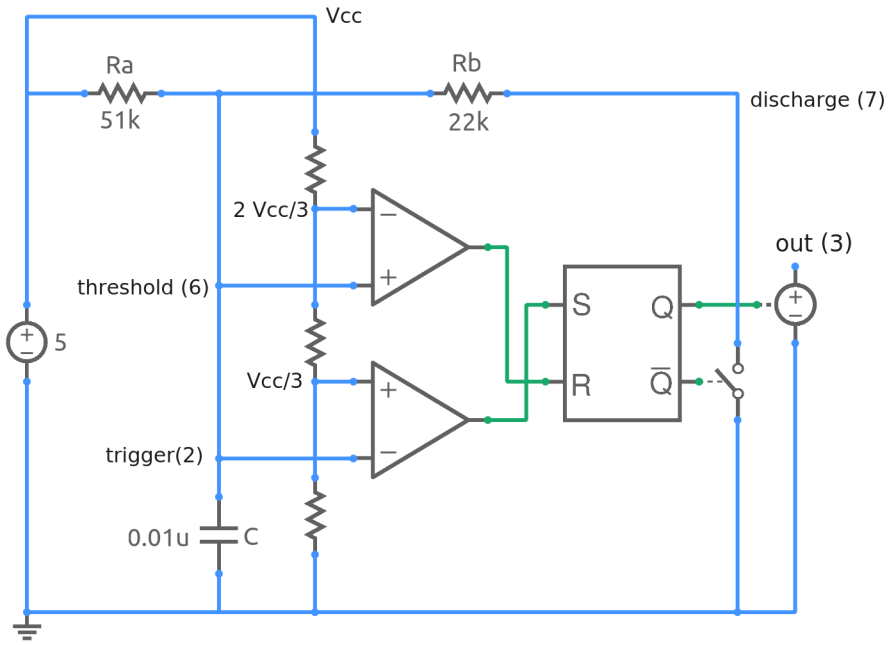
`ic555_astable_3.sqproj`



Ref: Gopalan, Introduction to digital microelectronic circuits

Exercise Set

1. For the astable multivibrator circuit, show that

   $T_H = R_a C \log 2,$

   $T_L = (R_a \parallel R_b)\, C \log \left(\dfrac{R_b - 2R_a}{2R_b - R_a} \right).$

2. Check your results with simulation.

3. What is the condition on R_a/R_b for which the circuit will oscillate?

References

1. K. Gopalan, *Introduction to Digital Microelectronic Circuits*, Tata McGraw-Hill, New Delhi, 1978.

2. H. Taub and D. Schilling, *Digital Integrated Electronics*, McGraw-Hill, 1977.