NXP GaAs HFC CATV solutions CGY888C, CGD942C and CGD944C

Complete GaAs amplifier solutions for Chinese HFC networks

These high-performance GaAs solutions, specially designed for the Chinese SARFT HFC standard, provide complete functionality in a format that reduces chip-count and lowers overall cost.

Products

- 870-MHz push-pull amplifier: CGY888C
- 870-MHz power doublers: CGD942C (23-dB gain), CGD944C (25-dB gain)

Features

- GaAs HFET process for best performance and lowest chip-count
- Excellent linearity, stability, and reliability
- High power gain
- Extremely low noise
- Excellent return-loss properties

Benefits

- Fully compliant with Chinese SARFT HFC networks standard
- Transparent cap confirms product authenticity
- Rugged construction
- Unconditionally stable
- Thermally optimized design

To support Chinese HFC CATV infrastructure applications as a single-source supplier, NXP offers the C-family, a complete line of dedicated RF amplifier modules that deliver the very high level of performance required for next-generation HFC TV networks.

The family includes the 870-MHz push-pull amplifier CGY888C, a GaAs upgrade of NXP's industry-leading BGY888 and BGY835C products, and two 870-MHz power doublers: the CGD942C, which has a typical gain of 23 dB, and the CGD944C, with a typical gain of 25 dB.

The modules are flexible enough to connect rural communities as part of China's "Connect Every Village" project, and powerful enough to upgrade major cities from analog to high-end digital services.

The modules have been tested under Chinese raster conditions and fully comply with the Chinese SRAFT standard. They also cover most HFC applications in the range of 550 to 870 MHz and are compatible with previous generations of NXP HFC solutions, so they can be used to upgrade existing networks to a higher level of performance.

NXP founded by Philips

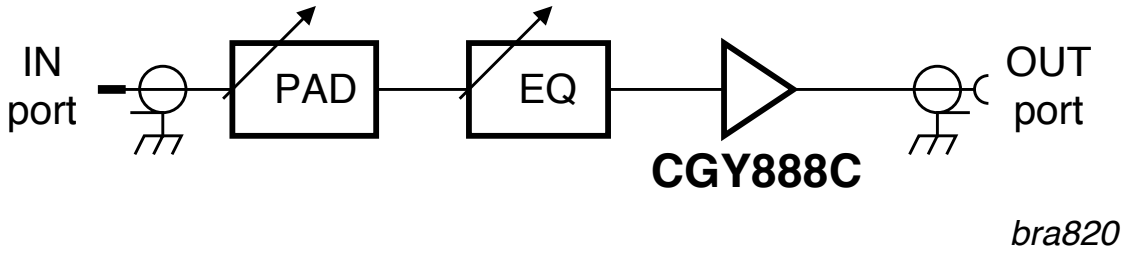
Produced in NXP's advanced GaAs HFET die process, the modules deliver excellent linearity with extremely low noise, and work seamlessly together. The GaAs process improves performance and, by reducing chip count, saves overall cost. It offers stronger signal strength than Si, so there are fewer amplifiers required, and it provides superior ESD protection compared to GaAs pHEMT processes, so there's no need for external TVS components.

The CGY888C is well suited for use in the last stage of an HFC network, which is known as a terminating amplifier or a user amplifier since it is close to subscribers.

The CGD942C and the CGD944C offer higher output power and better CTB and CSO than other power doublers, so they are ideal for use in HFC networks that have optical nodes with multiple out-ports. The modules enable each port to cover at least 125 subscribers directly.

All the C-family modules are delivered with transparent caps that make it easy to distinguish them from counterfeit products.

Sample application of CGY888C



Operating characteristics

	Push-pull amplifier CGY888C	Power doubler CGD942C	Power doubler CGD944C
Power gain (typ)	35.5 dB	23 dB	25 dB
Slope cable equivalent (typ)	1.5 dB	1 to 2 dB	1 to 2 dB
Composite triple beat (max)	-66 dB @ 44dBmV	-66 dB @ 48dBmV	-66 dB @ 48dBmV
Composite 2nd-order distortion (max)	-67 dB @ 44dBmV	-67 dB @ 48dBmV	-67 dB @ 48dBmV
Noise (@ fmax) (max)	3 dB	5 dB	5 dB
Total current consumption (typ)	280 mA	450 mA	450 mA
Frequency range (MHz)	40 to 870	40 to 870	40 to 870

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