



# Radar Pulsed Power Module, 240 Watts, 2.7-2.9 GHz, 100 $\mu$ S Pulse, 10%

11/4/02

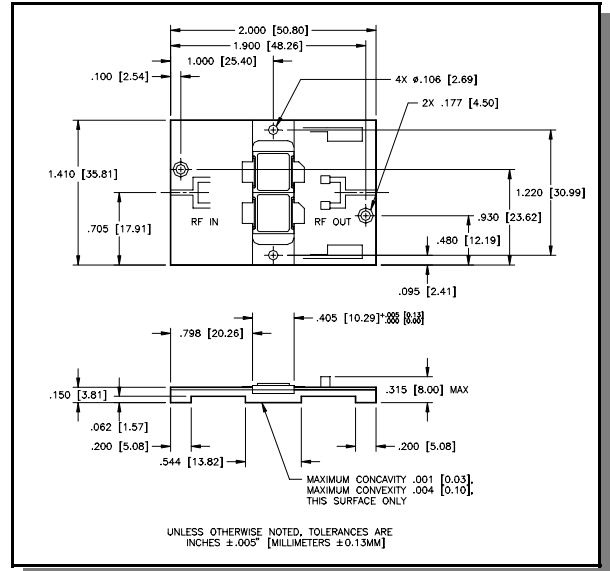
Rev 0

PHA2729-240M

## Features

- In-Phase Combined Pulsed Power Transistors
- Input and Output Matched to 50  $\Omega$
- Soft Substrate  $\epsilon_R=10.5$  Circuit Board
- Nickel Plated Copper Flange
- Easily Combined for High Power Transmitters
- MTTF >  $1 \times 10^6$  Hrs @ Tflange=45  $^\circ$ C

