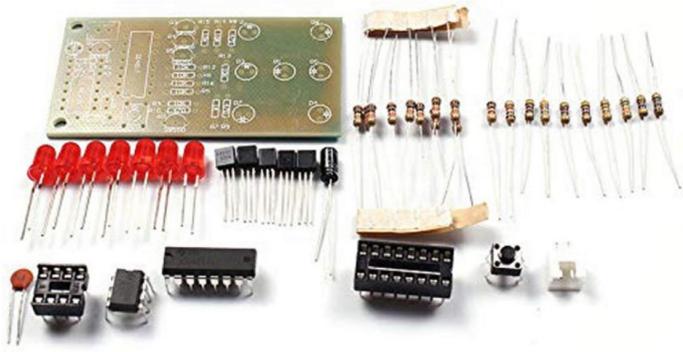
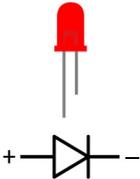
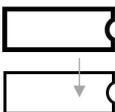
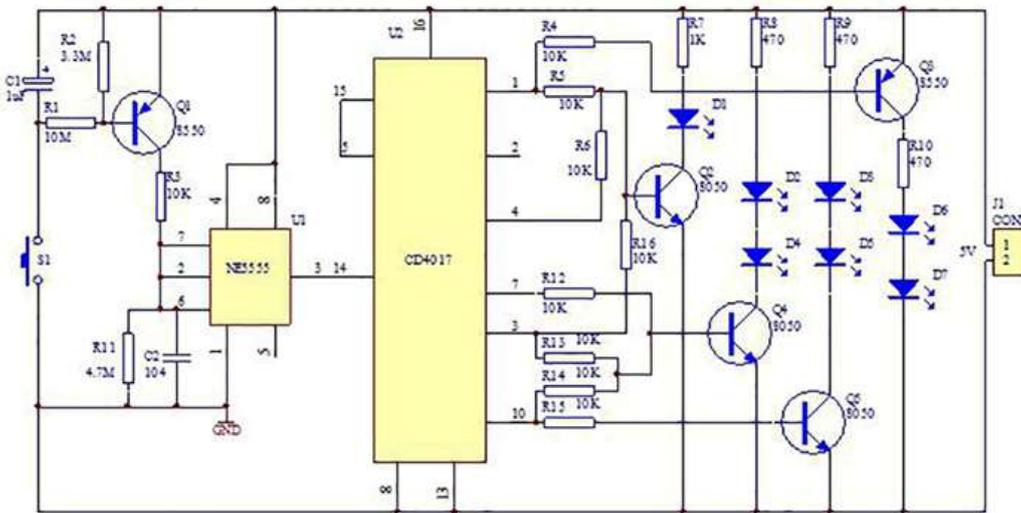


## Bausatz Würfel

| Bauteile                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>In Klammern: Kennzeichnung auf Platine</p> <p>Platine<br/>           Batteriefach<br/>           Widerstand: 470 (R8-R10), 1K (R7), 10K(R3-R6,R12-R16), 3.3M (R2), 4.7M (R11) 10M (R1)<br/>           Kondensator Elko 1uF/50V (C1)<br/>           Kondensator Keramik: 104P (C2)<br/>           LED: 5mm rot (D1-D7)<br/>           Druckknopf: S1<br/>           Transistor: S8550 (Q1,Q3), S8050 (Q2,Q4,Q5)<br/>           Socket und IC: 8PIN (U1) und NE555 (U1)<br/>                             16PIN (U2), CD4017 (U2)<br/>           Stiftleiste Terminal XH2.54 2P<br/>           Steckverbinder XH 2P</p> <p>zusätzlich benötigt: 3 AA-Batterien</p> |

| Hinweise zum Zusammenbau                                                                                                                                                                                                                                                                                                                           |                                                                                                                               |                                                                                                                                          |                                                                                                                                |                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| <p>Allgemeine Hinweise:</p> <ul style="list-style-type: none"> <li>- Grundlagen, Tipps und Sicherheitshinweise zum Löten finden Sie hier, s. <a href="#">Link</a></li> <li>- Halten Sie die Kontaktzeit von Lötcolben und Draht des Bauteils kurz (max. 5 Sekunden) um Schäden am Bauelement zu vermeiden.</li> </ul> <p>Hinweise zum Bausatz:</p> |                                                                                                                               |                                                                                                                                          |                                                                                                                                |                                                                                                                    |
| <b>Widerstand</b>                                                                                                                                                                                                                                                                                                                                  | <b>Kondensator Elko</b>                                                                                                       | <b>Kondensator Keramik</b>                                                                                                               | <b>LED</b>                                                                                                                     | <b>Transistor</b>                                                                                                  |
| aufgedruckte Werte beachten<br>Richtung egal<br><br>(Farbcode für Widerstände s. nächste Seite)                                                                                                                                                                                                                                                    | kurzer Draht: -<br>langer Draht: +<br><br> | Richtung egal<br><br>                                 | kurzer Draht: -<br>langer Draht: +<br><br> | entsprechend der Form<br><br> |
| <b>Socket und IC</b>                                                                                                                                                                                                                                                                                                                               | <b>Druckknopf</b>                                                                                                             | <b>Stiftleiste</b>                                                                                                                       | <b>Batteriefach</b>                                                                                                            |                                                                                                                    |
| Anbringend entsprechend der Einkerbung<br><br>                                                                                                                                                                                                                  | Anbringung entsprechend rechteckiger Form<br><br>Richtung egal                                                                | Offene Seite zeigt auf der Platine nach außen<br><br> | Steckverbinder in die Stiftleiste stecken                                                                                      |                                                                                                                    |

## Schaltskizze



## Info: Farbcode von Widerständen

### How to Read Resistor Color Codes

6-Band  $2\ 7\ 4 \cdot 10^0 \pm 2 = 274\ \Omega \pm 2\%, 250\ \text{ppm/K}$

| Color  | 1st Digit | 2nd Digit | 3rd Digit | Multiplier    | Tolerance    | Temperature Coefficient |
|--------|-----------|-----------|-----------|---------------|--------------|-------------------------|
| Black  | 0         | 0         | 0         | 1 $\Omega$    |              | 250 ppm/K               |
| Brown  | 1         | 1         | 1         | 10 $\Omega$   | $\pm 1\%$    | 100 ppm/K               |
| Red    | 2         | 2         | 2         | 100 $\Omega$  | $\pm 2\%$    | 50 ppm/K                |
| Orange | 3         | 3         | 3         | 1k $\Omega$   |              | 15 ppm/K                |
| Yellow | 4         | 4         | 4         | 10k $\Omega$  |              | 25 ppm/K                |
| Green  | 5         | 5         | 5         | 100k $\Omega$ | $\pm 0.5\%$  | 20 ppm/K                |
| Blue   | 6         | 6         | 6         | 1M $\Omega$   | $\pm 0.25\%$ | 10 ppm/K                |
| Violet | 7         | 7         | 7         |               | $\pm 0.1\%$  | 5 ppm/K                 |
| Grey   | 8         | 8         | 8         |               |              | 1 ppm/K                 |
| White  | 9         | 9         | 9         |               |              |                         |
| Gold   |           |           |           | 0.1 $\Omega$  | $\pm 5\%$    |                         |
| Silver |           |           |           | 0.01 $\Omega$ | $\pm 10\%$   |                         |

4-Band  $12 \times 10^5 \pm 5\% = 1,200\ \text{k}\Omega \pm 5\%$

5-Band  $100 \times 10^2 \pm 1\% = 10,000\ \Omega \pm 1\%$

Fertig zusammengebaut

