

PFO009

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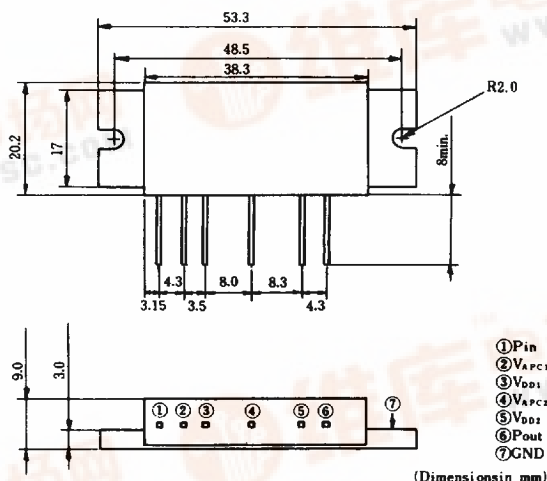
HITACHI/(OPTOELECTRONICS)

HIGH FREQUENCY POWER MOS FET MODULE

UHF Band 920-945 MHz

■ FEATURES

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

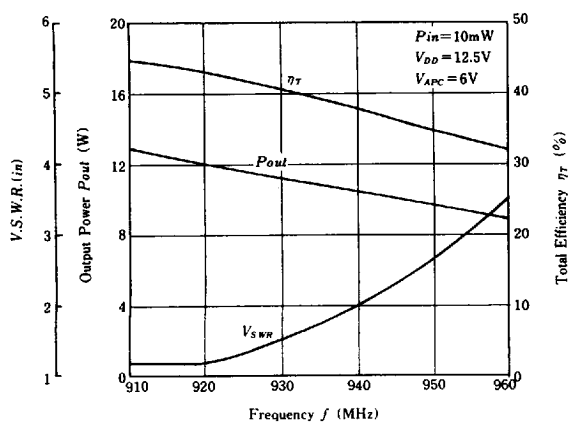
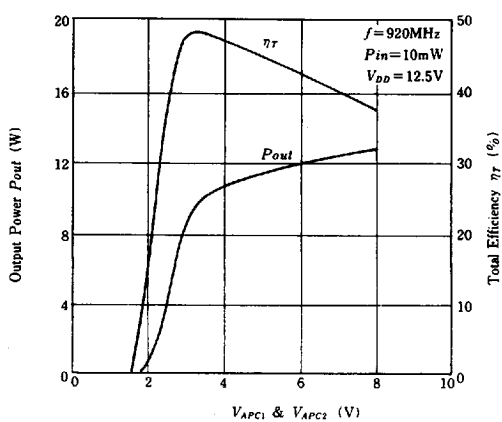
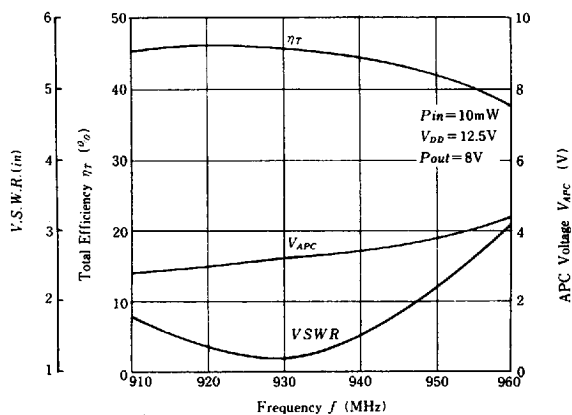
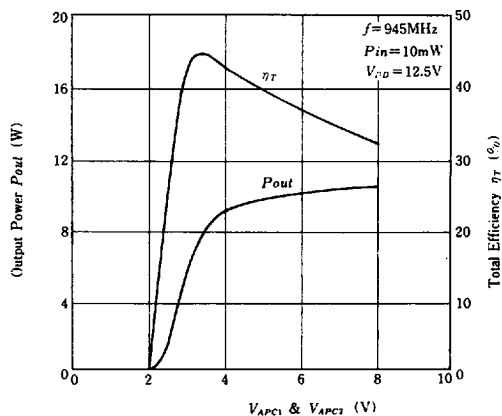
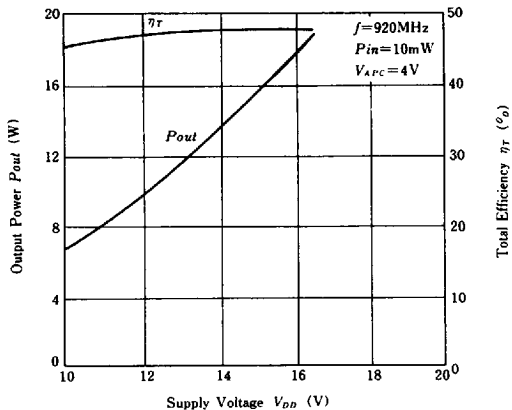
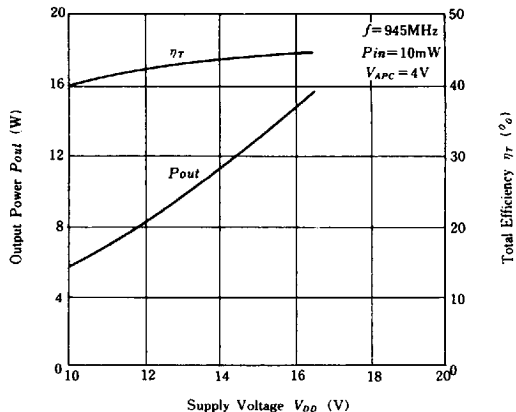


■ ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

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	$P_{i\alpha}$	30	mW
Operating Maximum Case Temperature	$T_{c(op)}$	$-20 \sim +80$	$^\circ\text{C}$
Storage Temperature	T_{stg}	$-40 \sim +100$	$^\circ\text{C}$

■ ELECTRICAL CHARACTERISTICS ($T_a = 25$)

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	$f = 920, 945\text{MHz}$,	35	40	—	%
2nd Harmonic Distortion	2nd H.D.	$P_{i\alpha} = 10\text{mW}$,	—	-50	-30	dB
3rd Harmonic Distortion	3rd H.D.	$V_{DD} = 12.5\text{V}$,	—	-40	-30	dB
Input VSWR	VSWR(in)	$P_{out} = 8\text{W}$ (at APC Control)	—	1.5	3.5	—
Output VSWR	VSWR(out)	$Z_{i\alpha} = Z_{out} = 50\Omega$	—	1.5	—	—
Stability	—	$V_{DD} = 12.5\text{V}$, $P_{i\alpha} = 10\text{mW}$, $f = 920\text{MHz}$, $P_{out} = 8\text{W}$ (at APC Control), $R_s = 50\Omega$, Output VSWR $\neq \infty$ All Phase, $t = 20\text{sec}$	No Parastic Oscillation			—

Pout, η_T VSWR(in) VS. FREQUENCYPout, η_T VS. V_{APC}  η_T , V_{APC} , VSWR(in) VS. FREQUENCYPout, η_T VS. V_{APC} Pout, η_T VS. V_{DD} Pout, η_T VS. V_{DD} 

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■ INTERNAL DIAGRAM

