

PFO010

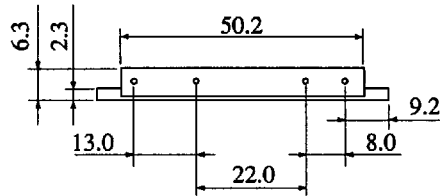
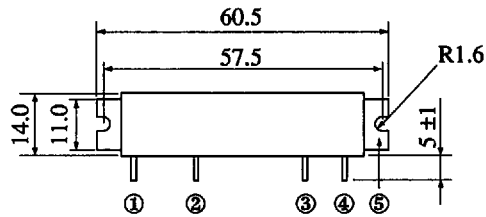
HITACHI/(OPTOELECTRONICS)

HIGH FREQUENCY POWER MOS FET MODULE

UHF Band 820-850 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 GND

(Dimensions in mm)

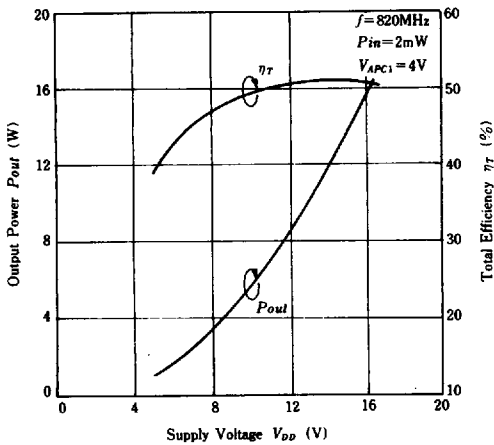
ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

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	$^\circ\text{C}$

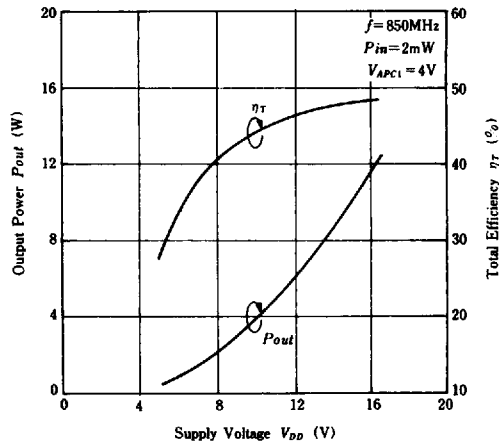
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

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	$f = 820, 850\text{MHz}$,	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	-	$V_{DD} = 12.5\text{V}$, $P_{in} = 2\text{mW}$, $f = 820\text{MHz}$, $P_{out} = 6\text{W}$ (at APC Control), $R_L = 50\Omega$, Output VSWR $\neq \infty$ All Phase, $t = 20\text{sec}$	No Parasitic Oscillation			-

