

FEATURES :

■ LOW INTERMODULATION DISTORTION

$IM_3 = -45$ dBc at $P_o = 28.5$ dBm,
Single Carrier Level

■ HIGH POWER

$P_{1dB} = 39.5$ dBm at 6.4 GHz to 7.2 GHz

■ HIGH EFFICIENCY

$\eta_{add} = 33$ % 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 1 dB Compression Point	P_{1dB}	$V_{DS} = 10$ V $f = 6.4 \sim 7.2$ GHz	dBm	38.5	39.5	—
Power Gain at 1 dB Compression Point	G_{1dB}		dB	6.5	7.5	—
Drain Current	I_{DS}		A	—	2.2	2.6
Gain Flatness	ΔG		dB	—	—	± 0.6
Power Added Efficiency	η_{add}		%	—	33	—
3rd Order Intermodulation Distortion	IM_3	Note 1	dBc	-42	-45	—
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 $I_{DS} = 3.0$ A	mS	—	1800	—
Pinch-off Voltage	V_{GSoff}	$V_{DS} = 3$ V $I_{DS} = 30$ mA	V	-1	-2.5	-4.0
Saturated Drain Current	I_{DSS}	$V_{DS} = 3$ V $V_{GS} = 0$ V	A	—	5.2	7.0
Gate-Source Breakdown Voltage	V_{GSO}	$I_{GS} = -100$ μA	V	-5	—	—
Thermal Resistance	$R_{th} (c-c)$	Channel to Case	$^\circ\text{C/W}$	—	2.5	3.8

Note 1 : 2 tone Test $P_{out} = 28.5$ dBm Single Carrier Level.

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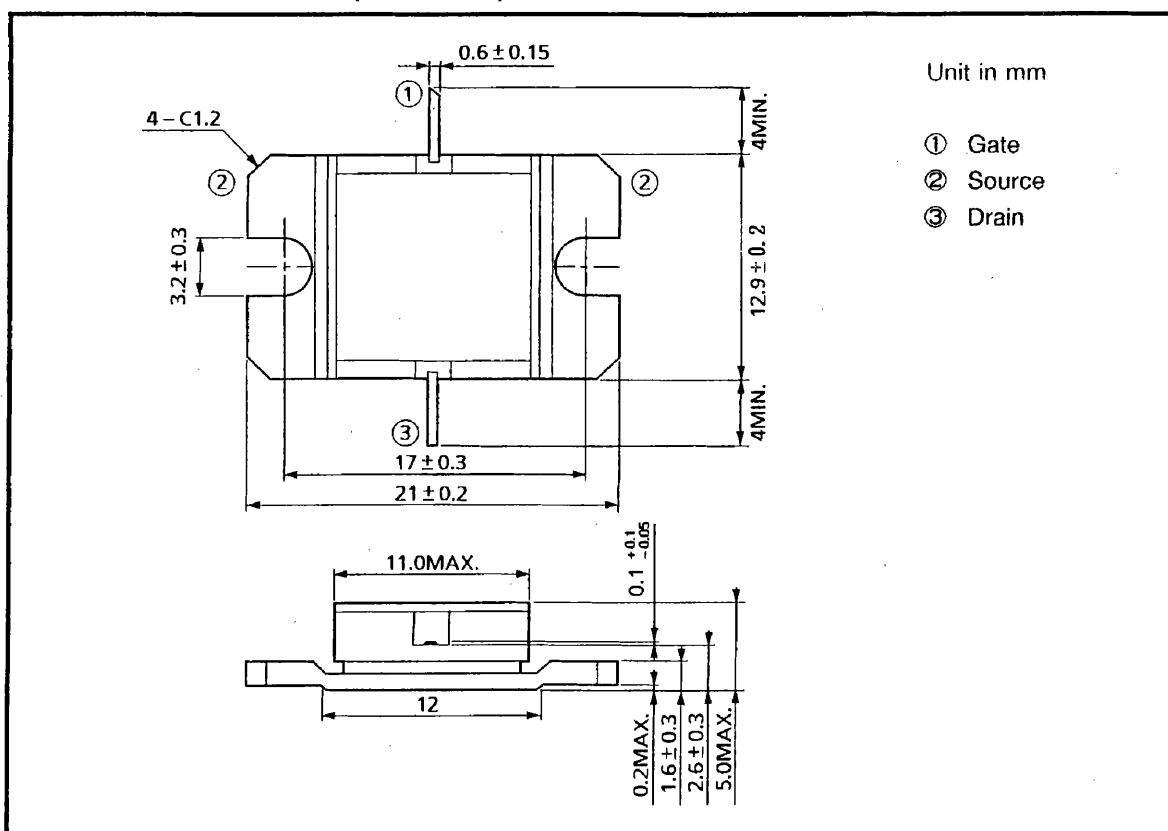


