

**RESPONSE**

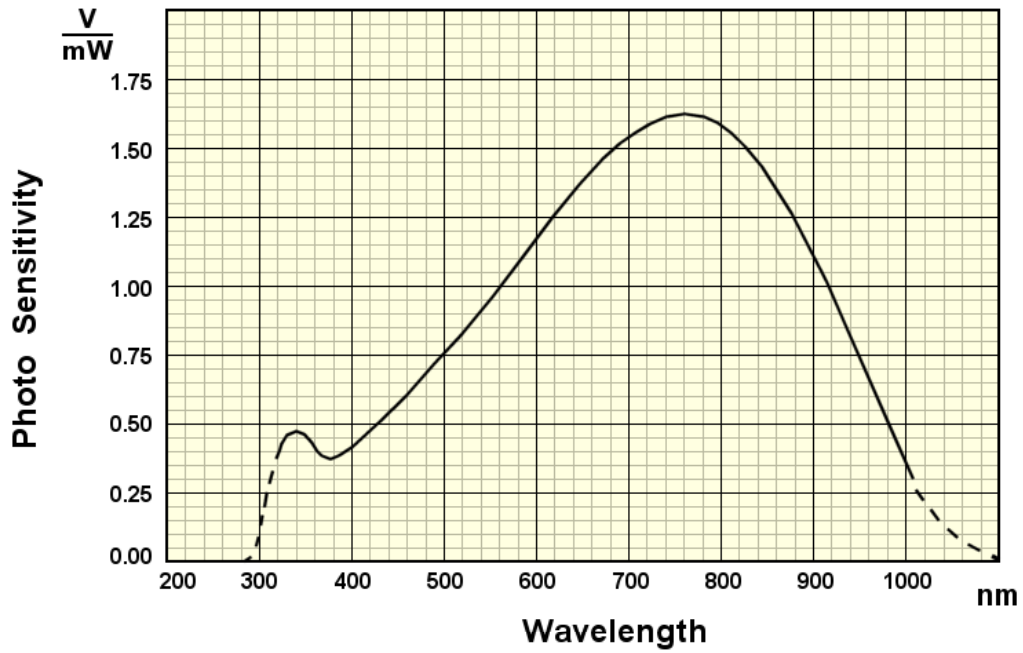


Figure 4: Spectral response

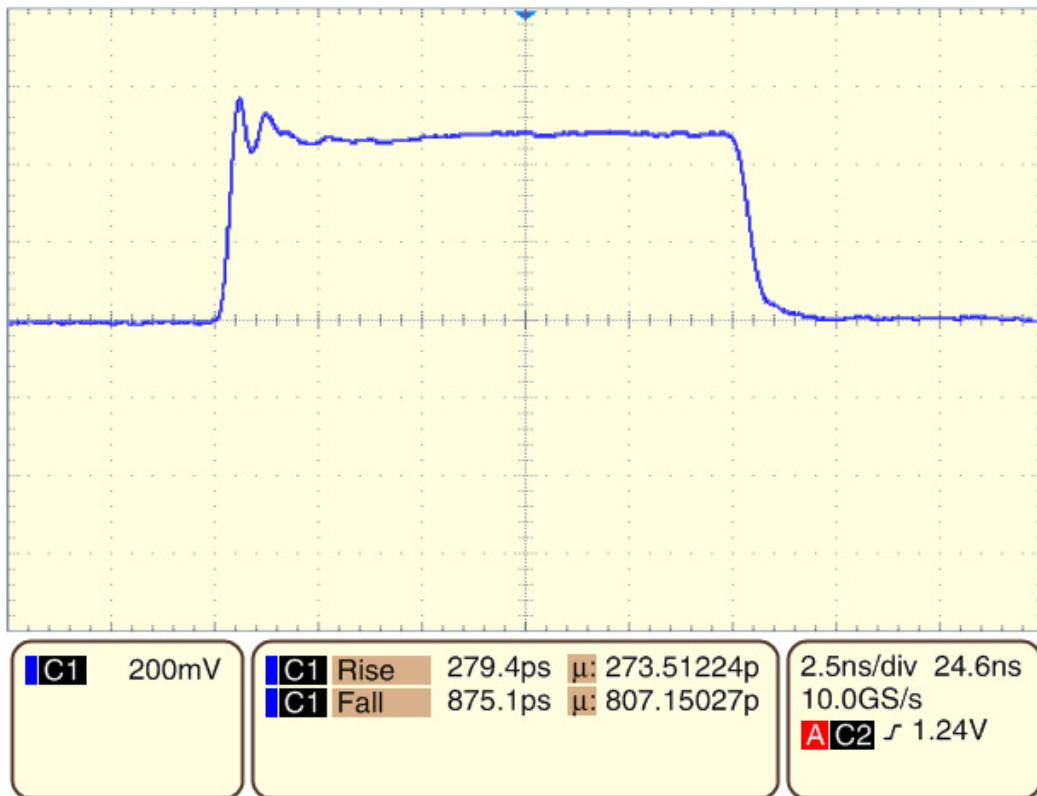


Figure 5: Pulse response

### APPLICATION NOTES

These application notes are meant to demonstrate some typical measurement tasks, carried out with the iC212 and verified with a standard optical power meter.

#### Measurement of total optical output power $P_{opt}$

1. Put laser in pulse mode
2. Adjust lens, for maximum amplitude at the output of iC212 (Fig. 6)
3. Read amplitude:  $U = 0.803 \text{ V}$  (Fig. 7)  
