PHA2729-240M

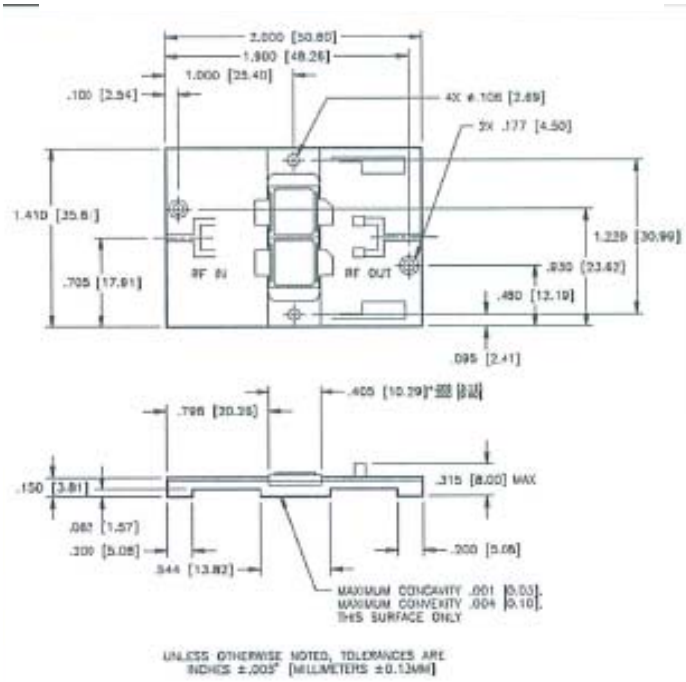
Radar Pulsed Power Module, 240W
2700MHz to 2900MHz, 100µS Pulse, 10% Duty

Released—11-04-2002

Features

- In-phase combined pulsed power transistors
- Input and output matched to 50 Ohms
- Soft substrate circuit board
- Nickel plated copper flange
- Easily combined for high power transmitters
- MTTF>1x10^6 hrs at Tflange=45°C

Product Image



ABSOLUTE MAXIMUM RATINGS AT 25°C

Parameter	Symbol	Rating	Units
Supply Voltage	Vcc	40	V
Input Power	Pin	55	Wpk
Output Power	Pout	325	Wpk
Thermal Resistance	θ_{JC}	0.35	°C/W
Total Power Dissipation	P_D	500	W
Operating Case Temp.	T_C	-30 to +100	°C
Storage Temp.	T_{STG}	-40 to +125	°C

ELECTRICAL CHARACTERISTICS AT 25°C

Parameter	Symbol	Min	Max	Units	Test Conditions
Input Power	P_{IN}	-	44	Wpk	V_{CC} = 36V, P_{out} =240Wpk, F=2.7, 2.8, 2.9GHz
Collector Current	Ic	-	16.97	A	V_{CC} = 36V, Pout =240Wpk), F =2.7, 2.8, 2.9GHz
Input Return Loss	RL	10	-	dB	V_{CC} = 36V, P_{out} = 240Wpk, F =2.7, 2.8, 2.9GHz
Pulse Amplitude Droop	Droop	-	0.7	dB	V_{CC} = 36V, P_{out} = 240Wpk, F =2.7, 2.8, 2.9GHz
2nd Harmonic	2fc	-	-20	dB	V_{CC} = 36V, P_{out} = 240Wpk, F =2.7, 2.8, 2.9GHz
Insertion Phase Deviation	$\Delta\varphi$	-20	+20	Degrees	V_{CC} = 36V, P_{out} = 240Wpk, F =2.7, 2.8, 2.9GHz
Load Mismatch Stability	VSWR-S	-	1.5:1	-	V_{CC} = 36V, P_{out} = 240Wpk, F =2.7, 2.8, 2.9GHz
Overdrive/Load Mismatch Tolerance	OD/ VSWR-T	-	2:1	-	V_{CC} = 36V, Pin=(Pin@P_{out} =240Wpk)+0.6dB, F =2.7, 2.8, 2.9GHz

