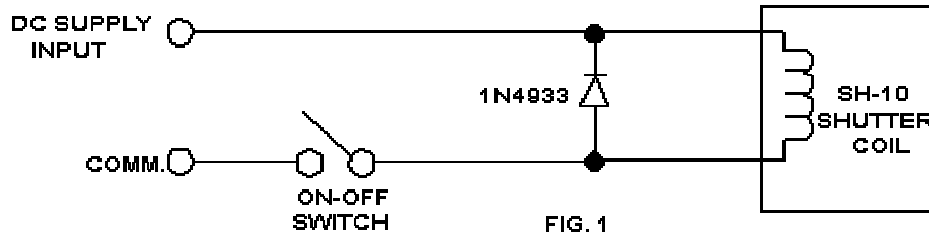




# SH-10 and SH-20 Ways To Activate

1. THE SH-10 WILL "OPEN" WHEN IT IS CONNECTED TO A DC POWER SUPPLY  
(SEE FIG. 1 AND TABLE 1)



| SHUTTER TYPE | DC SUPPLY  |
|--------------|------------|
| SH-10-5      | 5V, 750mA  |
| SH-10-12     | 12V, 300mA |
| SH-10-24     | 24V, 170mA |

TABLE 1

2. THE POWER CONSUMPTION CAN BE REDUCED BY USING THE FOLLOWING  
"RC" CIRCUIT. (SEE FIG. 2 AND TABLE 2)

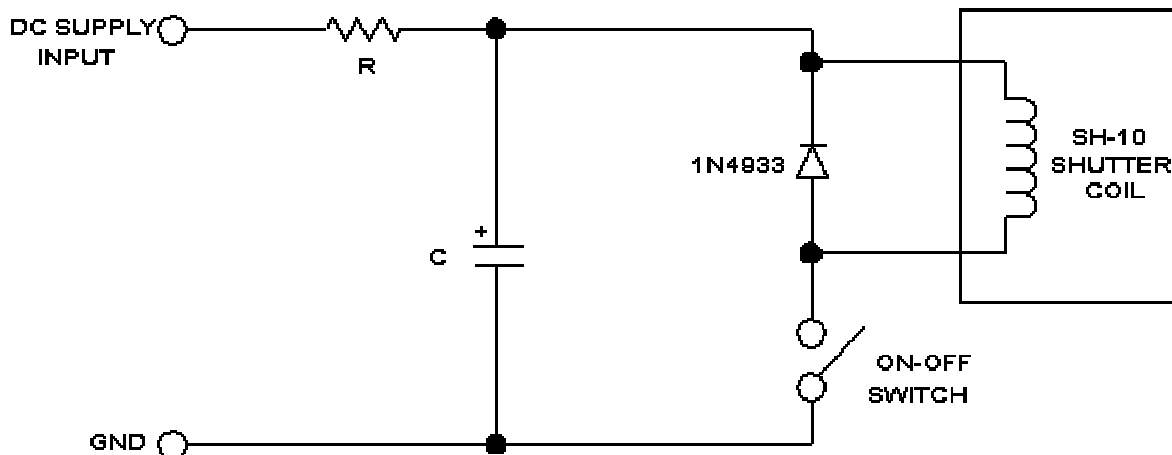


FIG. 2

| SHUTTER TYPE | DC SUPPLY  | R                 | C                   |
|--------------|------------|-------------------|---------------------|
| SH-10-5      | 5V, 350mA  | 6.8 $\Omega$ , 2W | 10,000 $\mu$ F, 10V |
| SH-10-12     | 12V, 150mA | 39 $\Omega$ , 2W  | 4,700 $\mu$ F, 25V  |
| SH-10-24     | 24V, 85mA  | 150 $\Omega$ , 2W | 2,200 $\mu$ F, 35V  |



3. TO CONTROL THE SHUTTER WITH A TTL INPUT SIGNAL, AND NOT BY THE ON-OFF SWITCH, THE FOLLOWING DRIVE CIRCUIT IS ADVISED (TO "OPEN" OR "CLOSE" THE SHUTTER). CONNECT THE POWER SUPPLY TO "DC SUPPLY INPUT AND "COMMON". CONNECT THE TTL SIGNAL TO "INPUT" AND "COMMON". (SEE FIG. 3 AND TABLE 3)