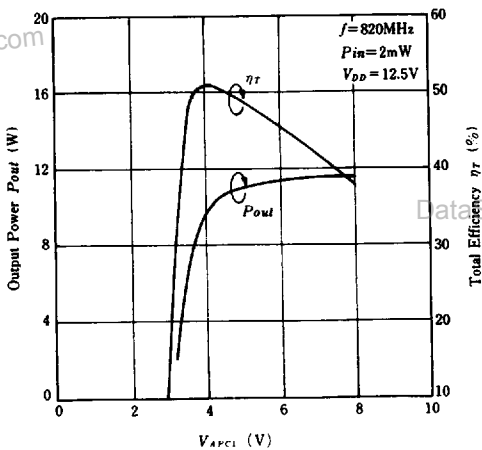
P_{out} , η_T VS. V_{DD}



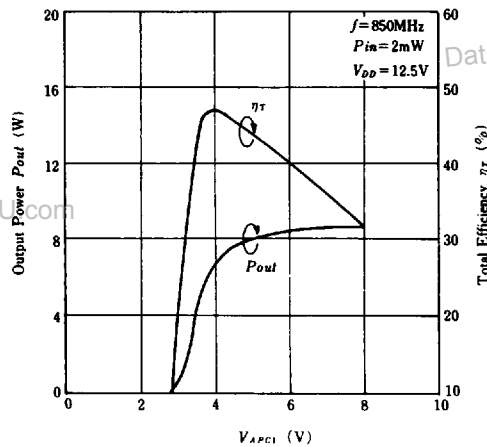
P_{out} , η_T VS. V_{DD}



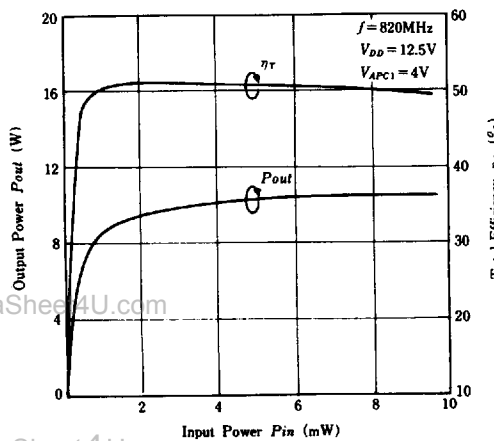
P_{out} , η_T VS. V_{APC1}



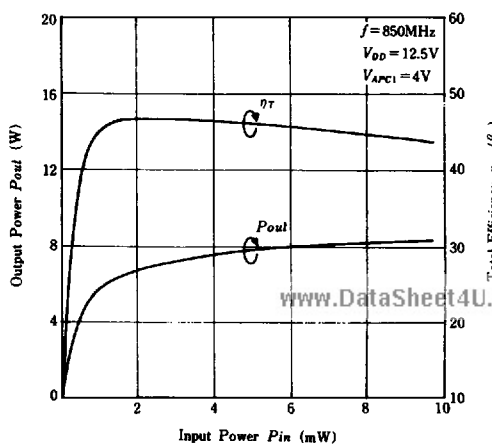
P_{out} , η_T VS. V_{APC1}

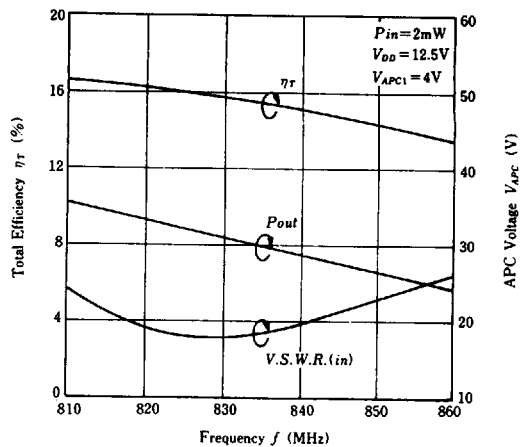
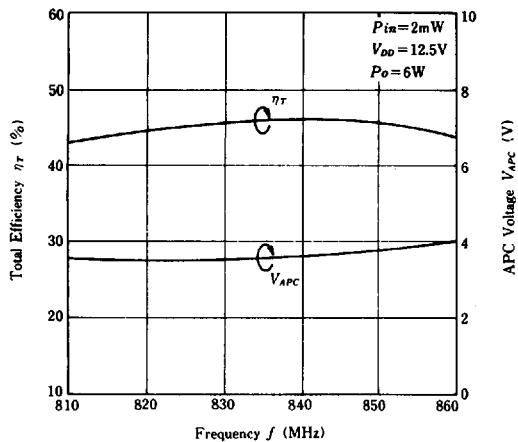


P_{out} , η_T VS. P_{in}

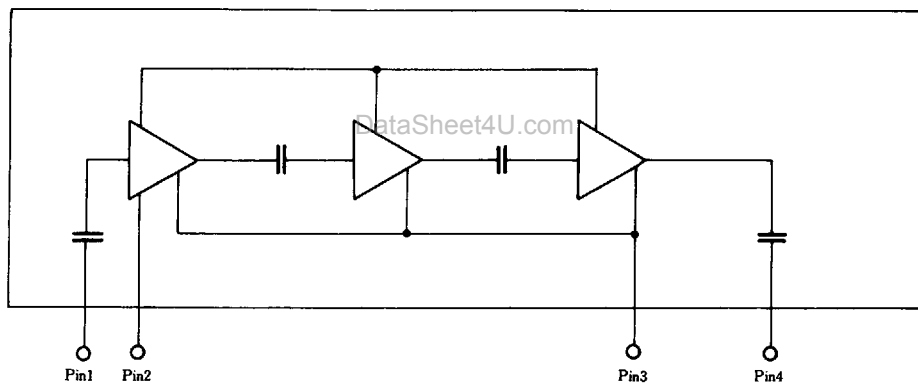


P_{out} , η_T VS. P_{in}





INTERNAL DIAGRAM



TEST SYSTEM DIAGRAM