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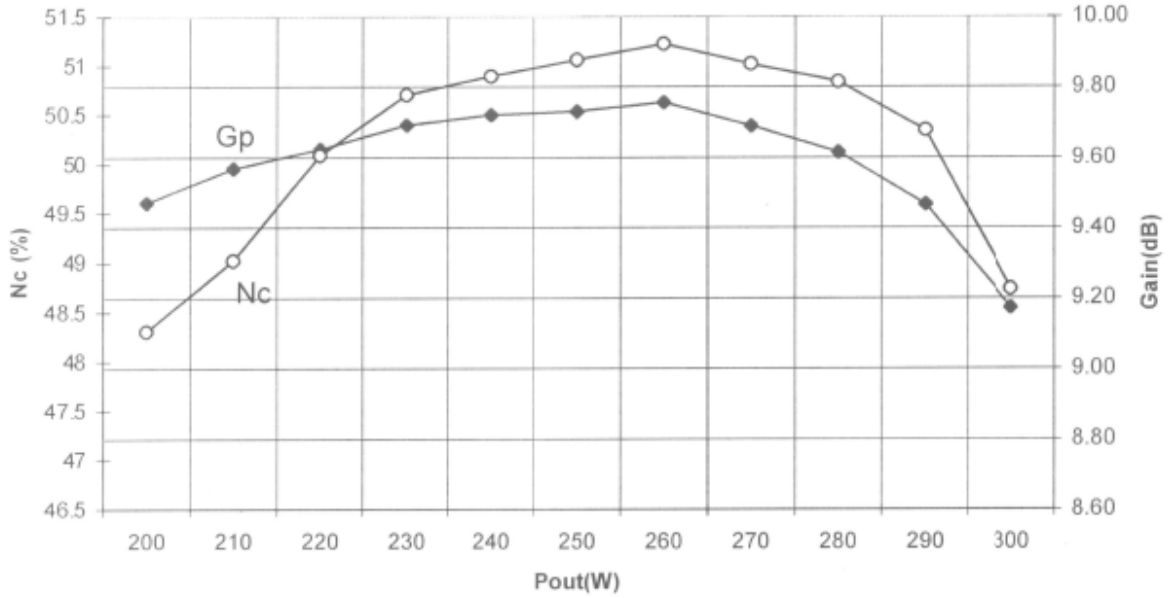
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2700MHz to 2900MHz, 100µS Pulse, 10% Duty

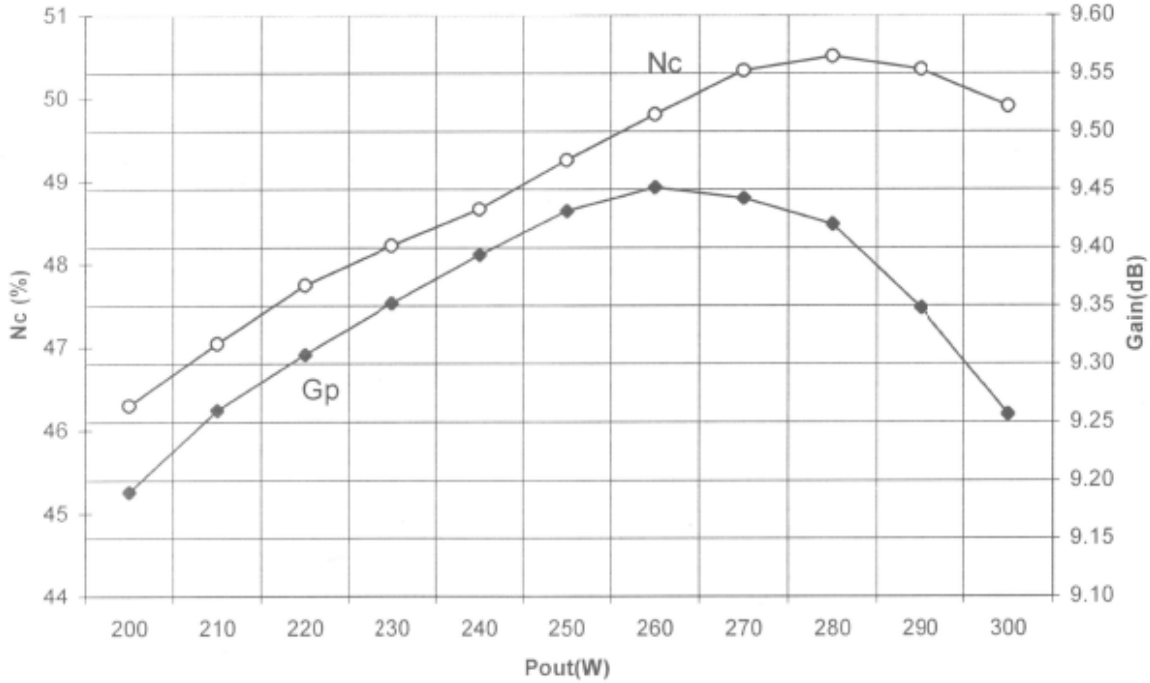
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Typical Performance Curves

