

FEATURES :

- LOW INTERMODULATION DISTORTION
 $IM_3 = -45$ dBc at $P_o = 31.5$ dBm,
 Single Carrier Level
- HIGH POWER
 $P_{1dB} = 42.0$ dBm at 6.4 GHz to 7.2 GHz
- HIGH GAIN
 $G_{1dB} = 7.5$ dB at 6.4 GHz to 7.2 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}	$V_{DS} = 10$ V $f = 6.4 \sim 7.2$ GHz	dBm	41.0	42.0	—
Power Gain at 1dB Compression Point	G_{1dB}		dB	6.5	7.5	—
Drain Current	I_{DS1}		A	—	4.2	5.0
Gain Flatness	ΔG		dB	—	—	± 0.6
Power Added Efficiency	η_{add}		%	—	31	—
3rd Order Intermodulation Distortion	IM_3	Note 1	dBc	-42	-45	—
Drain Current	I_{DS2}		A	—	4.2	5.0
Channel-Temperature Rise	ΔT_{ch}	$V_{DS} \times I_{DS} \times R_{th(c-c)}$	$^\circ\text{C}$	—	—	80

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

CHARACTERISTICS	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	$V_{DS} = 3$ V $I_{DS} = 5.2$ A	mS	—	3200	—
Pinch-off Voltage	V_{GSoff}	$V_{DS} = 3$ V $I_{DS} = 70$ mA	V	-2	-3.5	-5.0
Saturated Drain Current	I_{DSS}	$V_{DS} = 3$ V $V_{GS} = 0$ V	A	—	10.0	13.0
Gate-Source Breakdown Voltage	V_{GSO}	$I_{GS} = -210$ μA	V	-5	—	—
Thermal Resistance	$R_{th(c-c)}$	Channel to Case	$^\circ\text{C/W}$	—	1.9	2.5

Note 1 : 2 tone Test Pout = 31.5 dBm Single Carrier Level.

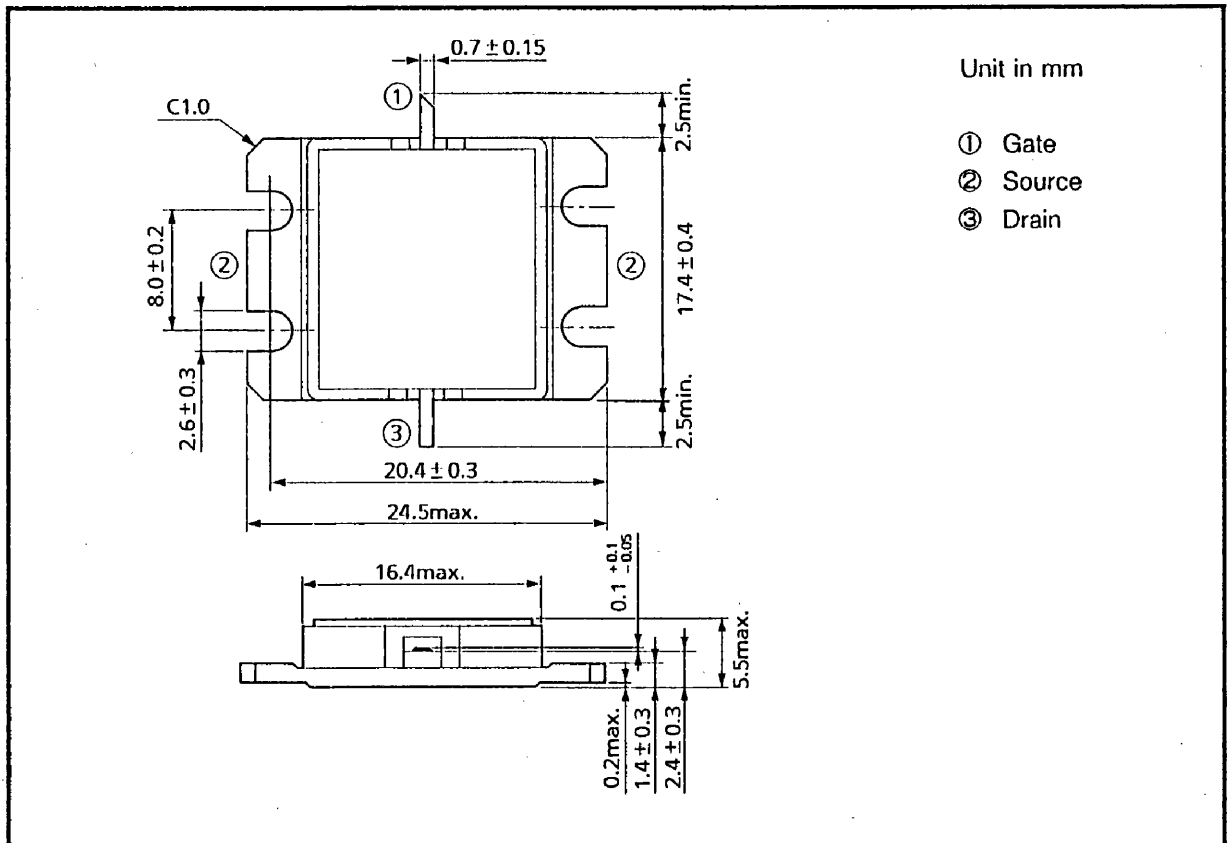
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ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTICS	SYMBOL	UNIT	RATING
Drain-Source Voltage	V _{DS}	V	15
Gate-Source Voltage	V _{GS}	V	-5
Drain Current	I _{DS}	A	13
Total Power Dissipation (T _C = 25°C)	P _T	W	60
Channel Temperature	T _{ch}	°C	175
Storage Temperature	T _{stg}	°C	-65~175

