

FEATURES :

- HIGH POWER
 $P_{1dB} = 44.5 \text{ dBm}$ at 2.6 GHz
- HIGH GAIN
 $G_{1dB} = 11.5 \text{ dB}$ at 2.6 GHz
- PARTIALLY MATCHED TYPE
- 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}	$V_{DS} = 10 \text{ V}$ $f = 2.6 \text{ GHz}$	dBm	43.5	44.5	—
Power Gain at 1dB Compression Point	G_{1dB}		dB	10.5	11.5	—
Drain Current	I_{DS}		A	—	7.5	9.0
Power Added Efficiency	η_{add}		%	—	35	—
Channel-Temperature Rise	ΔT_{ch}	NOTE 1	$^\circ\text{C}$	—	—	80

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

CHARACTERISTICS	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Transconductance	g_m	$V_{DS} = 3 \text{ V}$ $I_{DS} = 7.0 \text{ A}$	mS	—	6300	—
Pinch-off Voltage	V_{GSoff}	$V_{DS} = 3 \text{ V}$ $I_{DS} = 140 \text{ mA}$	V	-1.0	-3.0	-4.0
Saturated Drain Current	I_{DSS}	$V_{DS} = 3 \text{ V}$ $V_{GS} = 0 \text{ V}$	A	—	20	26
Gate-Source Breakdown Voltage	V_{GSO}	$I_{GS} = -420 \mu\text{A}$	V	-5	—	—
Thermal Resistance	$R_{th(c-c)}$	Channel to Case	$^\circ\text{C/W}$	—	1.1	1.4

NOTE 1 : $\Delta T_{ch} = (V_{DS} \times I_{DS} + P_{in} - P_{1dB}) \times R_{th(c-c)}$

Recommended Gate Resistance(R_g) : 30 Ω (MAX.)

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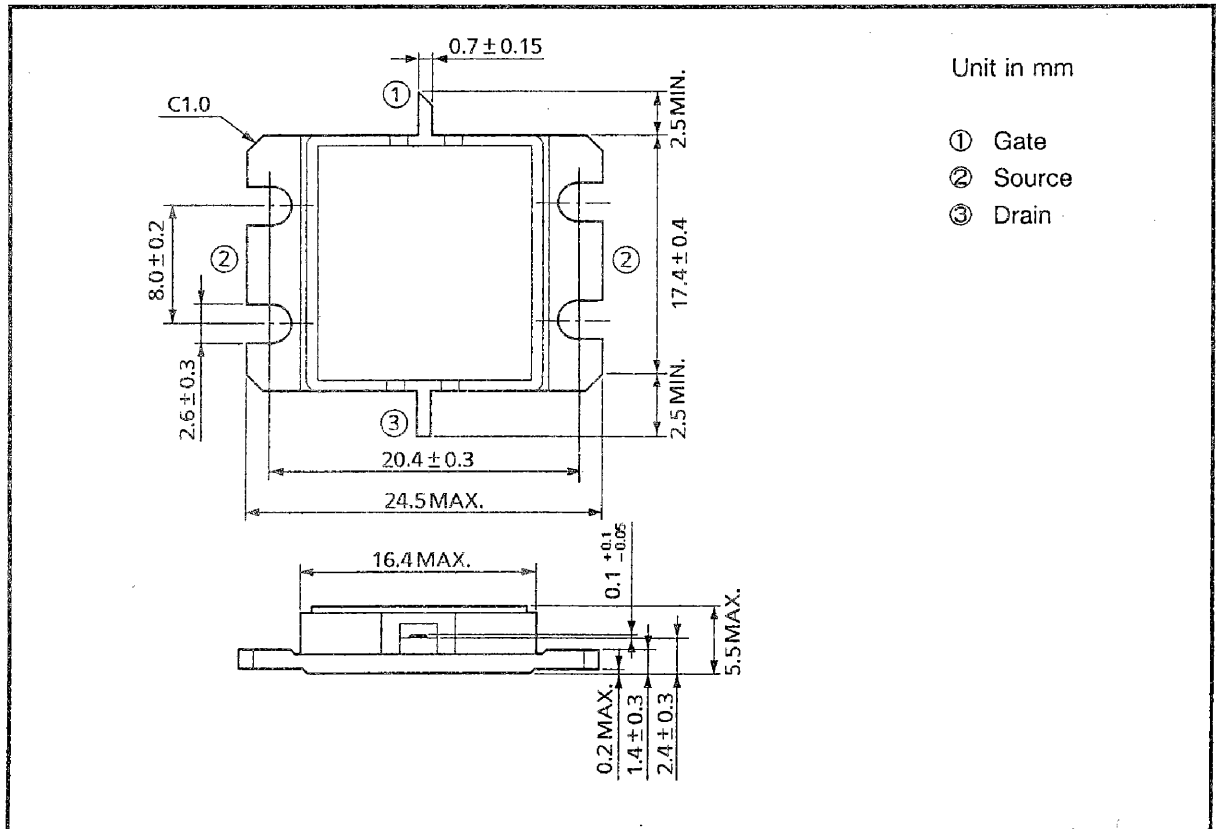