TIM6472-8SL

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	7.0
Total Power Dissipation (T _C = 25°C)	P _T	W	37.5
Channel Temperature	T _{ch}	°C	175
Storage Temperature	T _{stg}	°C	-65 ~ 175

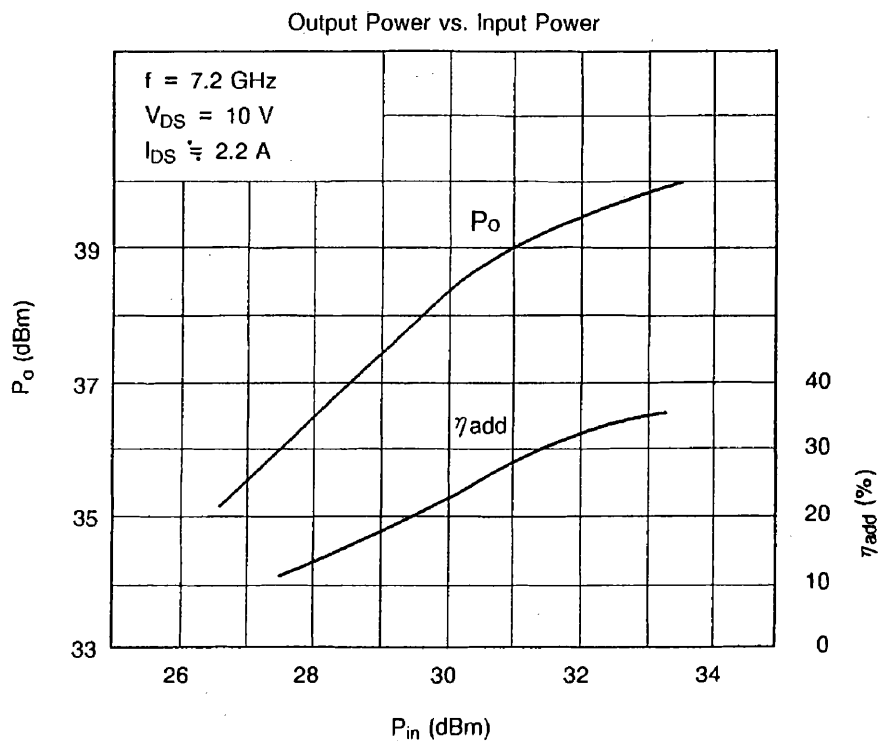
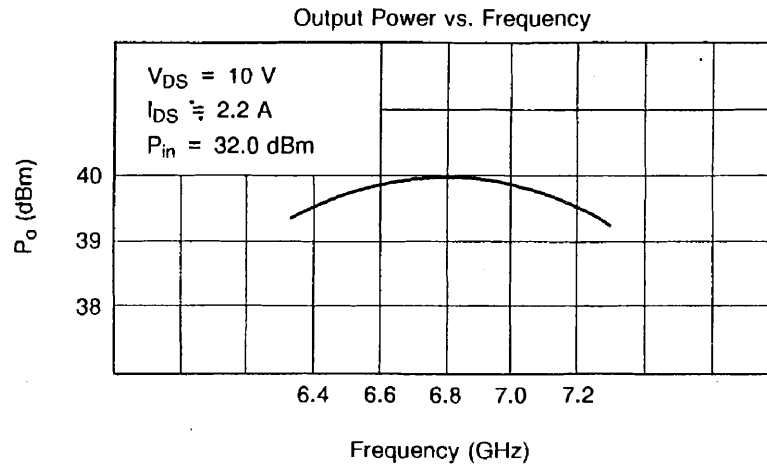
PACKAGE OUTLINE (2-11D1B)



HANDLING PRECAUTIONS FOR PACKAGED TYPE

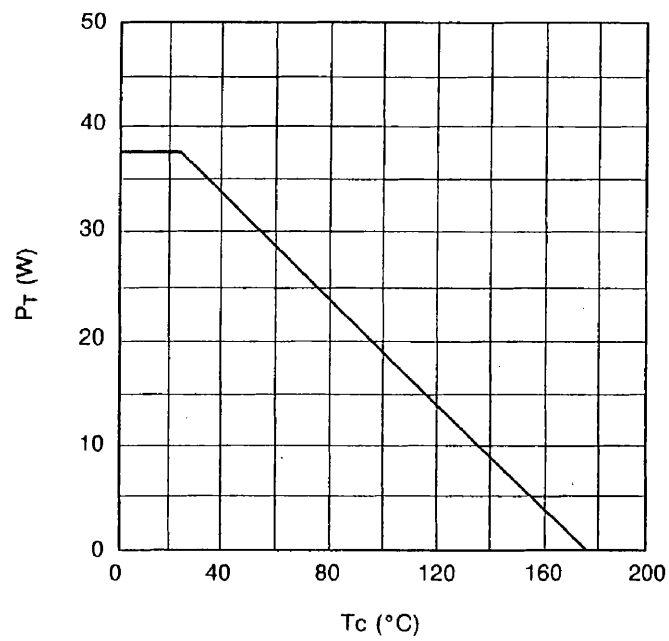
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C.

