHARACTERISTICS	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Transconductance	g_m	$V_{DS}= 3V$ $I_{DS}= 1.0A$	—	1100	—	mS
Pinch-off Voltage	V_{GSoff}	$V_{DS}= 3V$ $I_{DS}= 18mA$	-1.0	-2.0	-3.0	V
Saturated Drain Current	I_{DSS}	$V_{DS}= 3V$ $V_{GS}= 0V$	—	2.2	3.5	A
Gate-Source Breakdown Voltage	V_{GSO}	$I_{GS}= -50\mu A$	-5	—	—	V
Channel-Temperature Rise	ΔT_{ch}	Note 1	—	—	80	°C

Note 1 : $\Delta T_{ch}=(10V \times I_{DS} + P_{in} - P_{1dB}) \times R_{th(c-c)}$

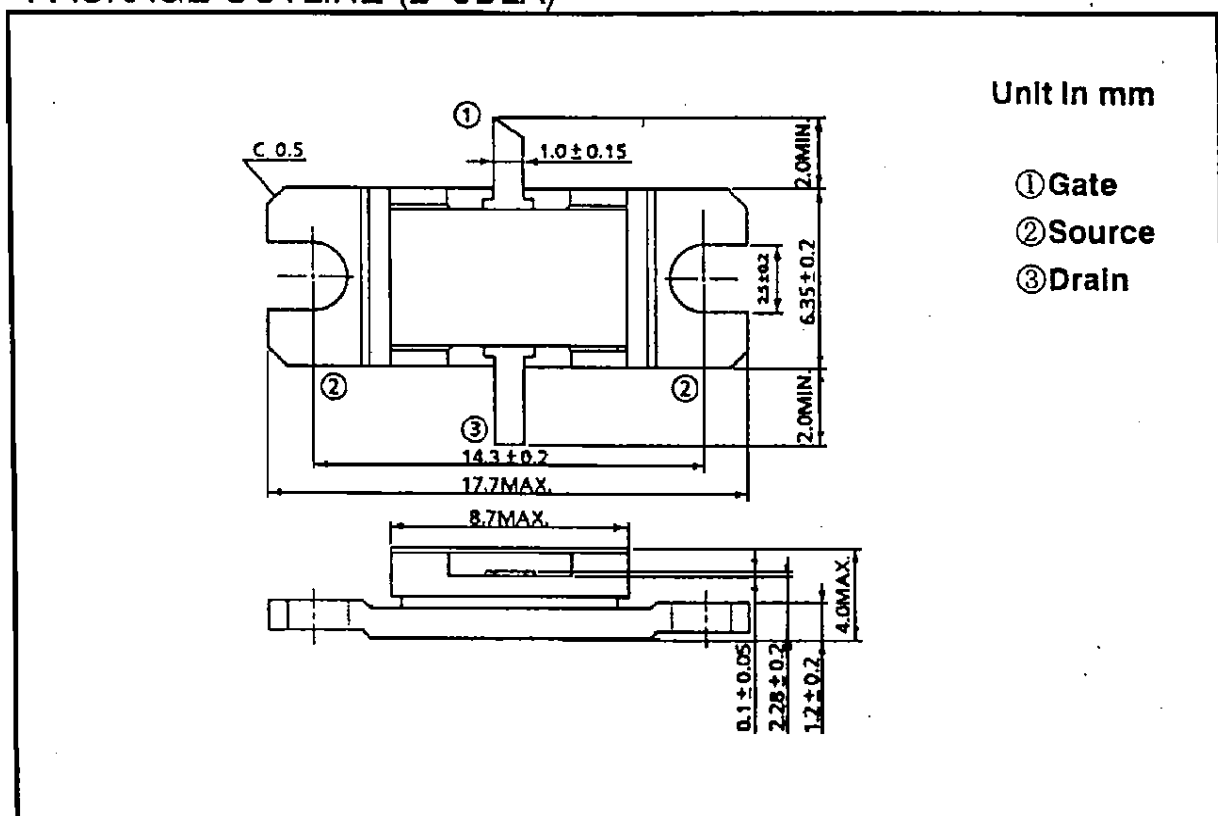
★The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA for any infringements of patents or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of TOSHIBA or others.

★The information contained herein may be changed without prior notice. It is therefore advisable to contact TOSHIBA before proceeding with the design of equipment incorporating this product.

3. ABSOLUTE MAXIMUM RATINGS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	VDS	15	V
Gate-Source Voltage	VGS	-5	V
Drain Current	IDS	3.5	A
Total Power Dissipation(Tc=25°C)	PT	25	W
Channel Temperature	Tch	175	°C
Storage Temperature	Tstg	-65 - +175	°C

PACKAGE OUTLINE (2- 9D2A)

HANDLING PRECAUTIONS FOR PACKAGED TYPE

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