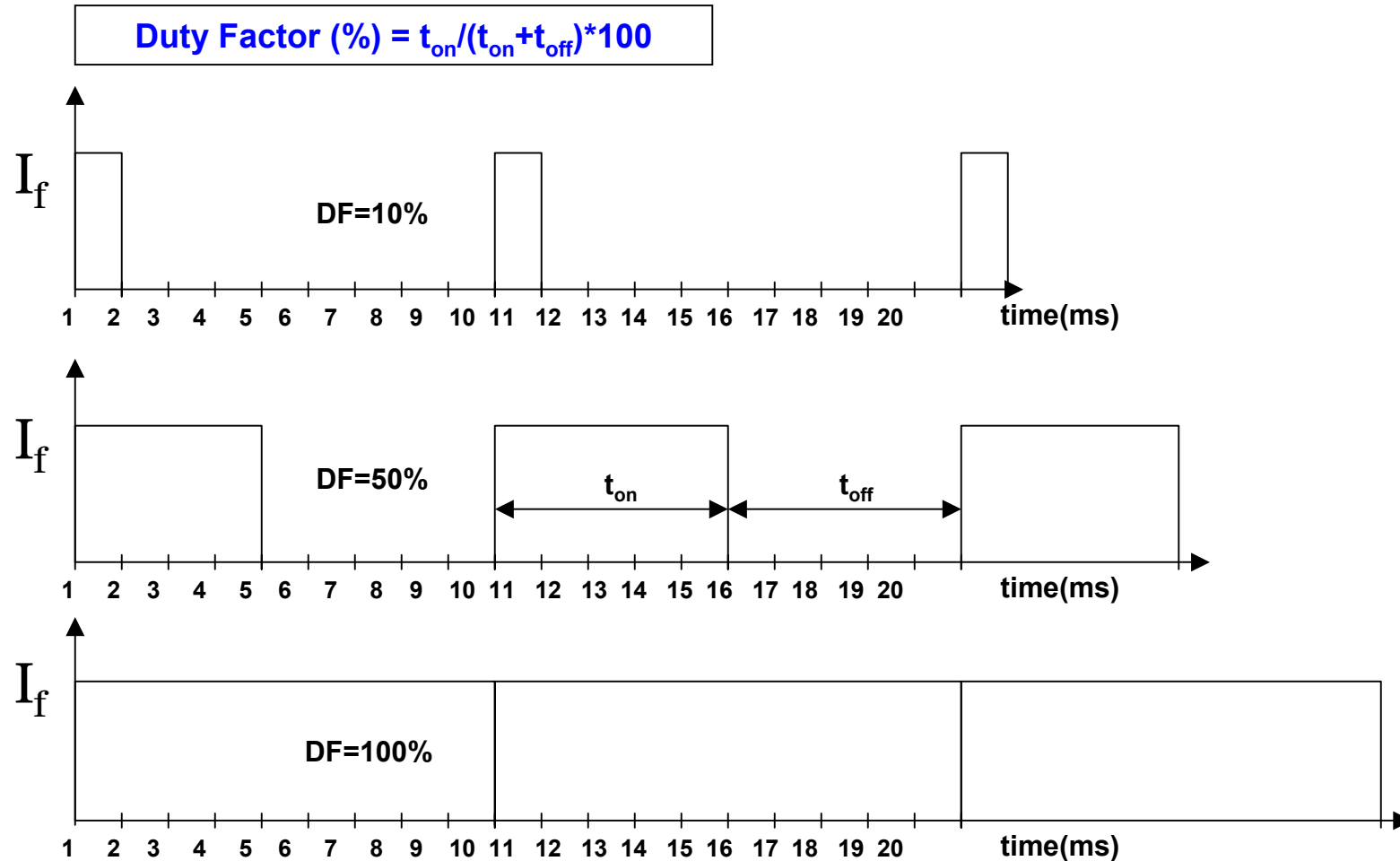


# Dimming Using Pulse Width Modulation



**Minimum Frequency that avoids flickering: 60Hz, but use 150 Hz as safety margin**  
**Advised Minimum PWM Frequency : 1kHz, to reduce temperature of LED**

# Pulse Width Modulation

Switch-on time:

- AlInGaP 15 ns (<100ns acc.to datasheet)
  - InGaN 20 ns (<100ns acc.to datasheet)
  - Must be small compared to pulse width
- 
- Maximum power applied to the LED must be lower than:

$$P_{\max} = V_f * I_{\max,DC}$$

$$P_{\max} < V_f * I_{\text{peak}} * DF$$