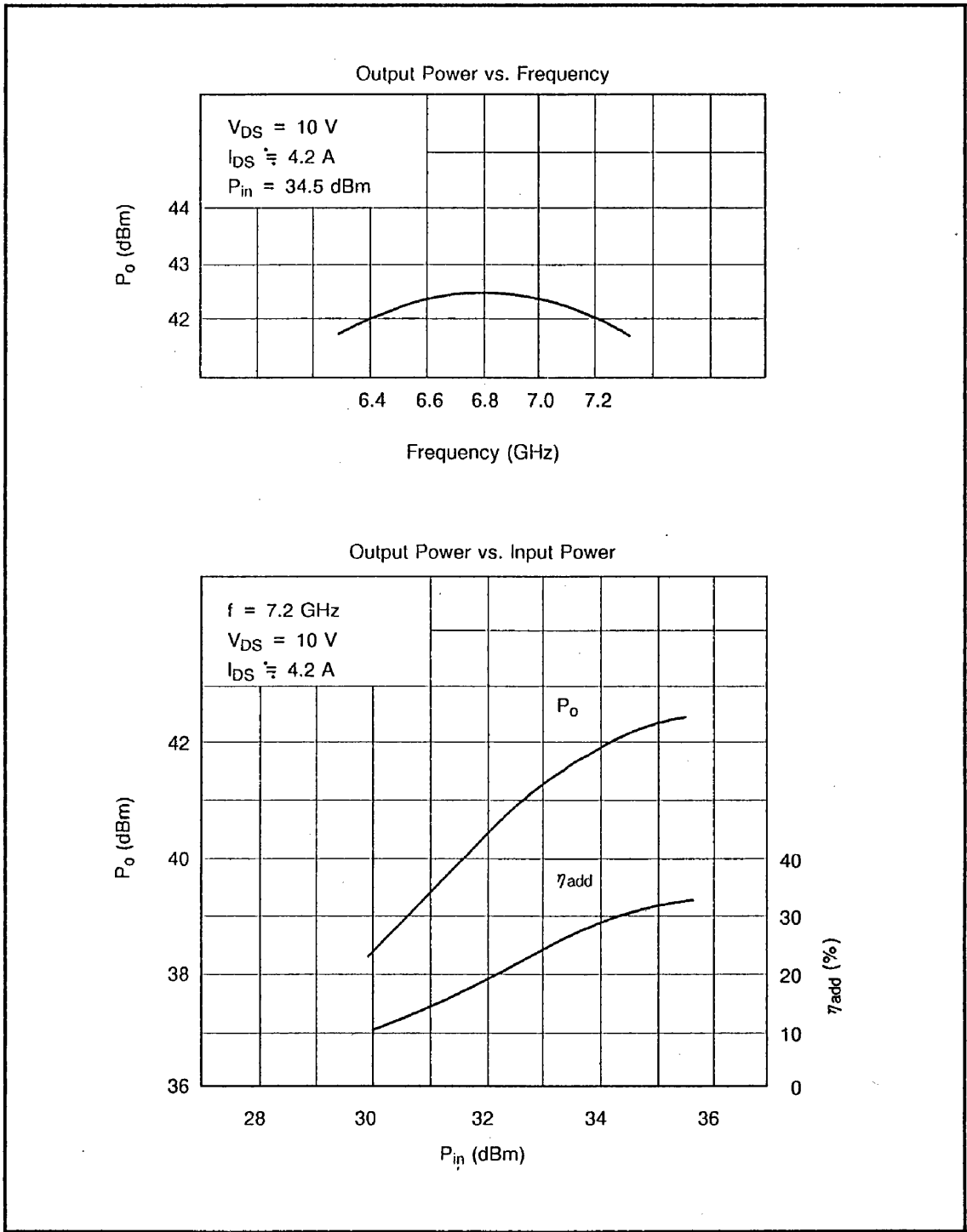
PACKAGE OUTLINE (2-16G1B)