RF PERFORMANCES

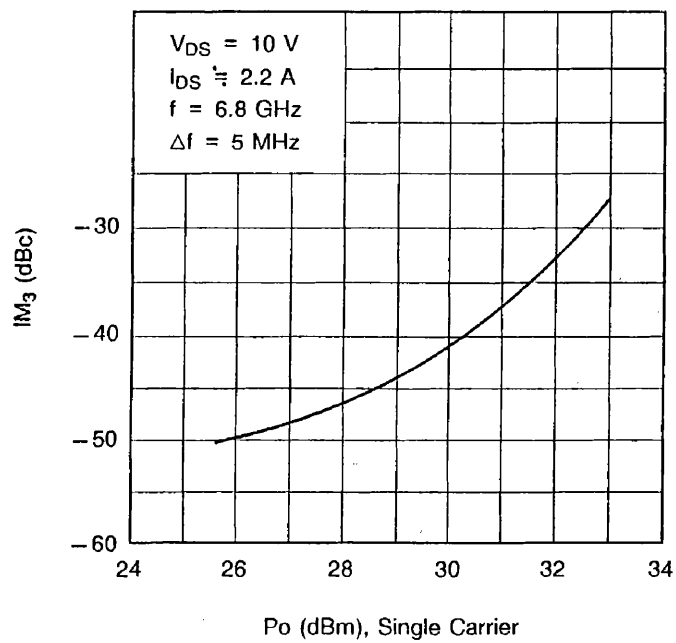


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POWER DISSIPATION VS. CASE TEMPERATURE



IM₃ VS. OUTPUT POWER CHARACTERISTICS

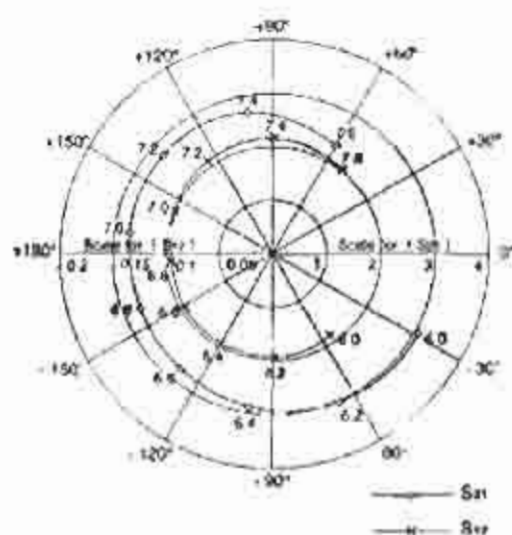
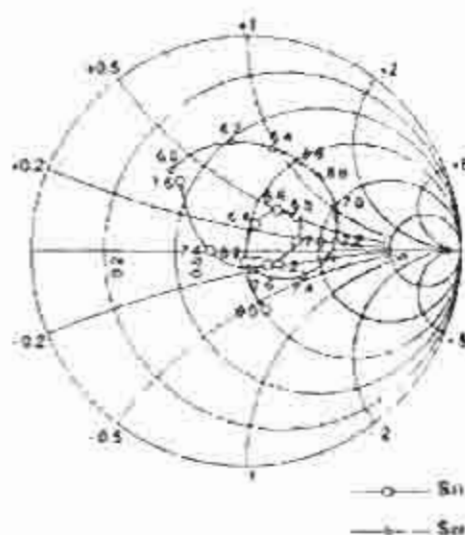


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TIM6472-8SL S-PARAMETERS (MAGN. and ANGLES)

$V_{DS} = 10V, I_{DS} = 2.2A$

$f = 6.0 \sim 7.6GHz$



FREQUENCY (GHz)	S ₁₁		S ₂₁		S ₁₂		S ₂₂	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
6.0	0.28	-71	3.06	-29	0.093	-55	0.52	132
6.2	0.05	-97	3.03	-66	0.097	-89	0.52	98
6.4	0.13	72	2.88	-99	0.096	-120	0.50	76
6.6	0.24	53	2.75	-129	0.095	-149	0.49	60
6.8	0.28	34	2.68	-158	0.095	-176	0.49	46
7.0	0.24	10	2.71	172	0.099	156	0.47	29
7.2	0.12	-33	2.75	138	0.106	125	0.42	7
7.4	0.17	179	2.69	100	0.109	89	0.29	-22
7.6	0.45	133	2.34	60	0.102	51	0.09	-68