

PFO008

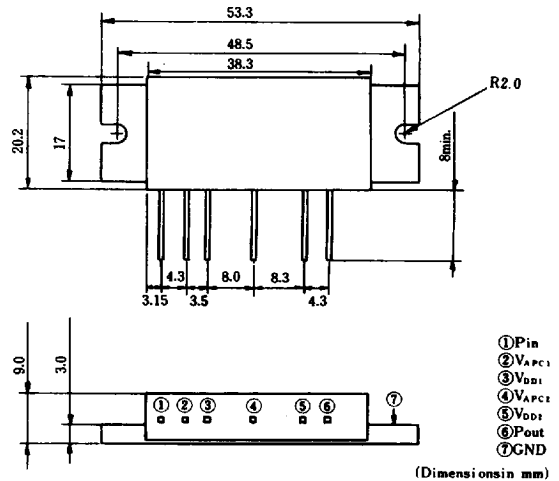
HITACHI/(OPTOELECTRONICS) 61E D

HIGH FREQUENCY POWER MOS FET MODULE

UHF Band 865-890 MHz

FEATURES

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



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

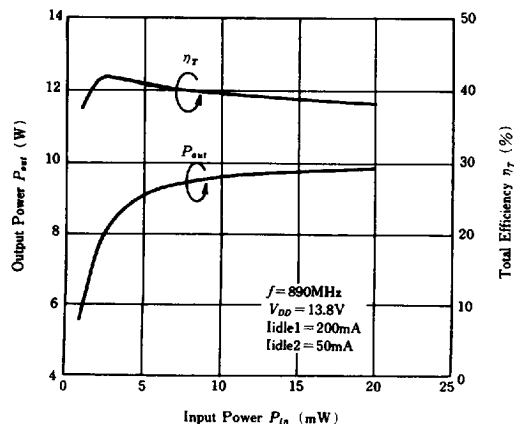
Item	Symbol	Rating	Unit
Supply Voltage	V_{DD}	17	V
Maximum Circuit Current	I_D	3.0	A
APC Voltage	V_{APC}	± 8	V
Maximum Input Power	P_{in}	30	mW
Operating Maximum Case Temperature	$T_{r(op)}$	$0 \sim +80$	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	$-10 \sim +100$	$^{\circ}\text{C}$

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

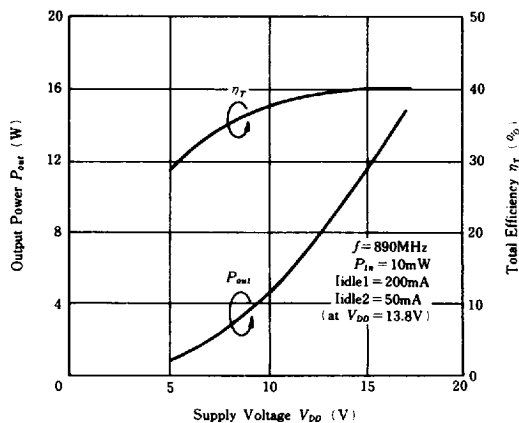
Item	Symbol	Test Condition	min.	typ.	max.	Unit
Drain Cutoff Current	I_{DS}	$V_{DD1} = V_{DD2} = 17\text{V}$, $V_{APC1} = V_{APC2} = 0$	—	—	500	μA
Output Power	P_{out}	$f = 865, 890\text{MHz}$	8.0	9.0	—	W
Total Efficiency	$\eta_{r(1)}$	$P_{in} = 10\text{mW}$	35	40	—	%
2nd Harmonic Distortion	2nd H.D.	$V_{DD1} = V_{DD2} = 13.8\text{V}$	—	-50	-30	dB
3rd Harmonic Distortion	3rd H.D.	$I_{idle1} = 200\text{mA}$	—	-40	-30	dB
Input VSWR	VSWR(in)	$I_{idle2} = 50\text{mA}$	—	1.5	3.0	—
Output VSWR	VSWR(out)	$Z_{in} = Z_{out} = 50\Omega$	—	1.5	—	—
Total Efficiency	$\eta_{r(2)}$	$f = 865, 890\text{MHz}$, $P_{in} = 10\text{mW}$, $P_{out} = 8\text{W}$ (at APC Control) $Z_{in} = Z_{out} = 50\Omega$	35	40	—	%

HITACHI/(OPTOELECTRONICS)