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ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTICS	SYMBOL	UNIT	RATING
Drain-Source Voltage	V _{DS}	V	15
Gate-Source Voltage	V _{GS}	V	-5
Drain Current	I _{DS}	A	26
Total Power Dissipation (T _C = 25°C)	P _T	W	100
Channel Temperature	T _{ch}	°C	175
Storage Temperature	T _{stg}	°C	-65~175

PACKAGE OUTLINE (2-16G1B)

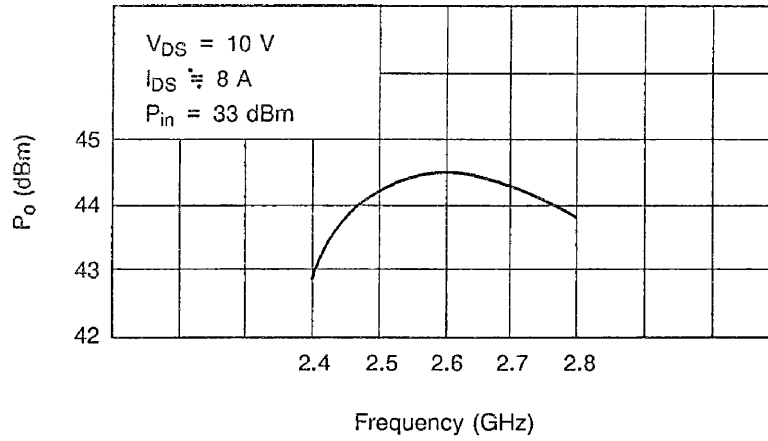


