

FEATURES :

- LOW INTERMODULATION DISTORTION
 $IM_3 = -45$ dBc at $P_o = 30.0$ dBm,
 Single Carrier Level
- HIGH POWER
 $P_{1dB} = 42.0$ dBm at 9.5 GHz to 10.5 GHz
- HIGH GAIN
 $G_{1dB} = 7.0$ dB at 9.5 GHz to 10.5 GHz
- BROAD BAND INTERNALLY MATCHED
- HERMETICALLY SEALED PACKAGE

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

CHARACTERISTICS	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Output Power at 1dB Compression Point	P_{1dB}	$V_{DS} = 9\text{ V}$ $f = 9.5\sim 10.5\text{ GHz}$	dBm	41.0	42.0	—
Power Gain at 1dB Compression Point	G_{1dB}		dB	6.0	7.0	—
Drain Current	I_{DS1}		A	—	4.5	5.5
Gain Flatness	ΔG		dB	—	—	± 0.8
Power Added Efficiency	η_{add}		%	—	31	—
3rd Order Intermodulation Distortion	IM_3	Note 1	dBc	-42	-45	—
Drain Current	I_{DS2}		A	—	4.5	5.5
Channel-Temperature Rise	ΔT_{ch}	$V_{DS} \times I_{DS} \times R_{th(c-c)}$	$^\circ\text{C}$	—	—	100

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

CHARACTERISTIC	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Transconductance	g_m	$V_{DS} = 3\text{ V}$ $I_{DS} = 4.8\text{ A}$	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

Note 1 : 2 tone Test Pout = 30.0 dBm Single Carrier Level.

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

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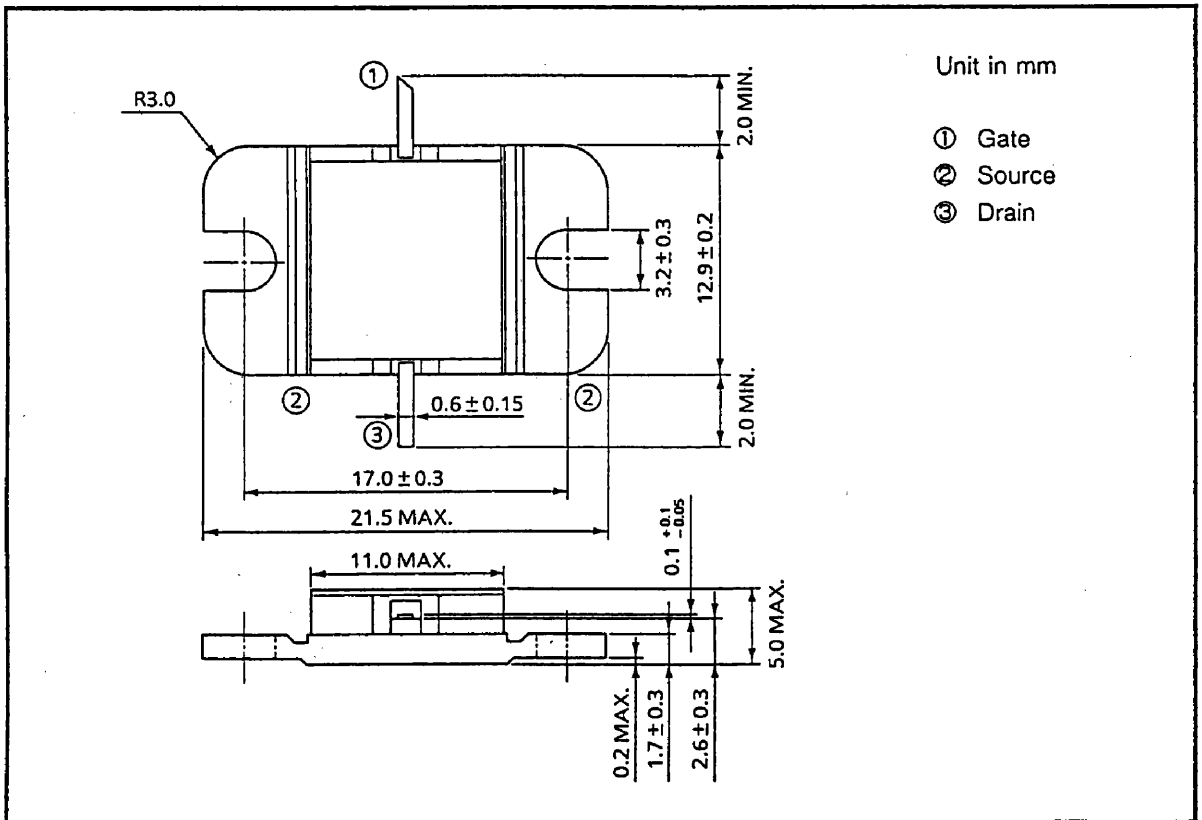
Jan. 1999