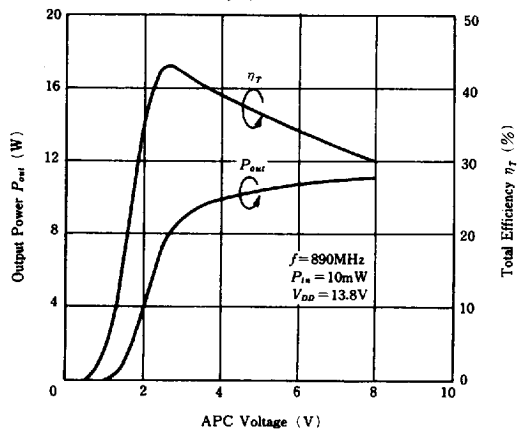
P_{out}, η_T vs. INPUT POWER



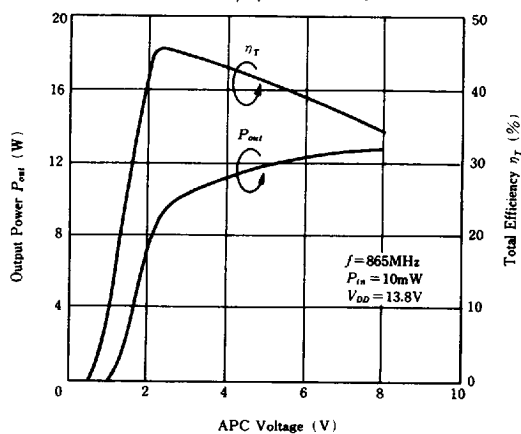
P_{out}, η_T vs. SUPPLY VOLTAGE



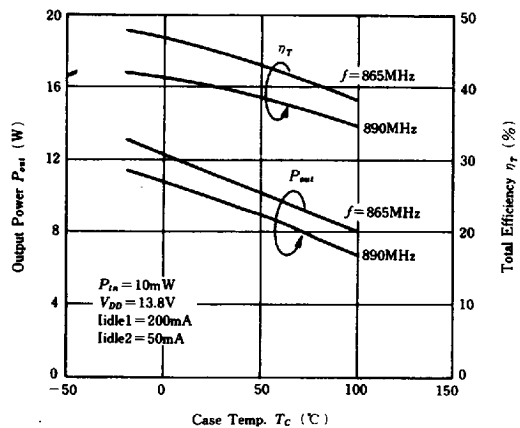
P_{out}, η_T vs. V_{APC}



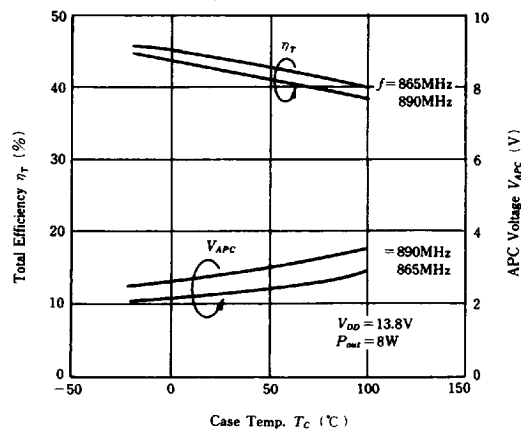
P_{out}, η_T vs. V_{APC}



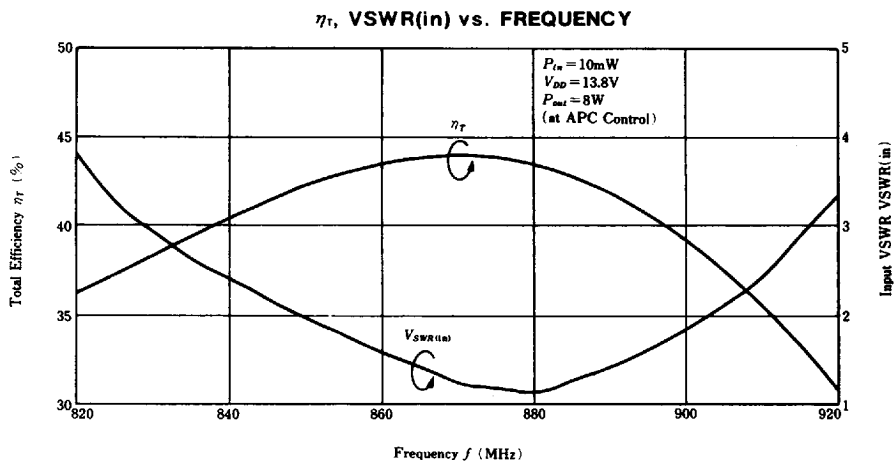
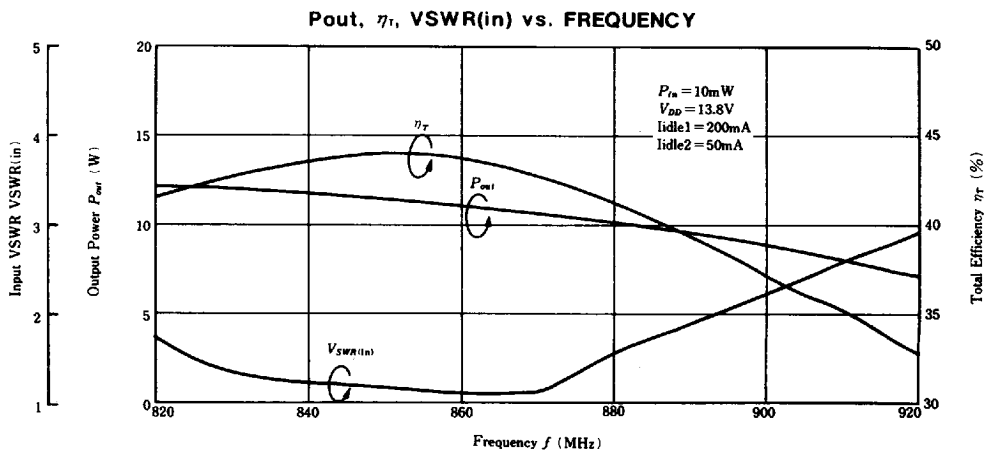
P_{out}, η_T vs. T_c



