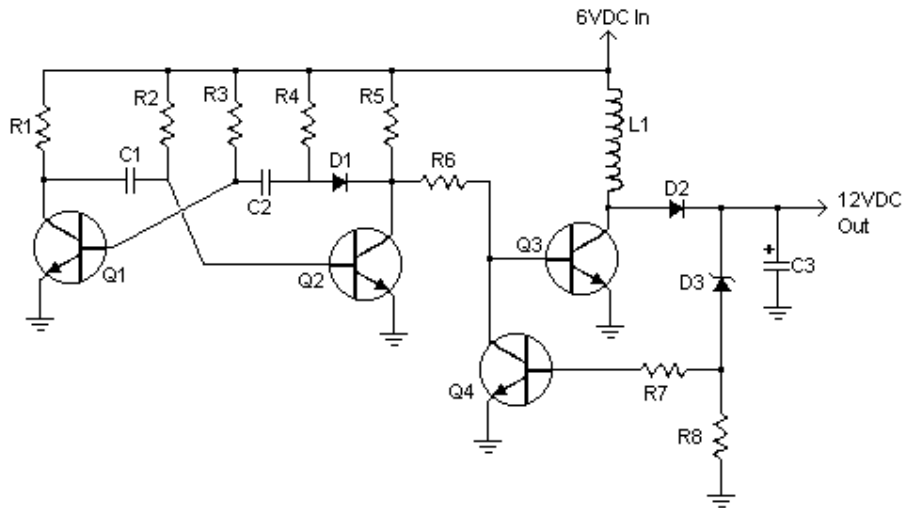


6V to 12V Converter

This inverter circuit can provide up to 800mA of 12V power from a 6V supply. For example, you could run 12V car accessories in a 6V (British?) car. The circuit is simple, about 75% efficient and quite useful. By changing just a few components, you can also modify it for different voltages.



Parts

Part	Total Qty.	Description	Substitutions
R1, R4	2	2.2K 1/4W Resistor	
R2, R3	2	4.7K 1/4W Resistor	
R5	1	1K 1/4W Resistor	
R6	1	1.5K 1/4W Resistor	
R7	1	33K 1/4W Resistor	
R8	1	10K 1/4W Resistor	
C1,C2	2	0.1uF Ceramic Disc Capacitor	
C3	1	470uF 25V Electrolytic Capacitor	
D1	1	1N914 Diode	
D2	1	1N4004 Diode	
D3	1	12V 400mW Zener Diode	
Q1, Q2, Q4	3	BC547 NPN Transistor	

Q3	1	BD679 NPN Transistor	
L1	1	See Notes	
MISC	1	Heatsink For Q3, Binding Posts (For Input/Output), Wire, Board	

Notes

1. L1 is a custom inductor wound with about 80 turns of 0.5mm magnet wire around a toroidal core with a 40mm outside diameter.
2. Different values of D3 can be used to get different output voltages from about 0.6V to around 30V. Note that at higher voltages the circuit might not perform as well and may not produce as much current. You may also need to use a larger C3 for higher voltages and/or higher currents.
3. You can use a larger value for C3 to provide better filtering.
4. The circuit will require about 2A from the 6V supply to provide the full 800mA at 12V.

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搜集整理：电子零件城-笨笨兔 (QQ: 154502842) 2004-04-10