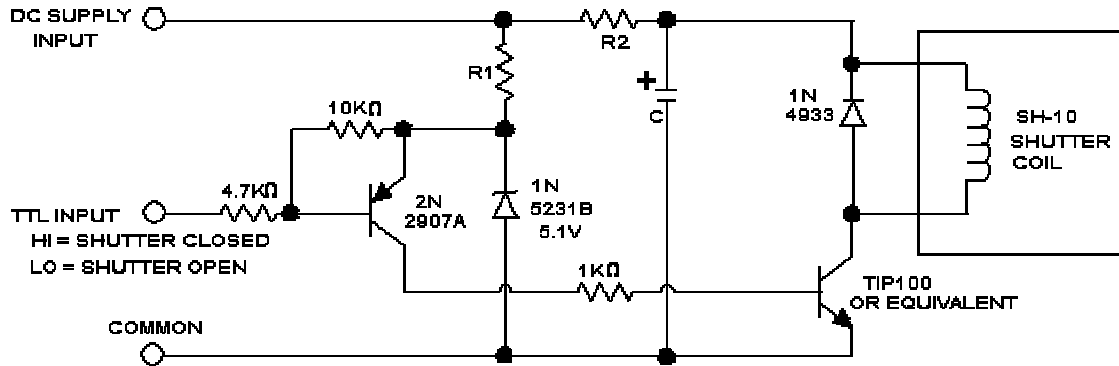


FIG. 3

| SHUTTER TYPE | DC SUPPLY    | R1             | R2          | C                |
|--------------|--------------|----------------|-------------|------------------|
| SH-10-5      | 5V<br>350mA  | 100 Ω<br>1/4W  | 6.8 Ω<br>2W | 10,000 uF<br>10V |
| SH-10-12     | 12V<br>150mA | 1K Ω<br>1/4W   | 39 Ω<br>2W  | 4,700 uF<br>25V  |
| SH-10-24     | 24V<br>85mA  | 3.3K Ω<br>1/4W | 150 Ω<br>2W | 2,200 uF<br>35V  |

TABLE 3



1. THE SH-20 WILL "OPEN" WHEN IT IS CONNECTED TO A DC POWER SUPPLY  
(SEE FIG. 1 AND TABLE 1)

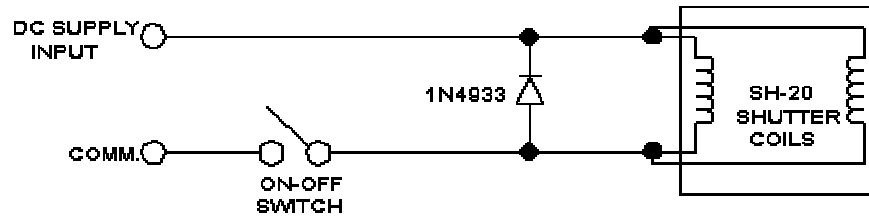


FIG. 1

| SHUTTER TYPE | DC SUPPLY  |
|--------------|------------|
| SH-20-5      | 5V, 1500mA |
| SH-20-12     | 12V, 600mA |
| SH-20-24     | 24V, 340mA |

