

PHA2729-240M



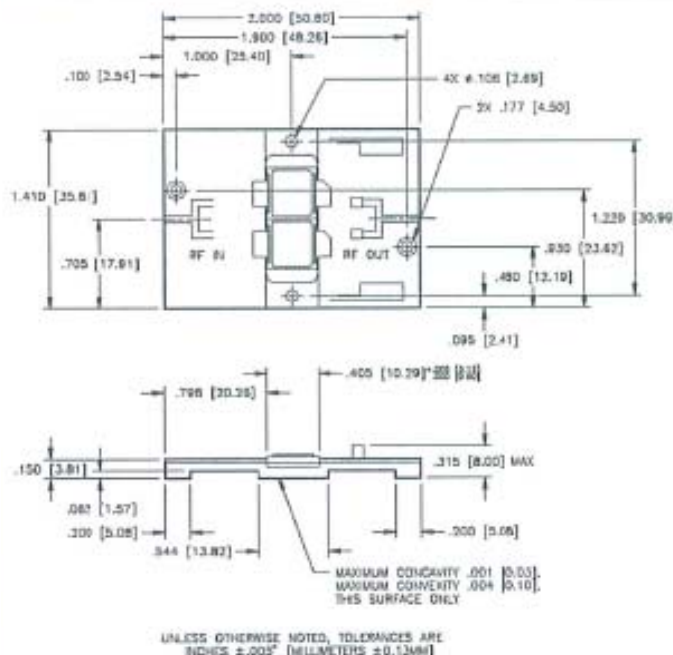
Radar Pulsed Power Module, 240W
2700MHz to 2900MHz, 100µS Pulse, 10% Duty

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 > 1x10⁶ hrs at T_{flange} = 45°C

Product Image



ABSOLUTE MAXIMUM RATINGS AT 25°C

Parameter	Symbol	Rating	Units
Supply Voltage	V _{CC}	40	V
Input Power	P _{in}	55	Wpk
Output Power	P _{out}	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

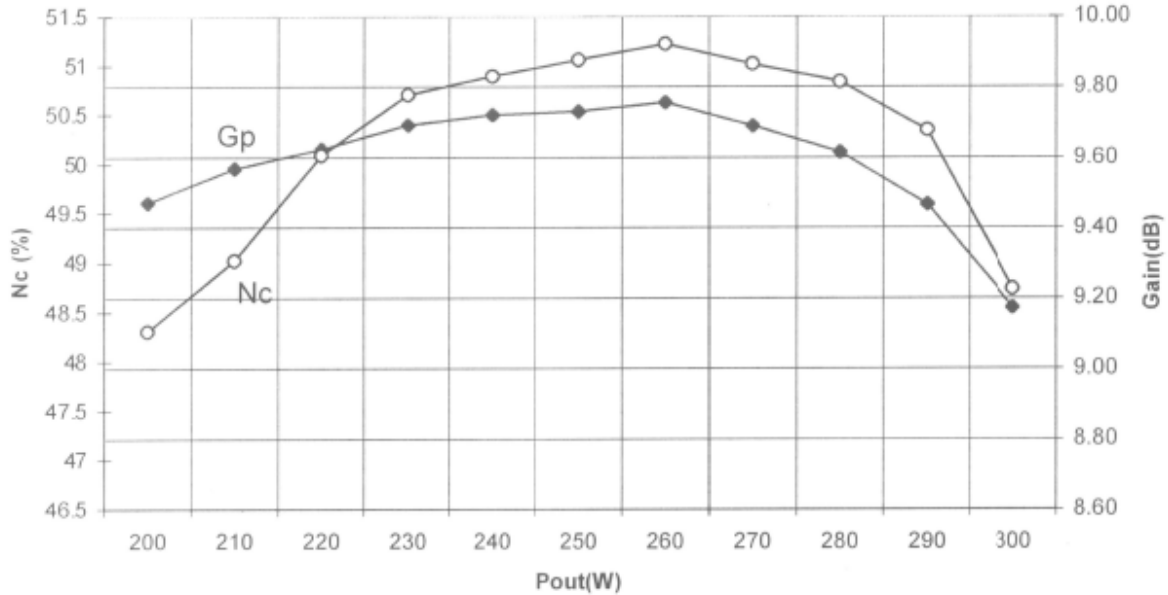
Parameter	Symbol	Min	Max	Units	Test Conditions
Input Power	P _{IN}	-	44	Wpk	V _{CC} = 36V, P _{out} = 240Wpk, F = 2.7, 2.8, 2.9GHz
Collector Current	I _c	-	16.97	A	V _{CC} = 36V, P _{out} = 240Wpk, F = 2.7, 2.8, 2.9GHz
Input Return Loss	RL	10	-	dB	V _{CC} = 36V, P _{out} = 240Wpk, F = 2.7, 2.8, 2.9GHz
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	Δφ	-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, P _{in} = (P _{in} @P _{out} = 240Wpk) + 0.6dB, F = 2.7, 2.8, 2.9GHz

