



NXP CATV C-family for the Chinese SARFT standard

Connecting people, protecting your network

Specially designed for the Chinese Hybrid Fiber Coax (HFC) infrastructure, NXP CATV C-family offers you a total solution for cable TV networks. It is both flexible enough for connecting rural communities as part of China's 'Connecting every village' program and powerful enough for upgrading major cities from analog to high-end digital services. All C-type devices are compliant with the Chinese State Administration for Radio, Film and Television (SARFT) standard, and cover most HFC applications in the 550 - 870 MHz range.

Products

- ▶ BGY588C, BGE788C and CGY888C push-pull amplifiers
- ▶ BGD712C, CGD944C and CGD942C power doublers
- ▶ BGO807C optical receiver

Benefits

- ▶ Compliant with Chinese SARFT HFC networks standard
- ▶ Transparent cap allows confirmation of product authenticity
- ▶ Rugged construction
- ▶ Highest 'by Design' internal ESD protection

Features

- ▶ Excellent linearity, stability and reliability
- ▶ High power gain
- ▶ Extremely low noise
- ▶ Silicon Nitride passivity
- ▶ GaAs HFET dies for high end devices

Further extending our high quality CATV portfolio, this new family lets you address an even wider range of HFC applications. Dedicated solutions for the implementation of CATV systems in China, our C-type devices deliver the performance you need for modern TV infrastructures.

The BGY588C, BGE788C and BGD712C devices cover the frequency range from 550 MHz to 750 MHz. Extending the C-family portfolio into the high-end segment, the CGD944C, CGD942C, CGY888C and BGO807C operate between 40 MHz and 870 MHz and have been specifically tested under Chinese raster conditions. Manufactured using our GaAs HFET die process, the CGD942C and CGD944C are high-gain, high-performance 870 MHz power doublers. They are capable of satisfying the demanding requirements of top-end applications including high-power optical nodes.

Our GaAs HFET MMIC dies are providing 'by design' the best ESD protection levels with no needs for external TVS components normally used with GaAs pHEMT devices.

All CATV C-type devices feature a transparent cap that makes it easy to distinguish them from counterfeit products.



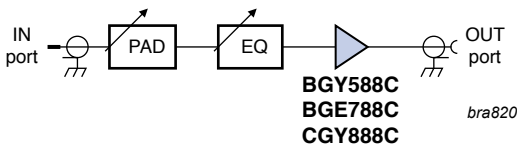
C-family application information

NXP C-family by application							
Application	BGY588C	BGE788C	CGY888C	BGD712C	BGO807C	CGD944C	CGD942C
Optical node				•	•	•	•
Ordinary optical receiver				•	•	•	•
Distribution amplifier			•	•		•	•
Line extender amplifier			•	•		•	•
Terminating amplifier	•	•	•				

BGY588C and BGE788C

The last stage of an HFC network structure is called a terminating amplifier or ‘user amplifier’ as it is close to the subscribers. Each terminating amplifier requires a single

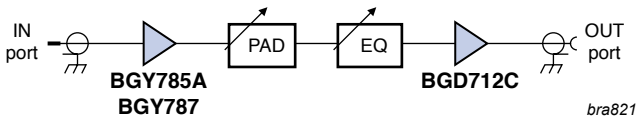
module such as BGY588C for 550 MHz, BGE788C for 750 MHz and CGY888C for 870 Mhz systems. These modules are fitting perfectly in the Chinese ‘Connecting to Every Village’ projects.



BGD712C

The BGD712C is a 750 MHz, 18 dB power doubler module. It has been designed for 750 MHz optical nodes including ordinary or optical receivers and distribution amplifiers. It can also be used in line extender amplifiers together with