η_T , V_{APC} vs. T_c

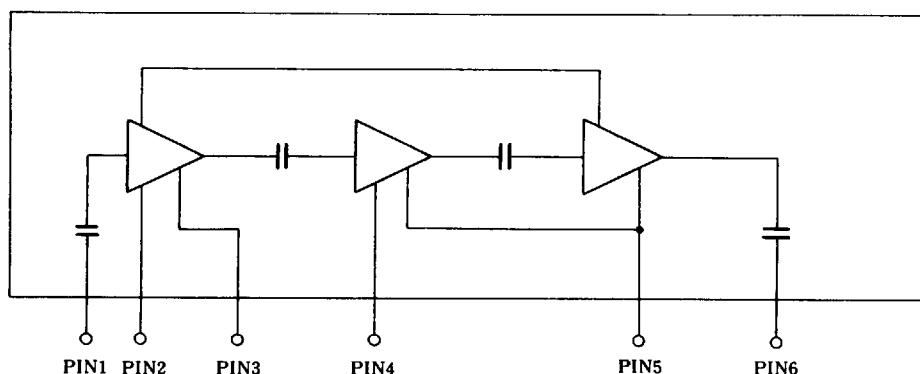


HITACHI/OPTOELECTRONICS.

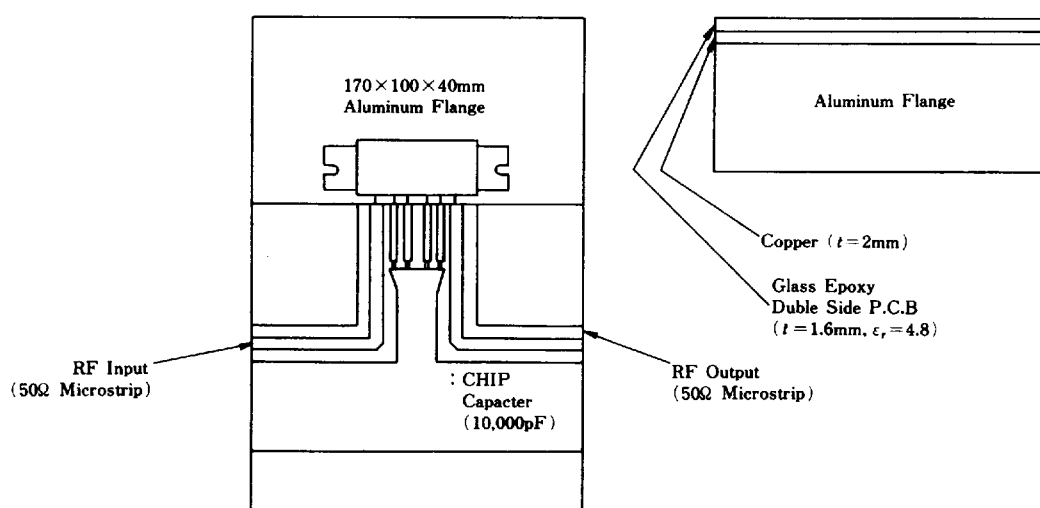


■ INTERNAL DIAGRAM

HITACHI/(OPTOELECTRONICS)



■ TEST FIXTURE



■ TEST SYSTEM DIAGRAM

