

PFO012

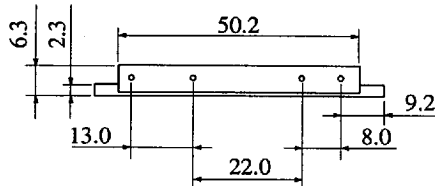
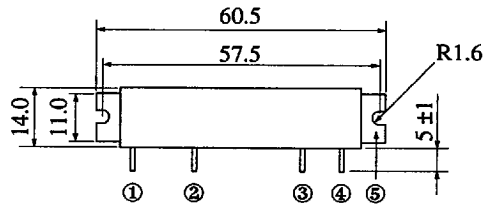
HITACHI/(OPTOELECTRONICS)

HIGH FREQUENCY POWER MOS FET MODULE

UHF Band 872-905 MHz

■ FEATURES

- Include Input and Output Matching Circuit
- Easy to Control Output Power
- Superior to Stability at Load Mismatching



- ① Pin
 - ② V_{APC}
 - ③ V_{DD}
 - ④ Pout
 - ⑤ CND
- (Dimensions in mm)

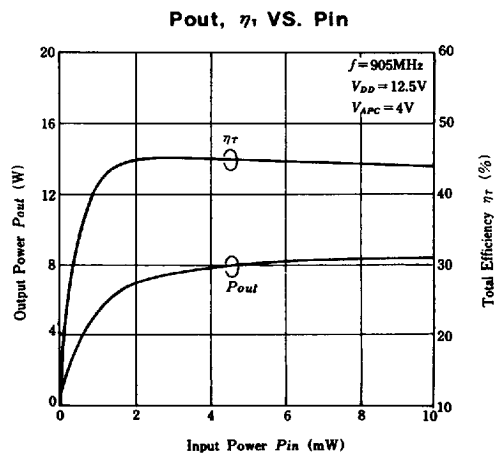
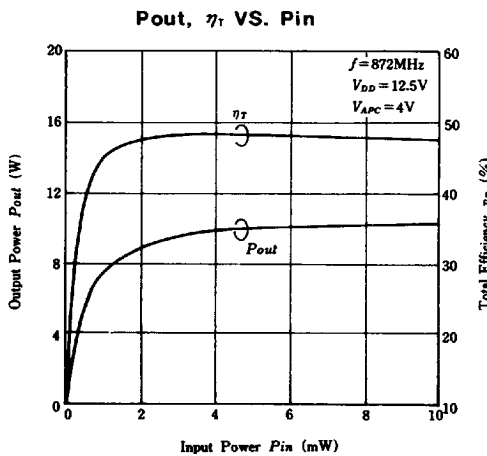
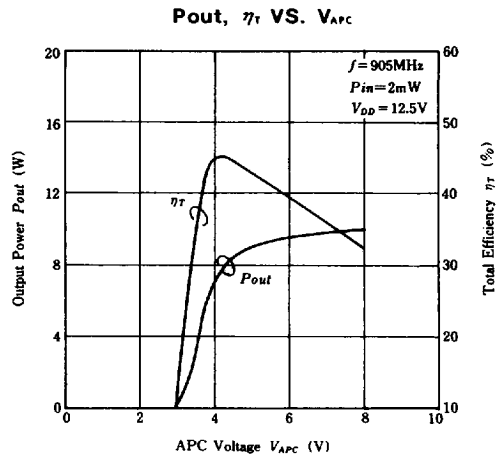
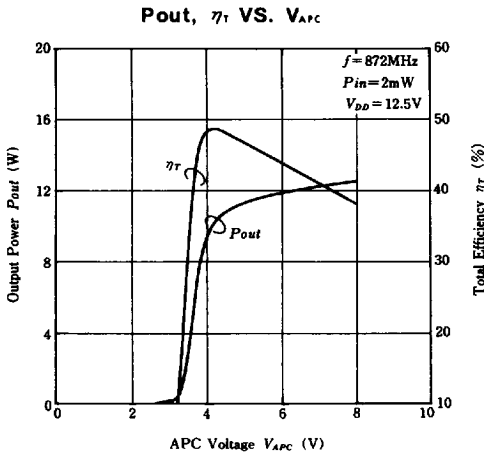
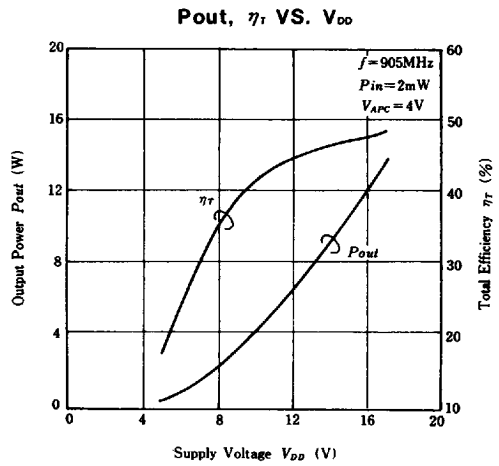
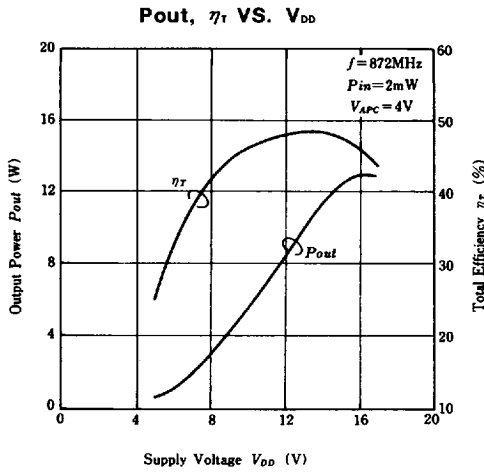
■ ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

