

Frequency Tripler using the CA3028

Here is a simple frequency tripler using a CA3028 differential amplifier. The CA3028 has internal bias resistors for setting the differential amplifier's current at about 7 mA when connected as shown. With this current, the output level is about 0 dBm at 30 MHz with a 1v p-p, 10 MHz input. Other frequencies and multiplication factors are possible and the CA3028 may be replaced by discrete transistors. The amplifier's current may be increased by connecting a resistor from pin 4 to ground to achieve more output or for operation with lower power supply voltage. Amplitude modulation may be applied to the output frequency by capacitor coupling the audio to pin 2.

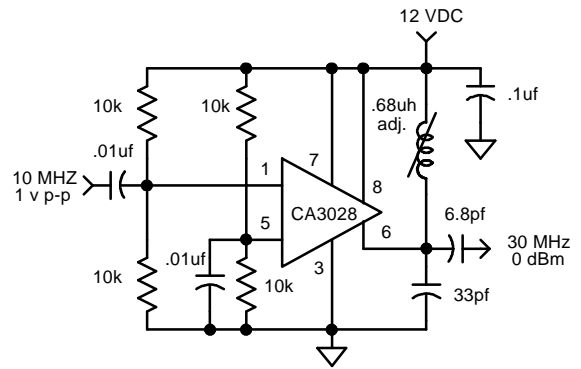


Figure 1: X3 multiplier using differential amplifier

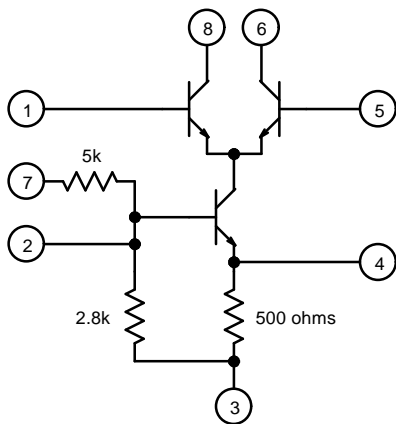


Figure 2: Inside the CA3028

Specification Limitations:

Amplifier current : 20 mA

Collector voltage: 30 V

Power dissipation: 750 mW (up to 55 C)