HANDLING PRECAUTIONS FOR PACKAGED TYPE

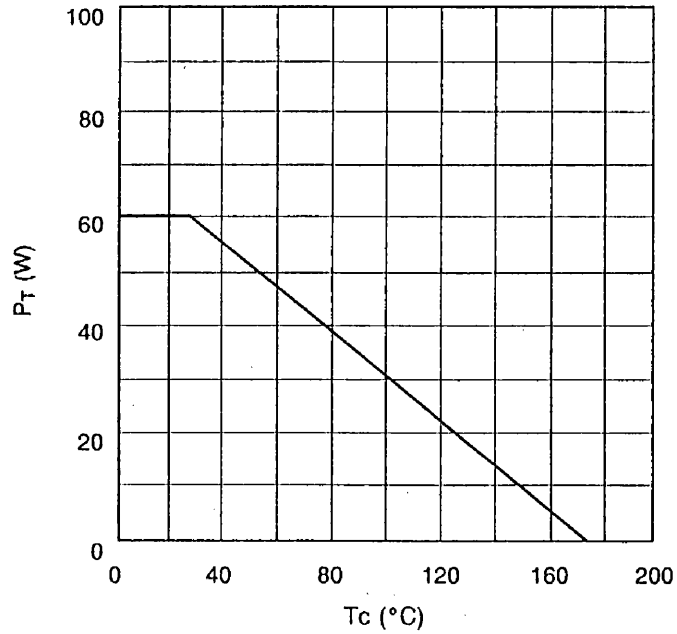
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C.

RF PERFORMANCES

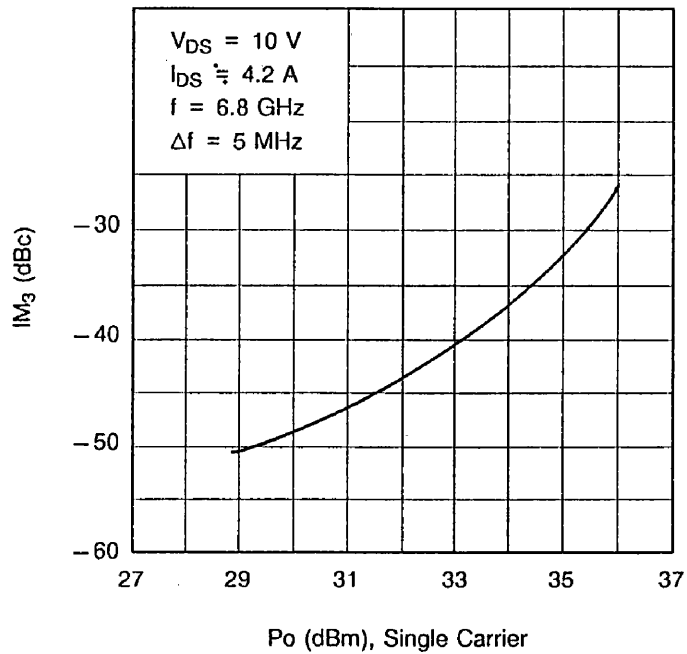


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POWER DISSIPATION VS. CASE TEMPERATURE