HANDLING PRECAUTIONS FOR PACKAGED TYPE

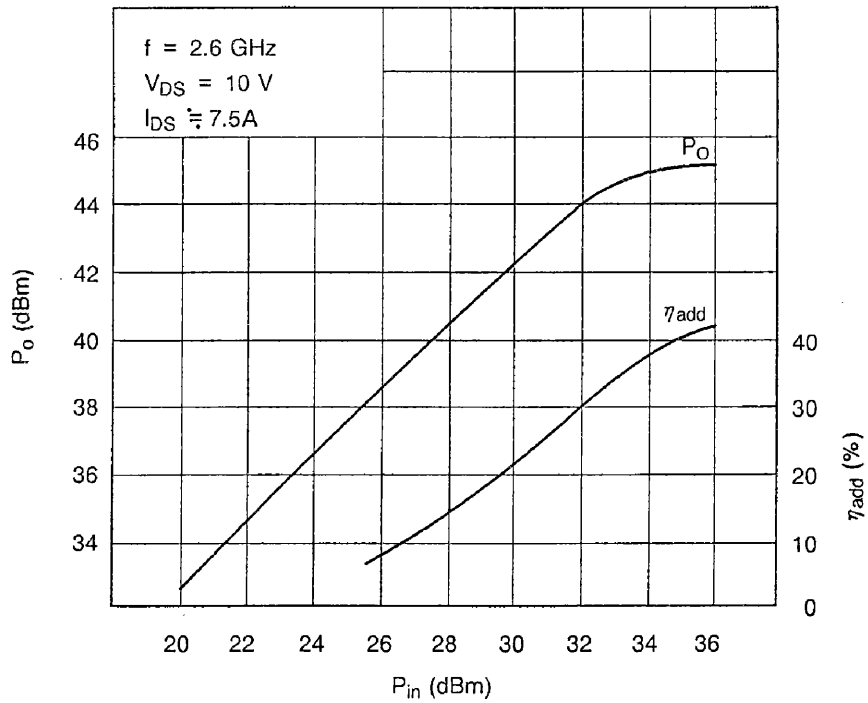
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C.

RF PERFORMANCES

Output Power vs. Frequency

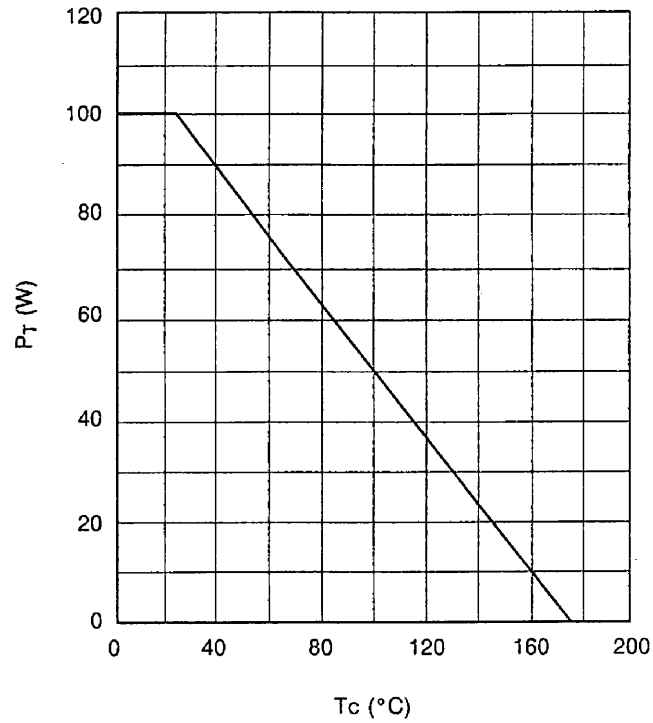


Output Power vs. Input Power



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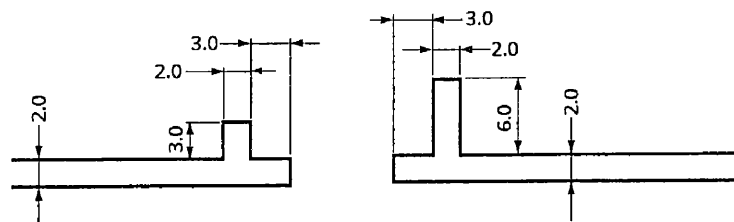
POWER DISSIPATION VS. CASE TEMPERATURE



