

FEATURES :

■ HIGH POWER

$P_{1dB} = 42.0 \text{ dBm}$ at 9.5 GHz to 10.5 GHz

■ BROAD BAND INTERNALLY MATCHED

■ HIGH GAIN

$G_{1dB} = 7.0 \text{ dB}$ at 9.5 GHz to 10.5 GHz

■ HERMETICALLY SEALED PACKAGE

RF PERFORMANCE SPECIFICATIONS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Output Power at 1dB Compression Point	P_{1dB}	$V_{DS} = 9 \text{ V}$ $f = 9.5 - 10.5 \text{ GHz}$	dBm	41.0	42.0	—
Power Gain at 1dB Compression Point	G_{1dB}		dB	6.0	7.0	—
Drain Current	I_{DS}		A	—	4.5	5.5
Power Added Efficiency	η_{add}		%	—	31	—

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	$V_{DS} = 3 \text{ V}$ $I_{DS} = 4.8 \text{ A}$	mS	—	3000	—
Pinch-off Voltage	V_{GSoff}	$V_{DS} = 3 \text{ V}$ $I_{DS} = 145 \text{ mA}$	V	-1.5	-3.0	-4.5
Saturated Drain Current	I_{DSS}	$V_{DS} = 3 \text{ V}$ $V_{GS} = 0 \text{ V}$	A	—	10.0	11.5
Gate-Source Breakdown Voltage	V_{GSO}	$I_{GS} = -145 \mu\text{A}$	V	-5	—	—
Thermal Resistance	$R_{th(c-c)}$	Channel to Case	$^\circ\text{C/W}$	—	2.0	2.5

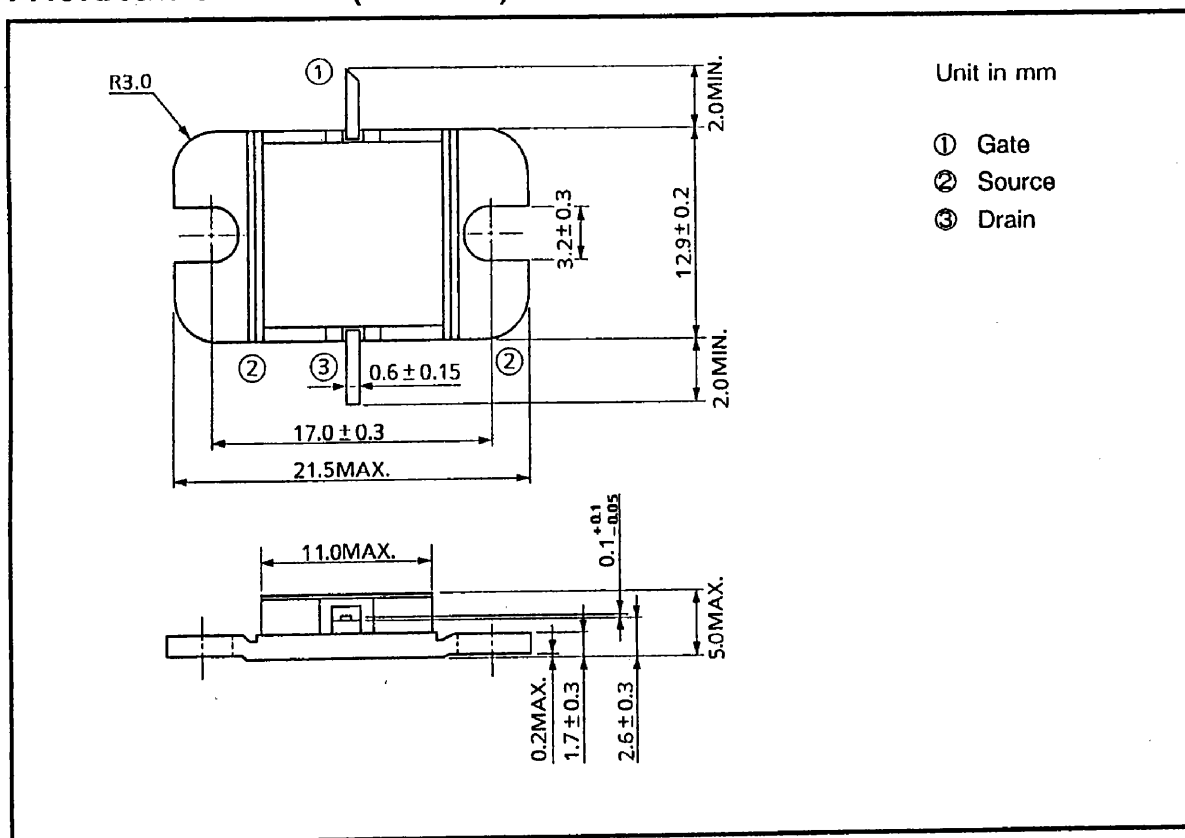
Recommended Gate Resistance(R_g) : $R_g = R_{g1}(50 \Omega) + R_{g2}(50 \Omega) = 100 \Omega$ (MAX.)

