

On the Subject of The Black Button

Just try to resist this one.

Read the resistance of each resistor as follows:

- The first 3 color bands form a 3-digit number:
 - Black = 0
 - Brown = 1
 - Red = 2
 - Orange = 3
 - Yellow = 4
 - Green = 5
 - Blue = 6
 - Violet = 7
 - Gray = 8
 - White = 9
- The 4th color band expresses a power of 10 (for example: orange = $10^3 = 1000$).

Calculate the total resistance R of the three resistors (R_1, R_2, R_3) connected in parallel as follows:

$$R = \frac{1}{\frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}}$$

Multiply this resistance (in ohms) with the capacitance of the capacitor (in farads*) to obtain the amount of time required to fully charge it (in seconds).

Hold the button for the correct amount of time to fully charge the capacitor. Each component has a tolerance of $\pm 10\%$, so any amount of time within that leeway is permissible. Ignore the bomb timer.

* $1\mu F = 1 \text{ microfarad} = 10^{-6} \text{ farads}$