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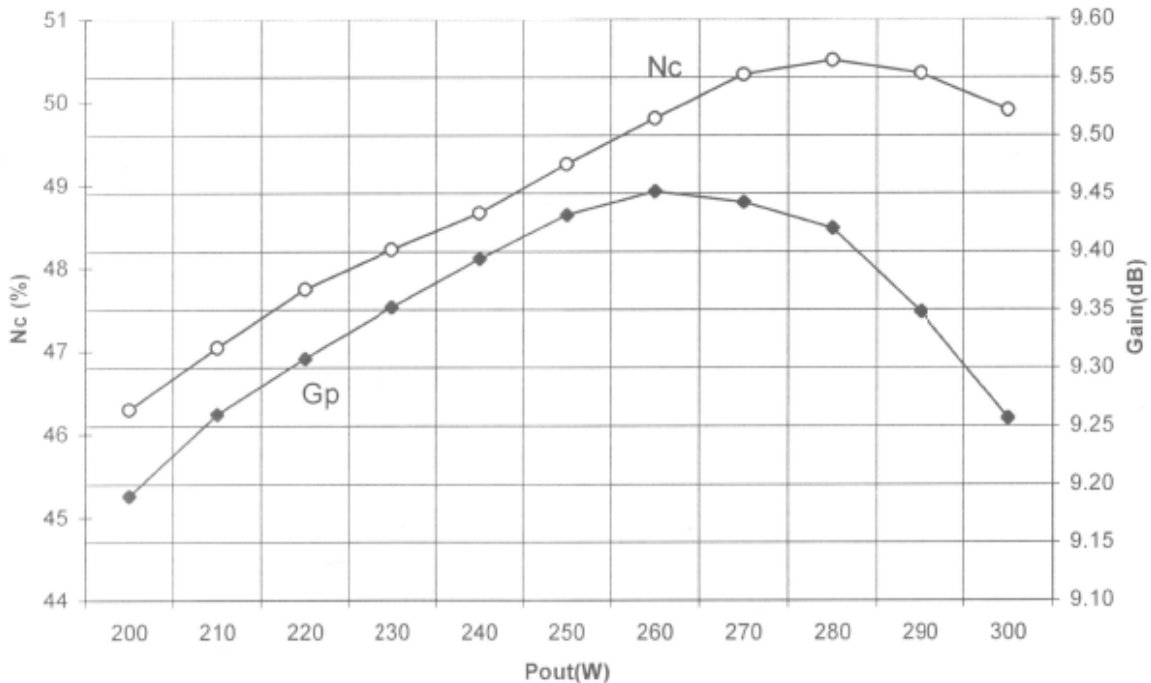
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Typical Performance Curves

Collector Efficiency and Power Gain vs. Power Output
 $V_{cc}=36VDC$, Pulse Width=100µS, Duty=10%, 2.7GHz



Collector Efficiency and Power Gain vs. Power Output
 $V_{cc}=36VDC$, Pulse Width=100µS, Duty=10%, 2.8GHz



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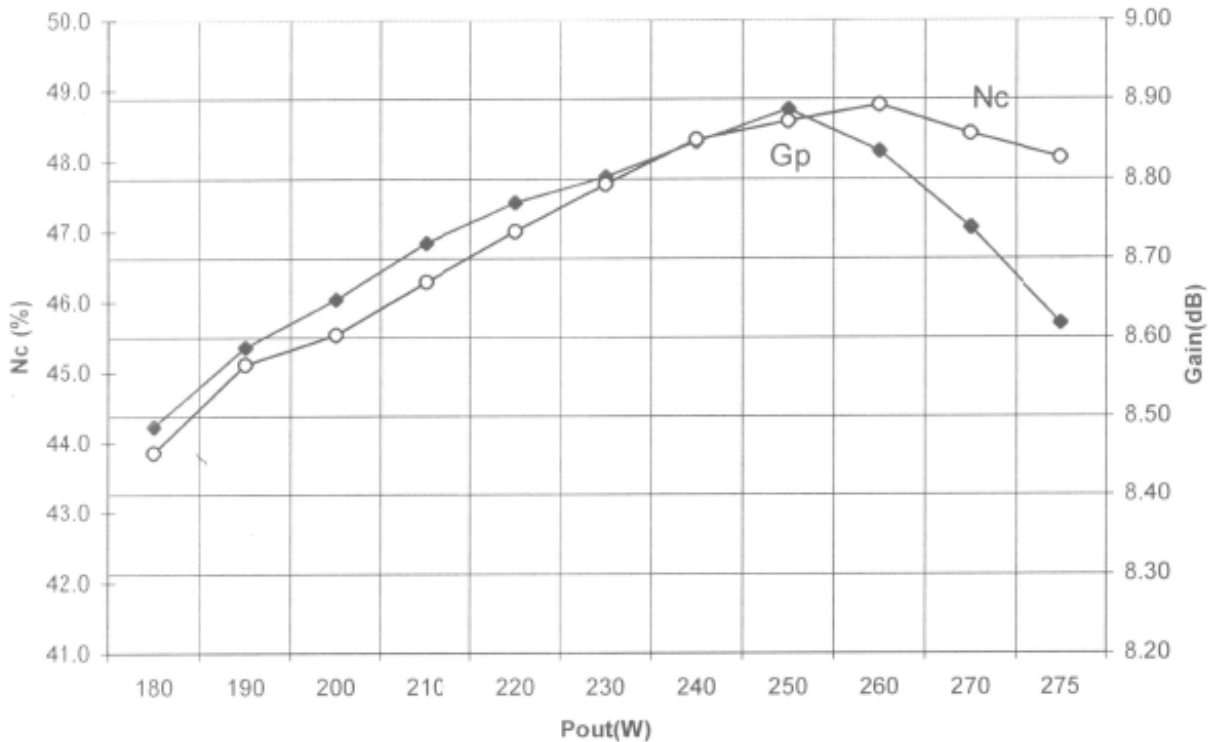
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Collector Efficiency and Power Gain vs. Power Output
Vcc=36VDC, Pulse Width=100µS, Duty=10%, 2.9GHz



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