

# PHA2729-240M



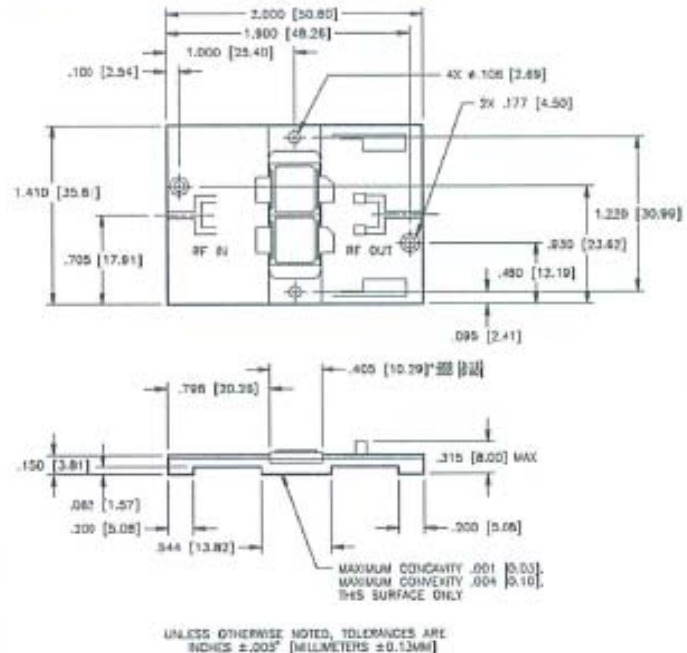
**Radar Pulsed Power Module, 240W**  
**2700MHz to 2900MHz, 100μS Pulse, 10% Duty**

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<sup>6</sup> hrs at T<sub>flange</sub>=45°C

## Product Image



## ABSOLUTE MAXIMUM RATINGS AT 25°C

| Parameter               | Symbol           | Rating      | Units |
|-------------------------|------------------|-------------|-------|
| Supply Voltage          | V <sub>CC</sub>  | 40          | V     |
| Input Power             | P <sub>in</sub>  | 55          | Wpk   |
| Output Power            | P <sub>out</sub> | 325         | Wpk   |
| Thermal Resistance      | θ <sub>JC</sub>  | 0.35        | °C/W  |
| Total Power Dissipation | P <sub>D</sub>   | 500         | W     |
| Operating Case Temp.    | T <sub>C</sub>   | -30 to +100 | °C    |
| Storage Temp.           | T <sub>STG</sub> | -40 to +125 | °C    |

## ELECTRICAL CHARACTERISTICS AT 25°C

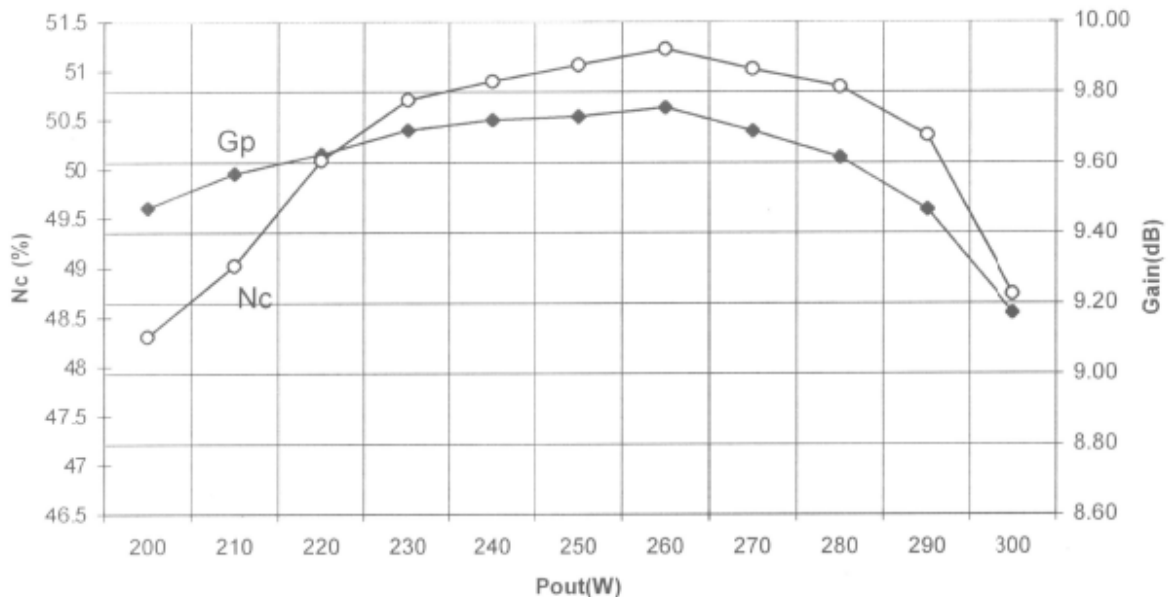
| Parameter                         | Symbol          | Min | Max   | Units   | Test Conditions   |
|-----------------------------------|-----------------|-----|-------|---------|---|
| Input Power                       | P <sub>IN</sub> | -   | 44    | Wpk     | V <sub>CC</sub> = 36V, P <sub>out</sub> = 240Wpk, F = 2.7, 2.8, 2.9GHz  |
| Collector Current                 | I <sub>C</sub>  | -   | 16.97 | A       | V <sub>CC</sub> = 36V, P <sub>out</sub> = 240Wpk, F = 2.7, 2.8, 2.9GHz  |
| Input Return Loss                 | RL              | 10  | -     | dB      | V <sub>CC</sub> = 36V, P <sub>out</sub> = 240Wpk, F = 2.7, 2.8, 2.9GHz  |
| Pulse Amplitude Droop             | Droop           | -   | 0.7   | dB      | V <sub>CC</sub> = 36V, P <sub>out</sub> = 240Wpk, F = 2.7, 2.8, 2.9GHz  |
| 2nd Harmonic                      | 2fc             | -   | -20   | dB      | V <sub>CC</sub> = 36V, P <sub>out</sub> = 240Wpk, F = 2.7, 2.8, 2.9GHz  |
| Insertion Phase Deviation         | Δφ              | -20 | +20   | Degrees | V <sub>CC</sub> = 36V, P <sub>out</sub> = 240Wpk, F = 2.7, 2.8, 2.9GHz  |
| Load Mismatch Stability           | VSWR-S          | -   | 1.5:1 | -       | V <sub>CC</sub> = 36V, P <sub>out</sub> = 240Wpk, F = 2.7, 2.8, 2.9GHz  |
| Overdrive/Load Mismatch Tolerance | OD/<br>VSWR-T   | -   | 2:1   | -       | V <sub>CC</sub> = 36V, P <sub>in</sub> = (P <sub>in</sub> @P <sub>out</sub> = 240Wpk) + 0.6dB, F = 2.7, 2.8, 2.9GHz |

