

FEATURES:

- LOW INTERMODULATION DISTORTION
IM₃ = -45 dBc at P_o 25.5 dBm,
Single Carrier Level
- HIGH GAIN
G_{1dB} = 10.5dB at 3.7 GHz to 4.2 GHz
- BROAD BAND INTERNALLY MATCHED
- HIGH POWER
P_{1dB} = 36.5 dBm at 3.7 GHz to 4.2 GHz
- HERMETICALLY SEALED PACKAGE

RF PERFORMANCE SPECIFICATIONS (Ta = 25°C)

CHARACTERISTICS	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Output Power at 1 dB Compression Point	P _{1dB}	V _{DS} = 10V f = 3.7~4.2GHz	dBm	35.5	36.5	-
Power Gain at 1 dB Compression Point	G _{1dB}		dB	9.5	10.5	-
Drain Current	I _{DS}		A	-	1.1	1.3
Gain Flatness	ΔG		dB	-	-	±0.6
Power Added Efficiency	η _{add}		%	-	37	-
3rd Order Intermodulation Distortion	IM ₃	Note 1	dBc	-42	-45	-
Channel Temperature Rise	ΔT _{ch}	V _{DS} × I _{DS} × R _{th(c-c)}	°C	-	-	80

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTICS	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Trans-conductance	gm	V _{DS} = 3V I _{DS} = 1.5A	mS	-	900	-
Pinch-off Voltage	V _{GSoFF}	V _{DS} = 3V I _{DS} = 15mA	V	-1	-2.5	-4.0
Saturated Drain Current	I _{DSS}	V _{DS} = 3V V _{GS} = 0V	A	-	2.6	3.5
Gate-Source Breakdown Voltage	V _{GSO}	I _{GS} = -50 μA	V	-5	-	-
Thermal Resistance	R _{th(c-c)}	Channel to Case	°C/W	-	4.5	6.5

Note 1: 2 tone Test Pout = 25.5dBm Single Carrier Level.

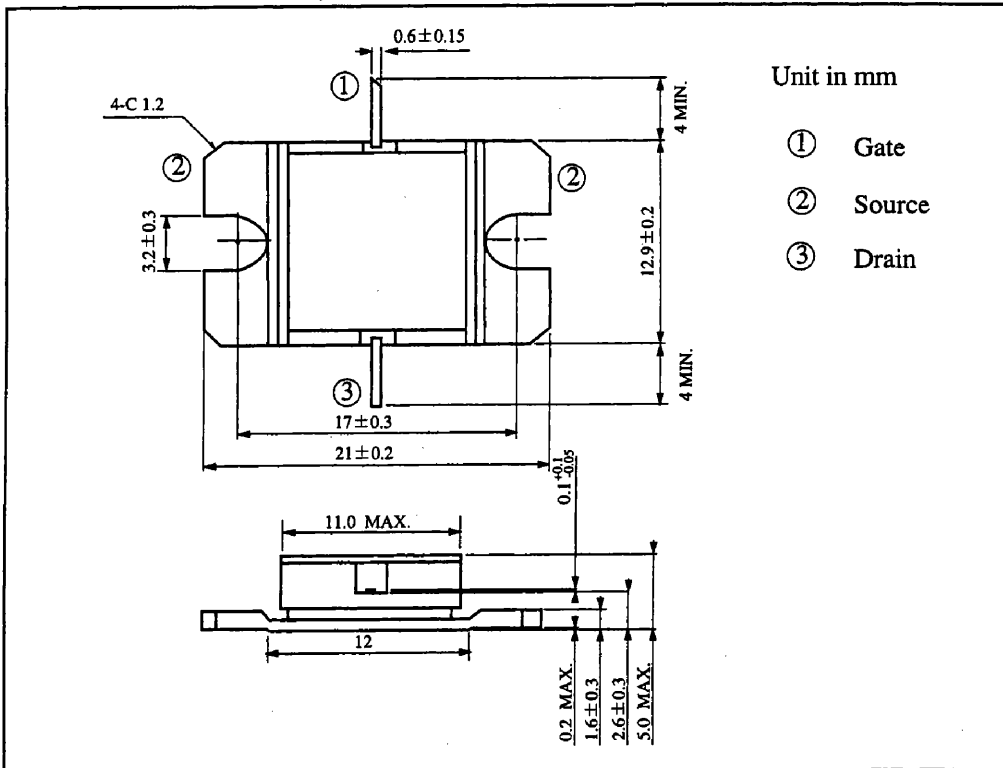
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TIM3742-4SL