TIM0910-15L

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)

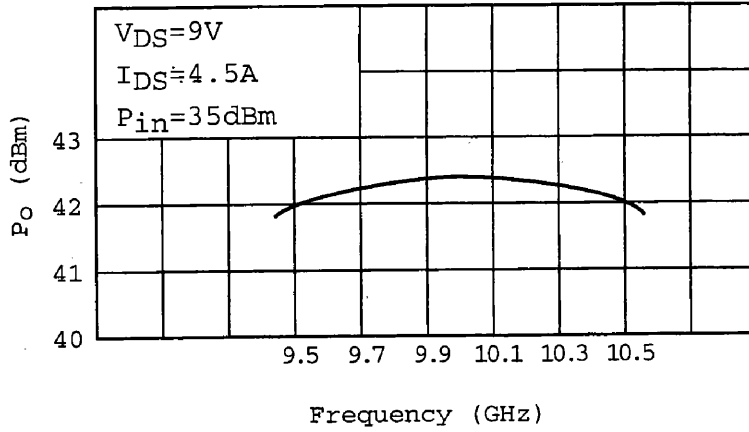


HANDLING PRECAUTIONS FOR PACKAGED TYPE

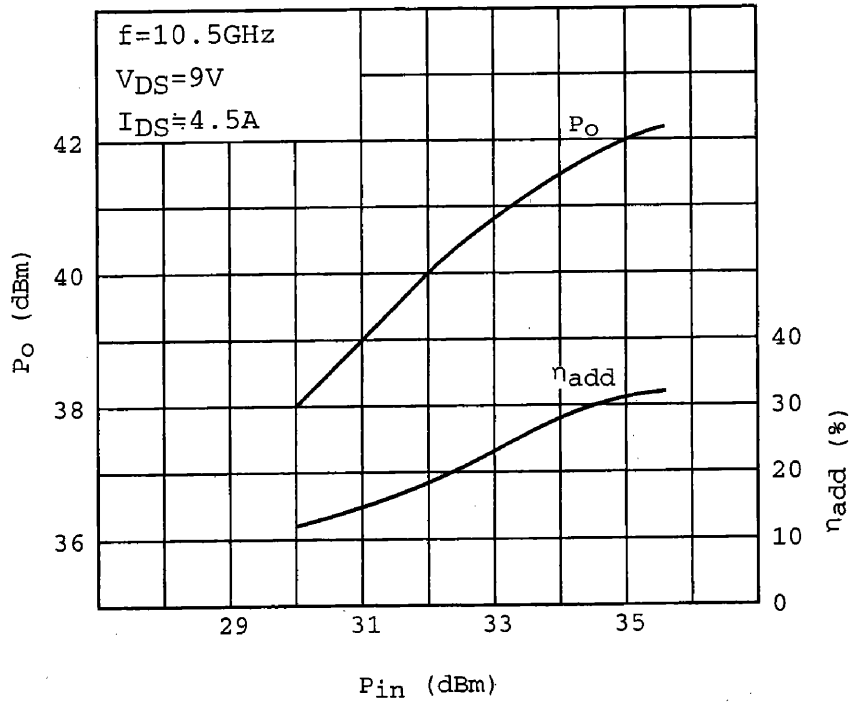
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C.

RF PERFORMANCES

Output Power vs. Frequency

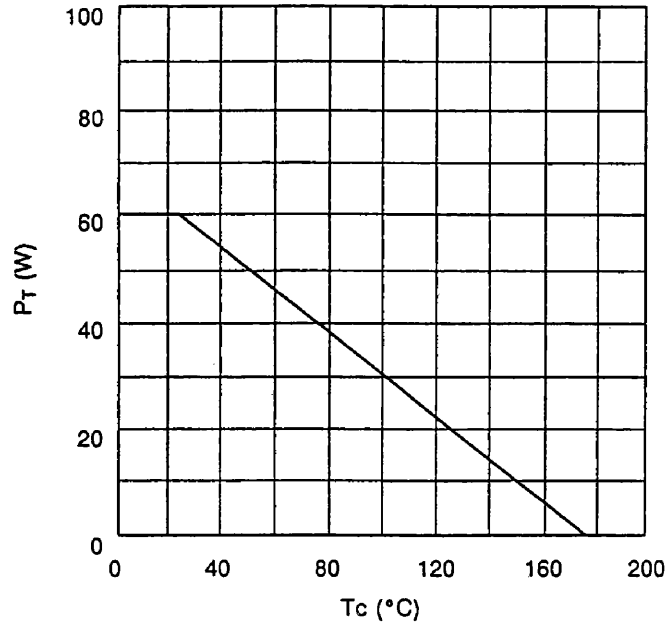


Output Power vs. Input Power



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POWER DISSIPATION VS. CASE TEMPERATURE



IM₃ VS. OUTPUT POWER CHARACTERISTICS