- ★ 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.

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	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 _{slg}	°C	-65~175

PACKAGE OUTLINE (2-11C1B)

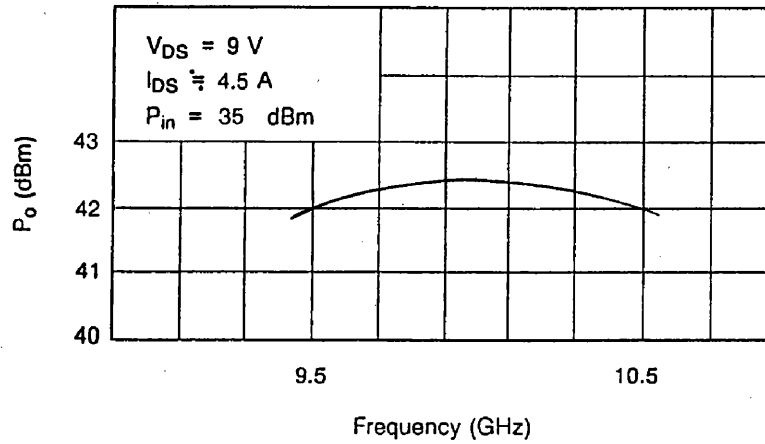


HANDLING PRECAUTIONS FOR PACKAGED TYPE

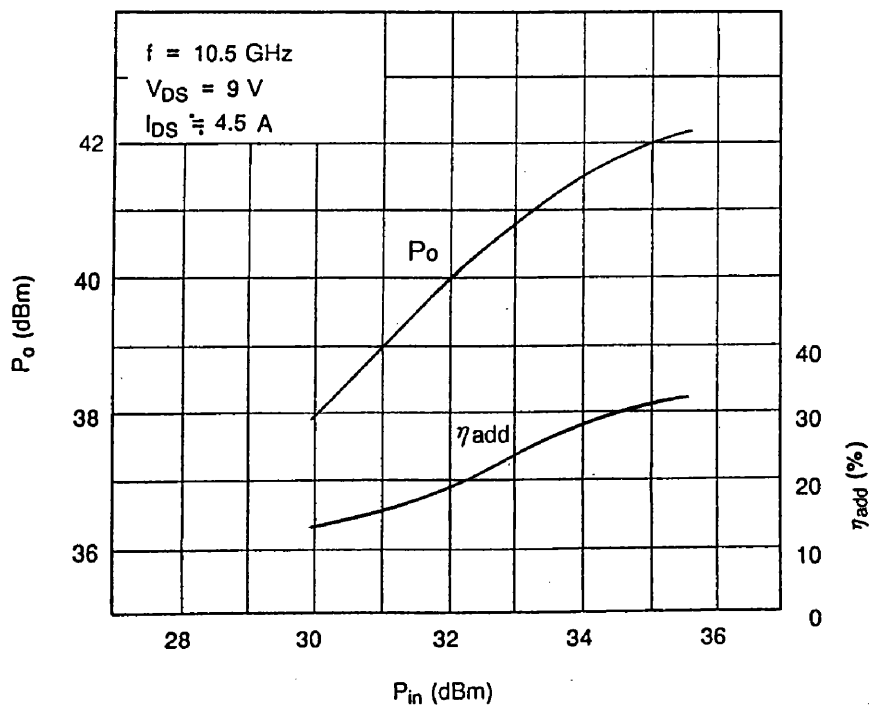
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C.

RF PERFORMANCES

Output Power vs. Frequency



Output Power vs. Input Power



POWER DISSIPATION VS. CASE TEMPERATURE