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	3.5
Total Power Dissipation (Tc=25°C)	P _T	W	23
Channel Temperature	T _{ch}	°C	175
Storage Temperature	T _{stg}	°C	-65~175

PACKAGE OUTLINE (2-11D1B)

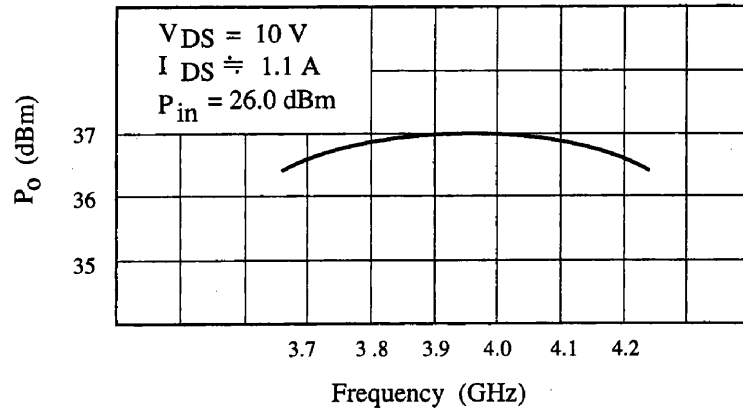


HANDLING PRECAUTIONS FOR PACKAGED TYPE

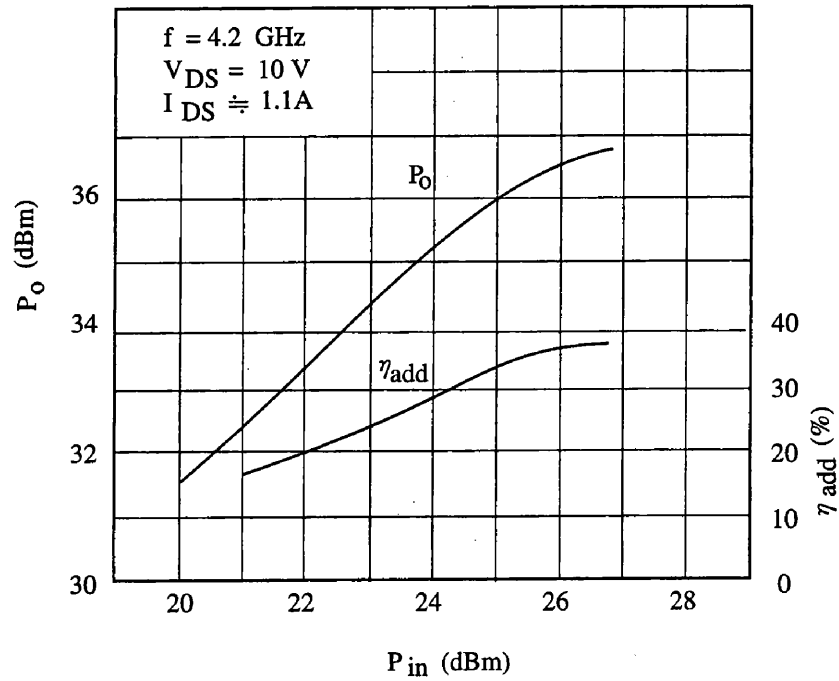
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C.

RF PERFORMANCES

Output Power vs. Frequency

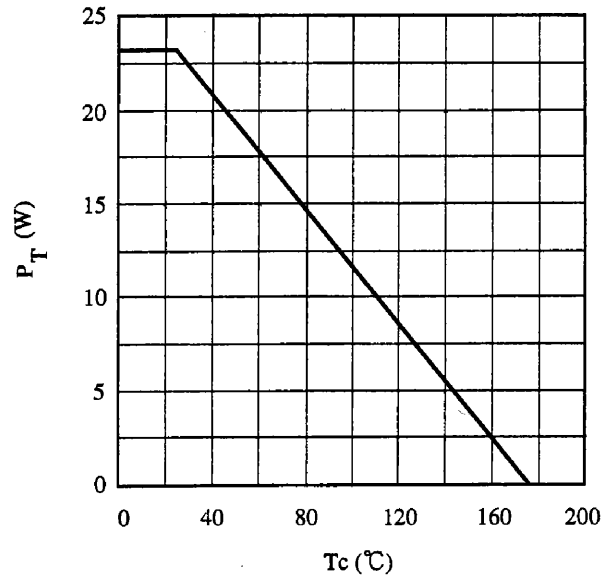


Output Power vs. Input Power



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POWER DISSIPATION VS. CASE TEMPERATURE



IM₃ VS. OUTPUT POWER CHARACTERISTICS