TABLE 1

2. THE POWER CONSUMPSION CAN BE REDUCED BY USING THE FOLLOWING  
"RC" CIRCUIT. (SEE FIG. 2 AND TABLE 2)

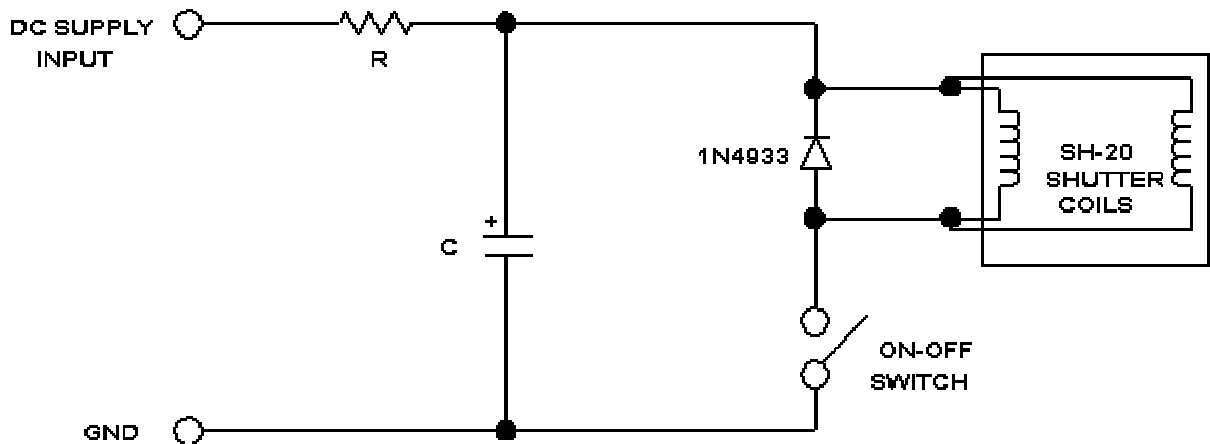


FIG. 2

| SHUTTER TYPE | DC SUPPLY  | R                 | C                   |
|--------------|------------|-------------------|---------------------|
| SH-20-5      | 5V, 700mA  | 6.8 $\Omega$ , 5W | 20,000 $\mu$ F, 10V |
| SH-20-12     | 12V, 300mA | 39 $\Omega$ , 5W  | 10,000 $\mu$ F, 25V |
| SH-20-24     | 24V, 170mA | 150 $\Omega$ , 5W | 4,700 $\mu$ F, 35V  |

TABLE 2



3. TO CONTROL THE SHUTTER WITH A TTL INPUT SIGNAL, AND NOT BY THE ON-OFF SWITCH, THE FOLLOWING DRIVE CIRCUIT IS USED (TO "OPEN" OR "CLOSE" THE SHUTTER). CONNECT THE POWER SUPPLY TO "DC SUPPLY INPUT AND "COMMON". CONNECT THE TTL SIGNAL TO "INPUT" AND "COMMON". (SEE FIG. 3 AND TABLE 3)

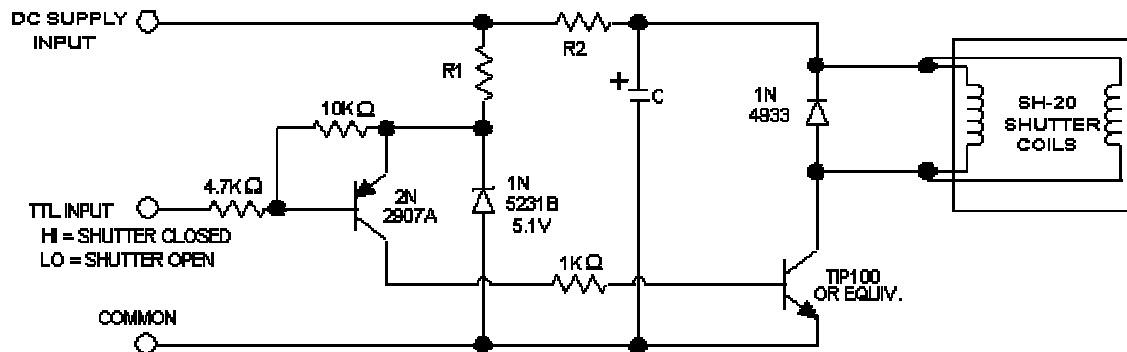


FIG. 3

| SHUTTER TYPE | DC SUPPLY    | R1             | R2          | C                |
|--------------|--------------|----------------|-------------|------------------|
| SH-20-5      | 5V<br>700mA  | 100 Ω<br>1/4W  | 6.8 Ω<br>5W | 20,000 μF<br>10V |
| SH-20-12     | 12V<br>300mA | 1K Ω<br>1/4W   | 39 Ω<br>5W  | 10,000 μF<br>25V |
| SH-20-24     | 24V<br>170mA | 3.3K Ω<br>1/4W | 150 Ω<br>5W | 4,700 μF<br>35V  |

TABLE 3

