TOSHIBA

May 1998

TIM1414-10A-252

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

CHARACTERISTICS	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Output Power at 1dB Compression Point	P_{1dB}	V_{DS}= 9V f =13.75-14.5GHz	39.0	39.5	-	dBm
Power Gain at 1dB Compression Point	G_{1dB}		4.5	5.5	-	dB
Drain Current	I_{DS}		-	4.0	5.0	A
Power Added Efficiency	η_{add}		-	23	-	%
Channel Temperature Rise	Tch	V_{DS} x I_{DS} x Rth	-	-	90	°C

2. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Transconductance	gm	V_{DS}= 3V I_{DS}= 4.8A	-	2800	-	mS
Pinch-off Voltage	V_{GSoff}	V_{DS}= 3V I_{DS}= 145mA	-2.0	-3.5	-5.0	V
Saturated Drain Current	I_{DSS}	V_{DS}= 3V V_{GS}=0V	-	10.0	11.5	A
Gate-Source Breakdown Voltage	V_{GSO}	I_{GS}= -145μA	-5	-	-	V
Thermal Resistance	$R_{th(c-c)}$	Channel to Case	-	2.0	2.5	°C/W

Applications Engineering
Solid-State Engineering Department
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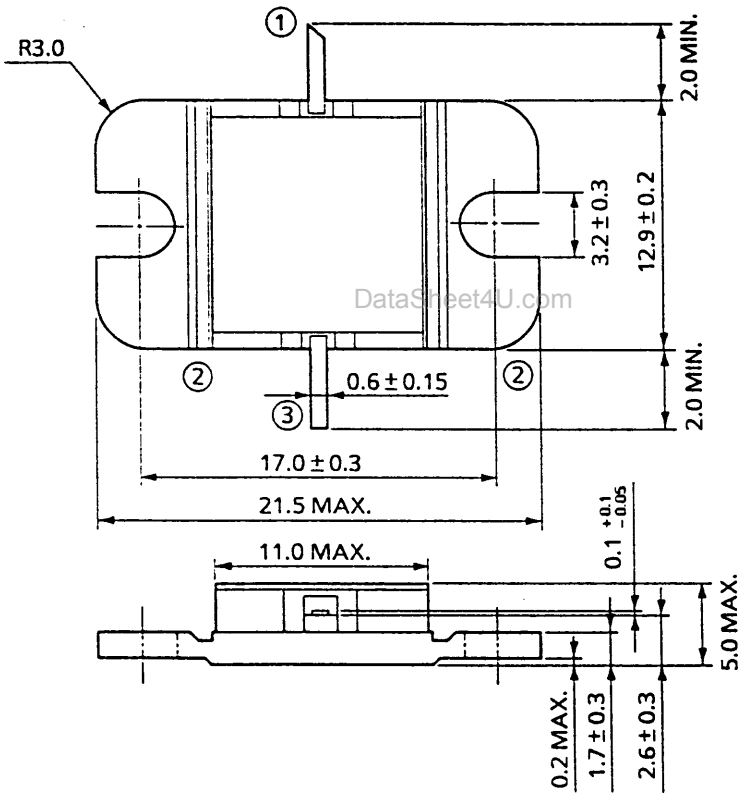
ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTICS	SYMBOL	UNIT	RATING
Drain-Source Voltage	V_{DS}	V	15
Gate-Source Voltage	V_{GS}	V	−5
Drain Current	I_{DS}	A	11.5
Total Power Dissipation (T_C = 25°C)	P_T	W	60
Channel Temperature	T_{ch}	°C	175
Storage Temperature	T_{stg}	°C	−65~175

PACKAGE OUTLINE (2-11C1B)



Unit in mm

① Gate
② Source
③ Drain

HANDLING PRECAUTIONS FOR PACKAGED TYPE

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