DRAWING OF MATCHING NETWORK

INPUT

OUTPUT



Unit in mm

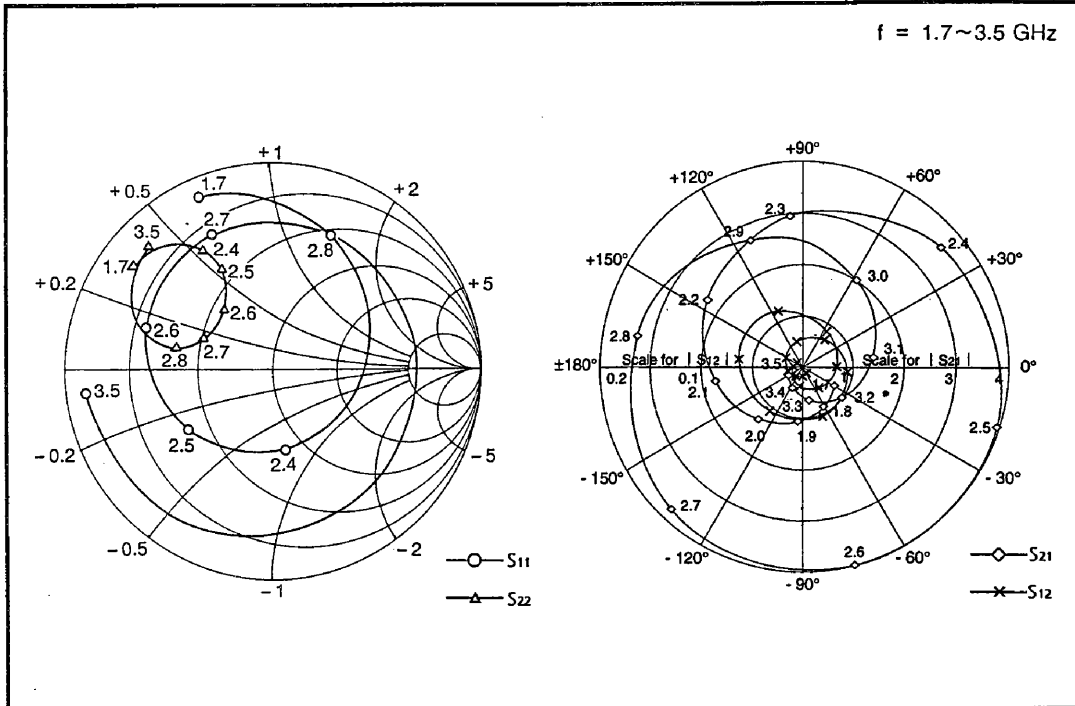
Substrate Material : Teflon ($\epsilon_r = 2.8$)

Thickness : 0.76 mm

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TPM2626-30 S-PARAMETERS (MAGN. and ANGLES)

$V_{DS} = 10 \text{ V}$, $I_{DS} = 8 \text{ A}$



FREQUENCY (MHz)	S_{11}		S_{21}		S_{12}		S_{22}	
1700	0.90	113	0.73	-29	0.007	-57	0.84	144
1800	0.88	105	0.87	-61	0.009	-90	0.83	141
1900	0.85	96	1.06	-95	0.011	-127	0.82	139
2000	0.79	83	1.34	-131	0.015	-167	0.81	137
2100	0.71	65	1.74	-171	0.019	151	0.80	135
2200	0.59	38	2.29	145	0.026	103	0.79	132
2300	0.44	-7	2.95	95	0.035	51	0.76	127
2400	0.38	-78	3.58	41	0.045	-6	0.67	120
2500	0.50	-147	3.95	-17	0.052	-67	0.52	117
2600	0.63	161	3.99	-75	0.054	-127	0.37	127
2700	0.71	114	3.77	-133	0.064	173	0.35	152
2800	0.72	64	3.31	169	0.060	114	0.46	166
2900	0.71	12	2.68	113	0.043	56	0.60	165
3000	0.73	-38	2.01	58	0.034	1	0.69	159
3100	0.77	-81	1.42	8	0.026	-51	0.75	153
3200	0.82	-115	0.98	-37	0.019	-99	0.78	148
3300	0.85	-140	0.66	-79	0.013	-142	0.80	143
3400	0.88	-159	0.45	-117	0.009	177	0.82	139
3500	0.90	-173	0.32	-151	0.007	140	0.83	135