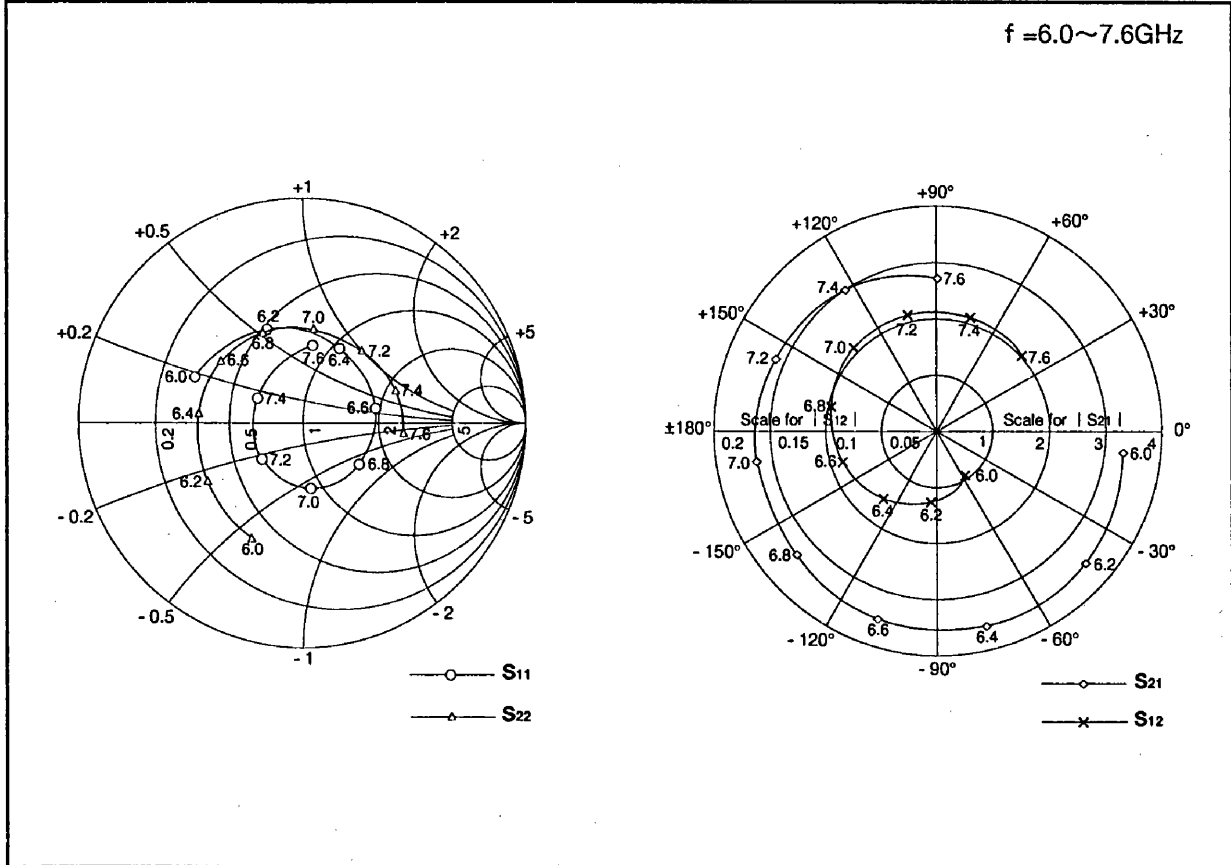
IM₃ VS. OUTPUT POWER CHARACTERISTICS



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TIM6472-14L S-PARAMETERS (MAG. and ANGLES)

$V_{ds} = 10V, I_{ds} = 4.2A$



FREQUENCY (GHz)	S_{11}		S_{12}		S_{21}		S_{22}	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
6.0	0.529	157.2	0.048	-56.3	3.350	-7.0	0.558	-113.8
6.2	0.442	110.8	0.063	-94.8	3.549	-41.8	0.500	-149.5
6.4	0.372	61.6	0.078	-129.5	3.565	-75.6	0.473	175.2
6.6	0.334	12.1	0.089	-162.2	3.478	-108.1	0.462	143.6
6.8	0.315	-35.9	0.098	167.0	3.386	-139.4	0.441	114.6
7.0	0.289	-83.0	0.105	135.6	3.292	-170.8	0.416	83.1
7.2	0.243	-137.5	0.107	104.5	3.167	156.7	0.415	49.5
7.4	0.228	150.7	0.104	72.7	2.997	123.8	0.443	19.5
7.6	0.343	81.8	0.102	40.4	2.704	89.5	0.456	-5.7