Collector Efficiency and Power Gain vs. Power Output
Vcc=36VDC, Pulse Width=100µS, Duty=10%, 2.7GHz



Collector Efficiency and Power Gain vs. Power Output
Vcc=36VDC, Pulse Width=100µS, Duty=10%, 2.8GHz



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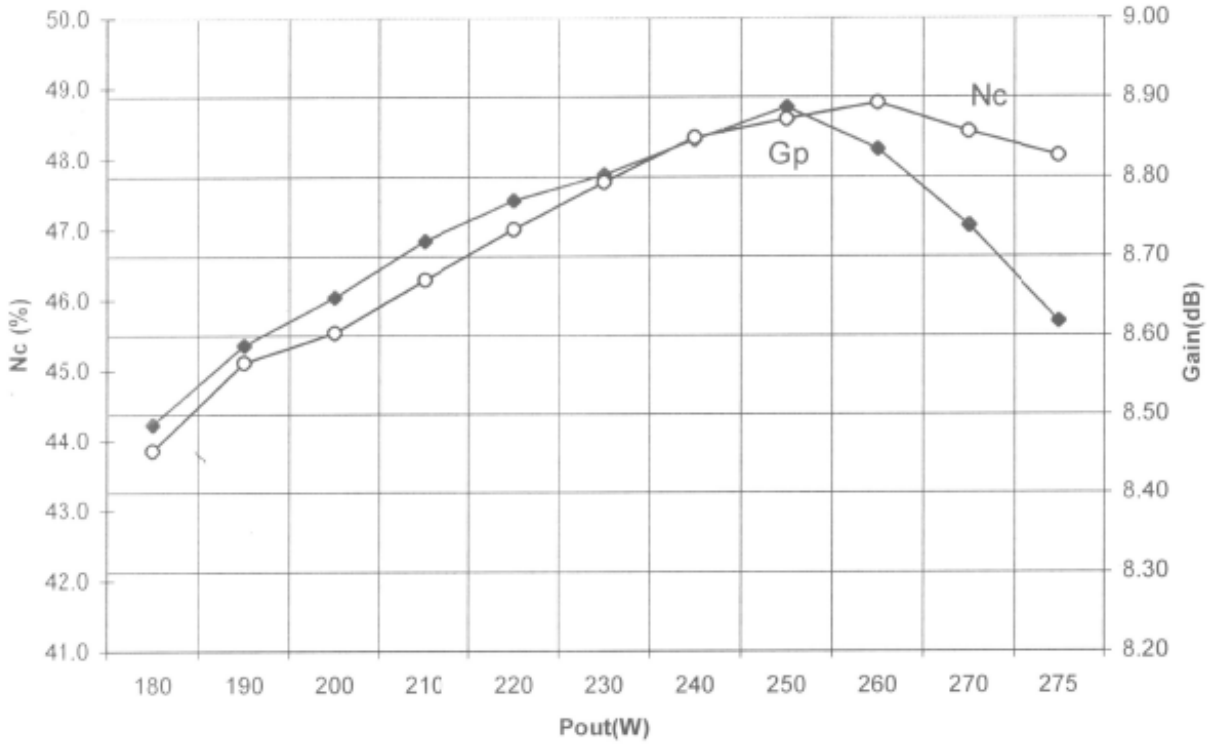
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Collector Efficiency and Power Gain vs. Power Output
Vcc=36VDC, Pulse Width=100µS, Duty=10%, 2.9GHz



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