



# BCT89318

## High efficiency, Low noise Class T Audio Amplifier

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##### GENERAL DESCRIPTION

BCT89318 is specifically designed to enhance smart mobile phone sound quality, which is an innovative high efficiency, low noise, ultra-low distortion, constant large volume, Class T audio amplifier. Using our unique Digital Power Modulation(DPM) audio algorithm, effectively eliminate audio noise, increase signal Dynamic range which will greatly improve sound quality and volume. With an advance TOP power technology, efficiency reach 93%, and power amplifier's overall efficiency is up to 83%, greatly saves the mobile phone power consumption and prolong the mobile phone usage time. The BCT89318 noise floor is as low as to 43 $\mu$ V, with 99dB high signal-to-noise-ratio(SNR). The ultra-low distortion 0.008% and unique Digital Power Modulation technology brings high quality music enjoyment.

BCT89318 has 0.6W, 0.7W, 0.8W, 0.9W, 1W, 1.1W and 1.2W seven selectable speaker-protection output power levels, which is suitable for different rated power speakers. With Digital Power Modulation audio Algorithms, the music is pure nature and melodious. Within lithium battery voltage range (3.3V--4.35V), output power is constant, preventing the voice becomes smaller and smaller during usage of cell phone.

BCT89318 supports the special speaker and receiver two-in-one application. In receiver mode, the output noise floor is as low as 19 $\mu$ V, amplifier is in class D mode, powered by VBAT.

BCT89318 has built-in over current protection, over-temperature protection and short circuit protection function, effectively protecting the chip from damage. The BCT89318 uses small 0.4mm pitch 1.58mmx1.63mm WCSP-14L package.

##### FEATURES

- Digital Power Modulation audio algorithm, effectively eliminate music noise, make sound pure nature
- Power amplifier overall efficiency 83%
- Low noise: 43  $\mu$  V
- Ultra-low distortion: 0.008%
- Speaker and Receiver two-in-one application  
Receiver: 1V/V, Vn=19 $\mu$ V, THD+N=0.02%  
Receiver: 3V/V, Vn=22 $\mu$ V, THD+N=0.01%
- Selectable speaker-protection power level:  
0.6w, 0.7W, 0.8W, 0.9W, 1W, 1.1W, 1.2W
- Within voltage range(3.3V-4.35V), output power is maintained constant
- Support 6ohm speaker
- Excellent pop-click suppression
- One wire pulse control
- High PSRR: -68dB (217Hz)
- ESD protection:  $\pm$ 6kV (HBM)
- Small 0.4mm pitch 1.58mmx1.63mm WCSP-14L package

##### APPLICATIONS

- Cellular Phones
- Portable Audio Devices
- Mini Speakers
- Tablets

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