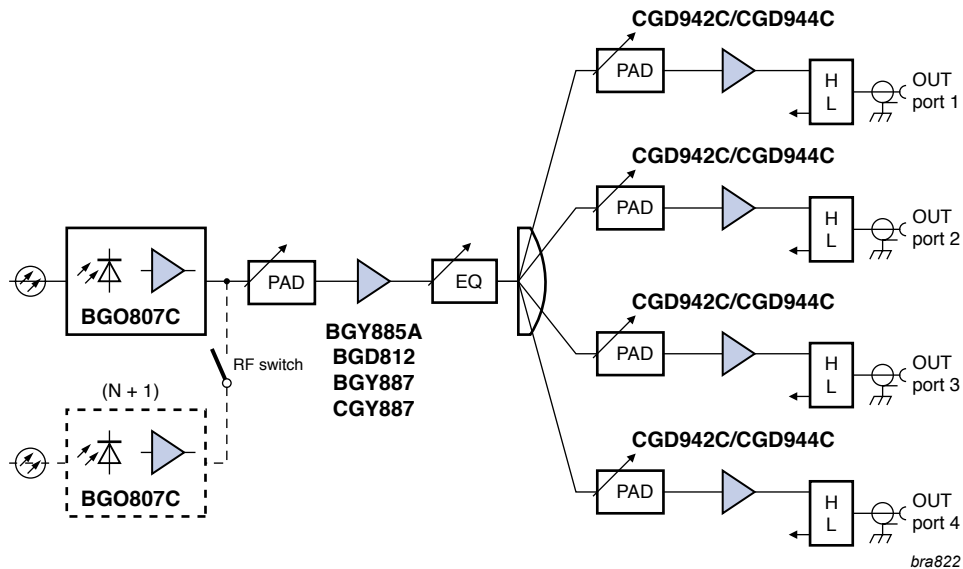
a 750 MHz push-pull module, such as BGY785A or BGY787. As such it can be used widely in Chinese ‘Connecting to Every Village’ projects.



CGD944C and CGD942C

Our full GaAs power doublers modules, CGD942C and CGD944C offer high output power and better CTB and CSO than other modules. Designed for high-end HFC networks containing optical nodes with multiple out-ports,

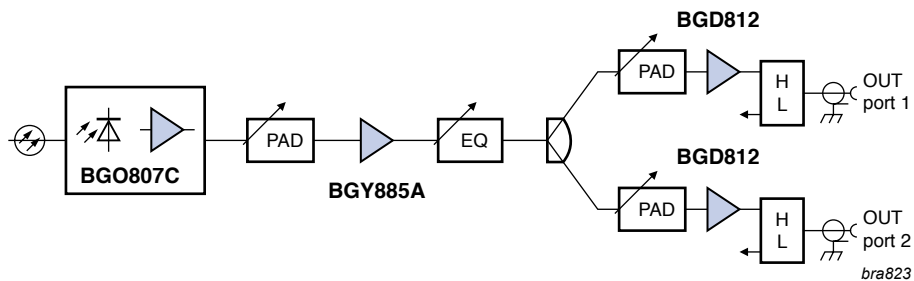
these modules enable each port to directly cover at least 125 subscribers. These two devices are ideal when used in upgrading HFC networks to 870 Mhz.



BGO807C

BGO807C is an integrated optical receiver module that provides high output levels and includes an integrated temperature compensated circuitry. In your optical node

design, BGO807C enables a high performance/ price ratio and ruggedness. When upgrading an HFC network from analog to digital our BGO807C is the perfect fit.



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Push-pull amplifiers

Parameters		BGY588C	BGE788C	CGY888C
Power gain (dB)	typ.	34,5	34,2	35,5
Slope cable equivalent (dB)	range	0.2 - 1.7	0.3 - 2.3	1.5 typ.
Composite triple beat (dB)	max.	-57	-49	-66
Composite 2nd order distortion (dB)	max.	-62	-52	-64
Noise (@ fmax) (dB)	max.	8	8	3 typ.
Total current consumption (mA)	typ.	325	305	280
Frequency range (MHz)	range	40 - 550	40 - 750	40 - 870

Power doublers

Parameters		BGD712C	CGD944C	CGD942C
Power gain (dB)	typ.	18,5	25	23
Slope cable equivalent (dB)	range	0.5 - 1.5	1 - 2	1 - 2
Composite triple beat (dB)	max.	-62	-66	-66
Composite 2nd order distortion (dB)	max.	-63	-67	-67
Noise (@ fmax) (dB)	max.	7	5	5
Total current consumption (mA)	typ.	395	450	450
Frequency range (MHz)	range	40 - 750	40 - 870	40 - 870

Optical receiver

Parameters		BGO807C
Responsivity (Rmin)	min.	800
Slope cable equivalent (dB)	range	0 - 2
Composite triple beat (dB)	max.	-71
Composite 2nd order distortion (dB)	max.	-55
Noise (@ fmax) (dB)	max.	8,5
Total current consumption (mA)	typ.	190
Frequency range (MHz)	range	40 - 870
Connector	- / SC0 / FC0	