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

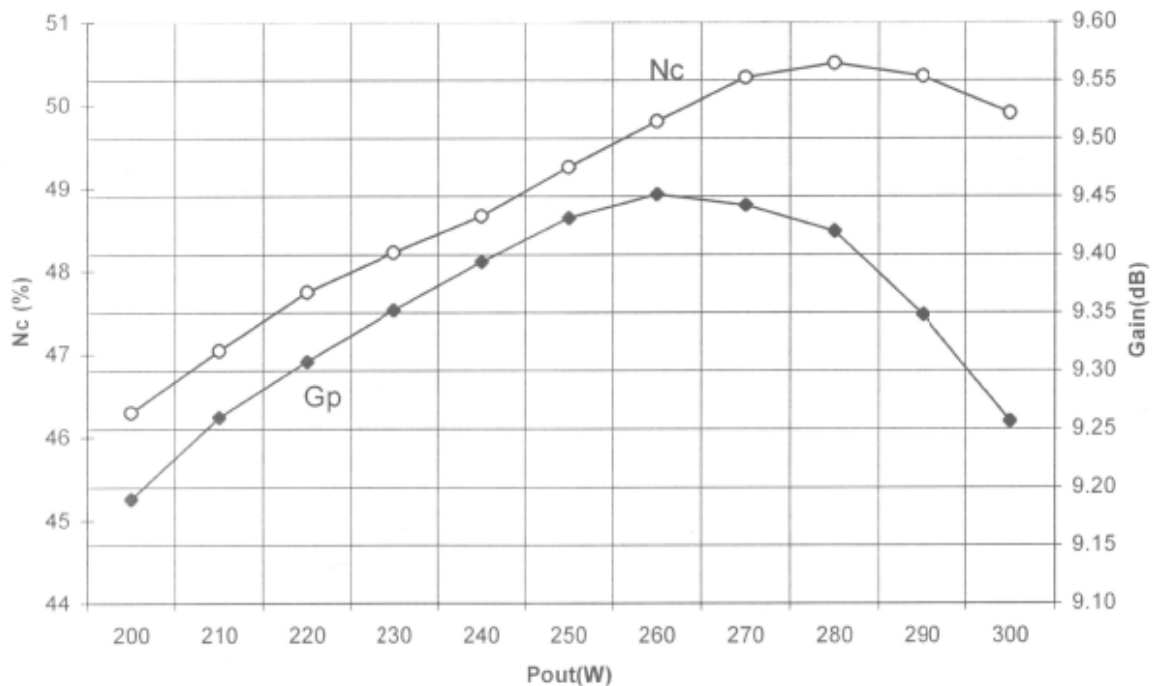
Released—11-04-2002

## 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



# PHA2729-240M



Radar Pulsed Power Module, 240W  
2700MHz to 2900MHz, 100 $\mu$ S Pulse, 10% Duty

Released—11-04-2002

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