## Outline Drawing



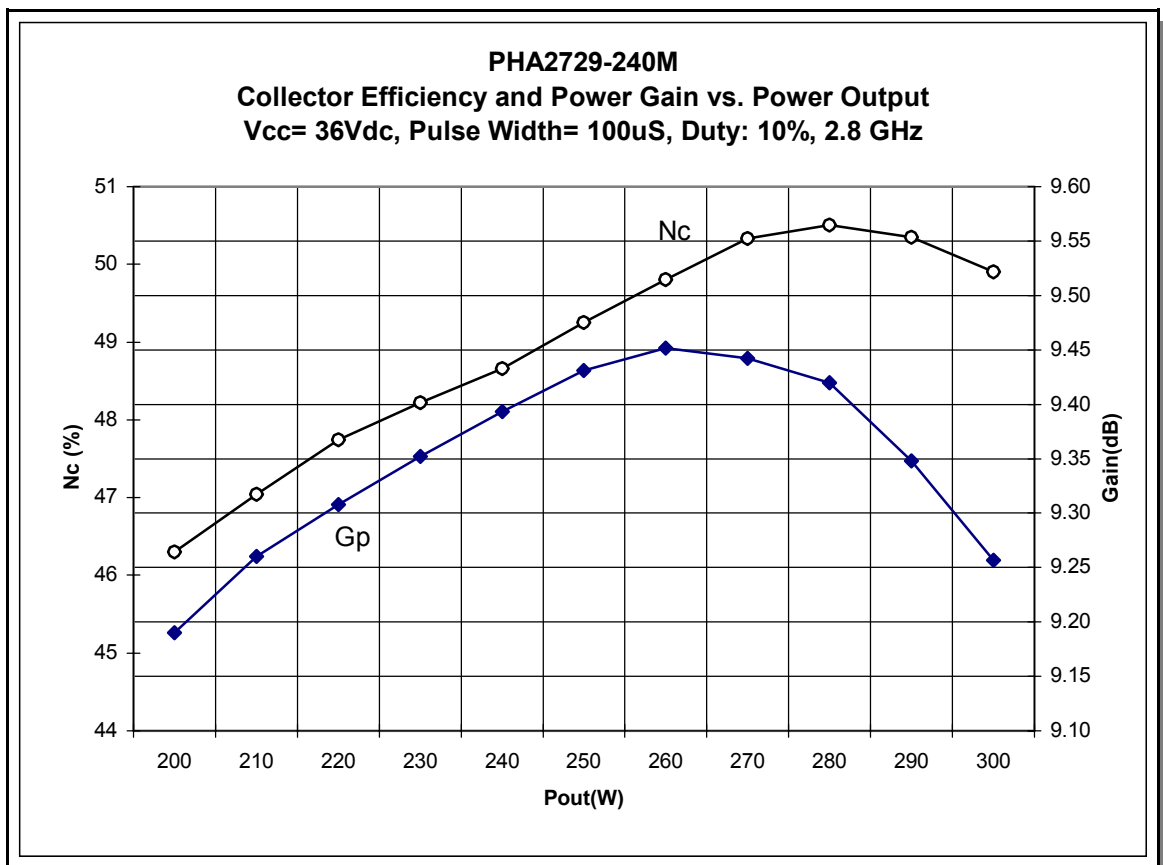
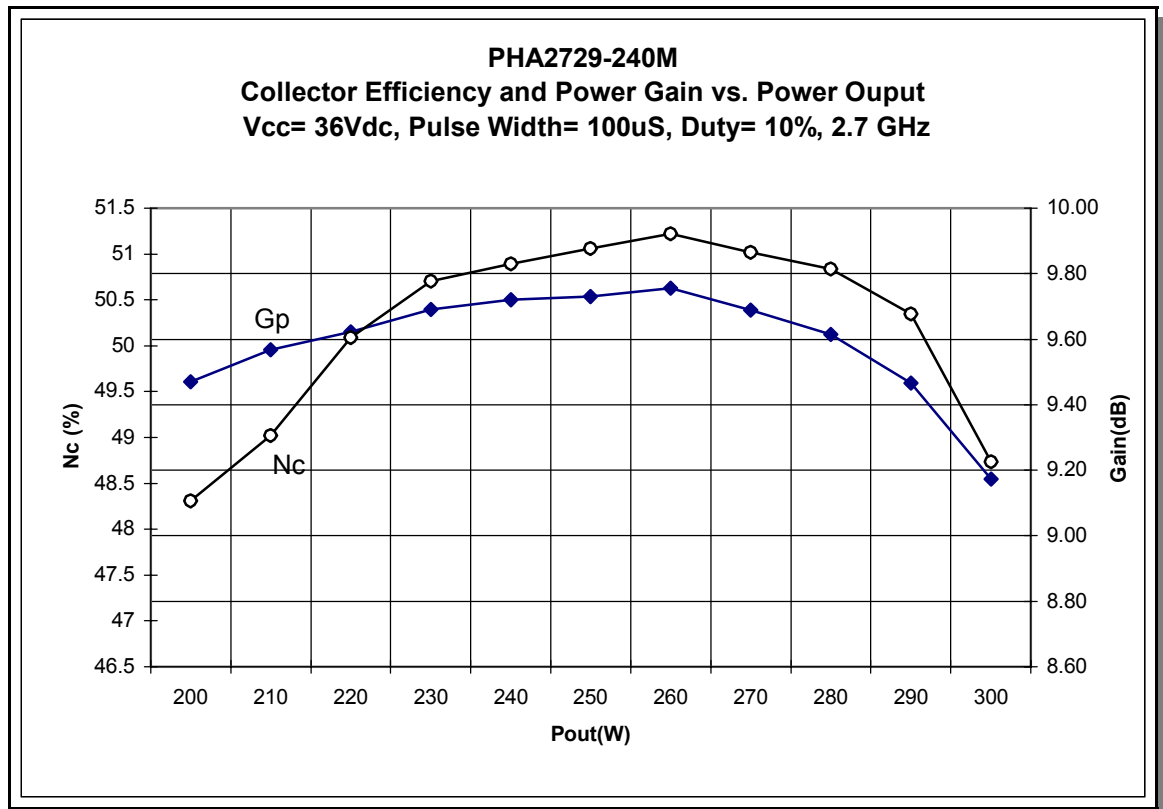
## Absolute Maximum Ratings @ 25 $^\circ$ C