Item	Symbol	Rating	Unit
Supply Voltage	V_{DD}	17	V
Maximum Circuit Current	I_D	3.0	A
APC Voltage	V_{APC}	8	V
Maximum Input Power	P_{in}	20	mW
Operating Maximum Case Temperature	$T_{c(op)}$	-40~+100	$^\circ\text{C}$
Storage Temperature	T_{stg}	-45~+125	$^\circ\text{C}$

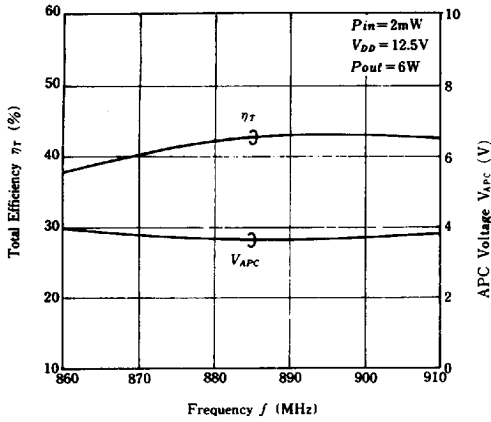
■ ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Drain Cutoff Current	I_{DS}	$V_{DD1} = V_{DD2} = 17\text{V}$, $V_{APC} = 0$	—	—	500	μA
Total Efficiency	η_T	$f = 872, 905\text{MHz}$	35	40	—	%
2nd Harmonic Distortion	2nd H.D.	$P_{in} = 2\text{mW}$	—	-50	-30	dB
3rd Harmonic Distortion	3rd H.D.	$V_{DD} = 12.5\text{V}$	—	-50	-30	dB
Input VSWR	VSWR(in)	$P_{in} = 6\text{W}$ (at APC Control)	—	1.5	3.0	—
Output VSWR	VSWR(out)	$Z_{in} = Z_{out} = 50\Omega$	—	1.5	—	—
Stability	—	$V_{DD} = 12.5\text{V}$, $P_{in} = 2\text{mW}$, $f = 872\text{MHz}$, $P_{out} = 6\text{W}$ (at APC Control), $R_L = 50\Omega$, Output VSWR $\neq \infty$ All Phase, $t = 20\text{sec}$	No Parastic Oscillation			—

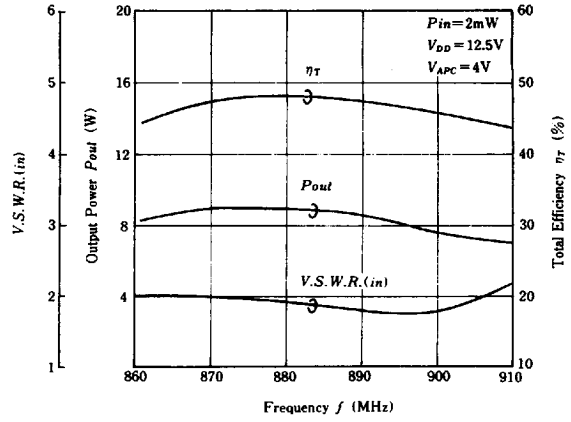
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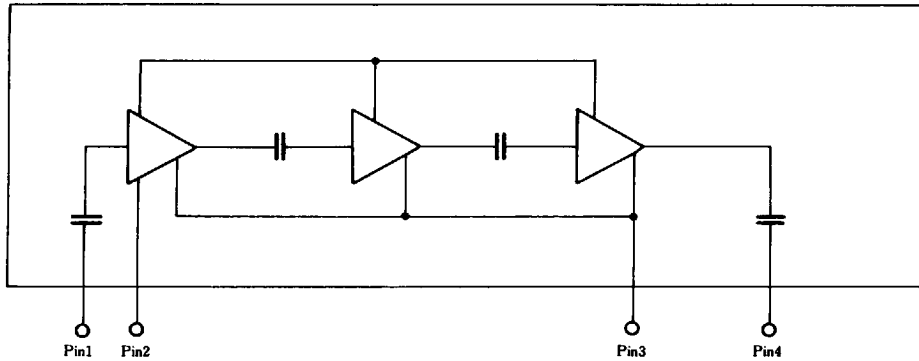
η_T , V_{APC} VS. FREQUENCY



η_T , P_{out} , VSWR VS. FREQUENCY



INTERNAL DIAGRAM



TEST SYSTEM DIAGRAM