Parameter	Symbol	Rating	Units
Supply Voltage	$V_{CC}$	40	V
Input Power	$P_{IN}$	55	$W_{PK}$
Output Power	$P_{OUT}$	325	$W_{PK}$
Thermal Resistance	$\theta_{JC}$	0.35	$^\circ$ C/W
Total Power Dissipation	$P_D$	500	W
Operating Case Temperature	$T_C$	-30 to +100	$^\circ$ C
Storage Temperature	$T_{STG}$	-40 to +125	$^\circ$ C

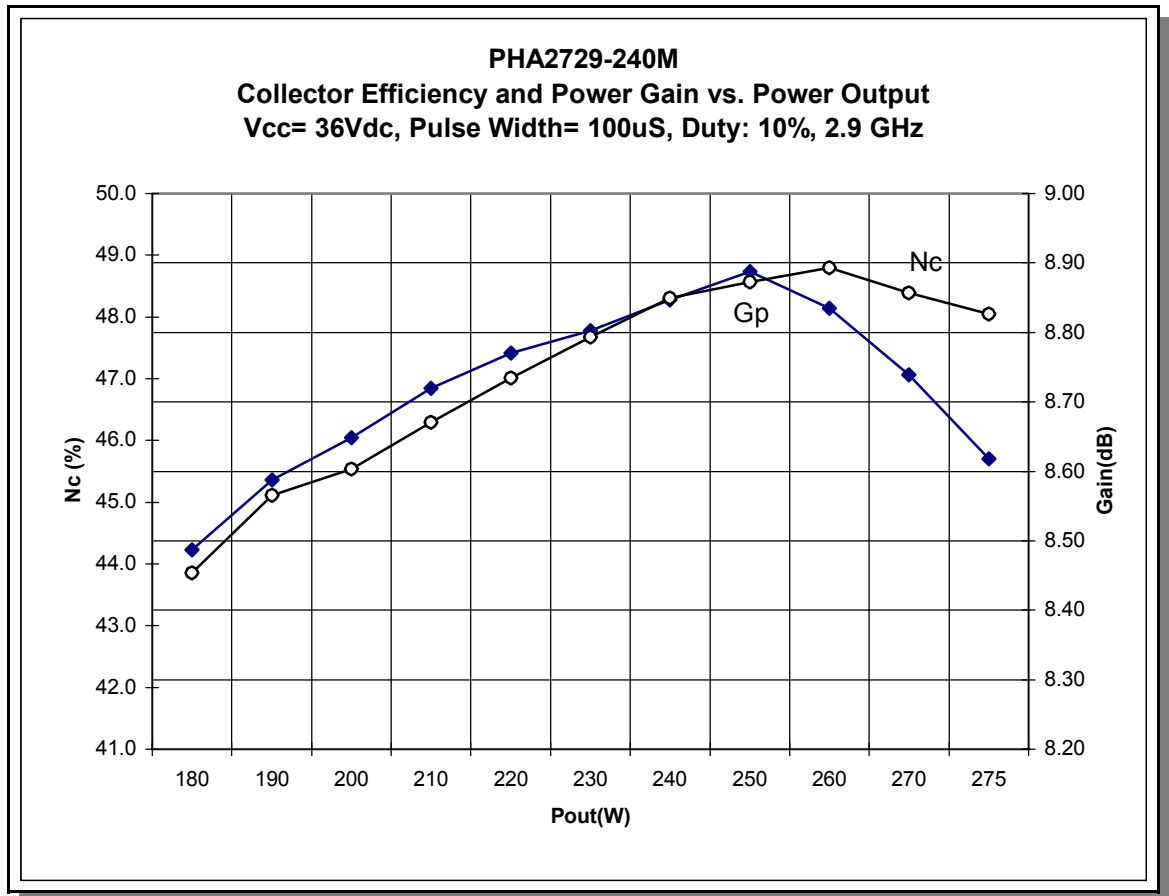
## Electrical Characteristics @ 25 $\pm$ 5 $^\circ$ C (Room Ambient)

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

Typical Performance Curves



Typical Performance Curves (cont.)



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