Calculation:  $\lambda = 635 \text{ nm}$ , spectral response taken from Figure 4:  $S(@635 \text{ nm}) = 1.34 \text{ V/mW}$

$$P_{opt}(iC212) = \frac{U}{S} = \frac{0.803 \text{ V}}{1.34 \frac{\text{V}}{\text{mW}}} = 0.60 \text{ mW}$$

4. Put laser in CW mode
5. Put Newport sensor into laser beam and read the power:  $P_{opt}(\text{Newport}) = 0.641 \text{ mW}$  (Fig. 8)

The results match within 7%.

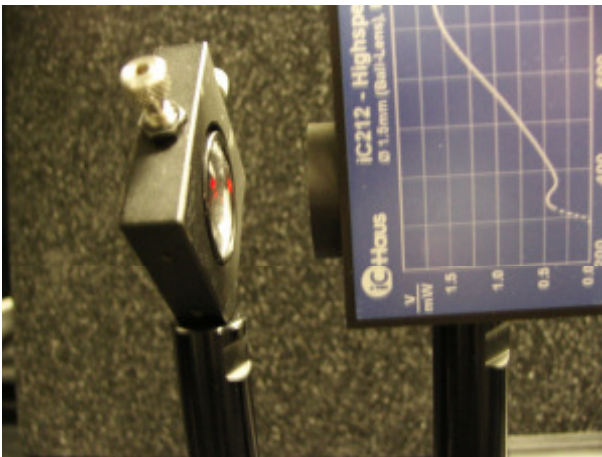


Figure 6: The laser light focused with a collecting lens onto the sensor

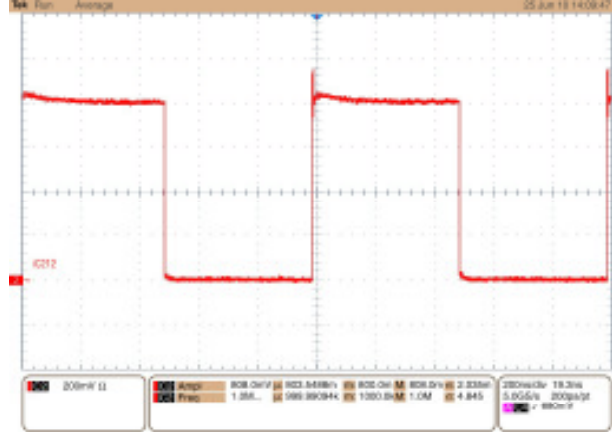


Figure 7: Oscilloscope reading

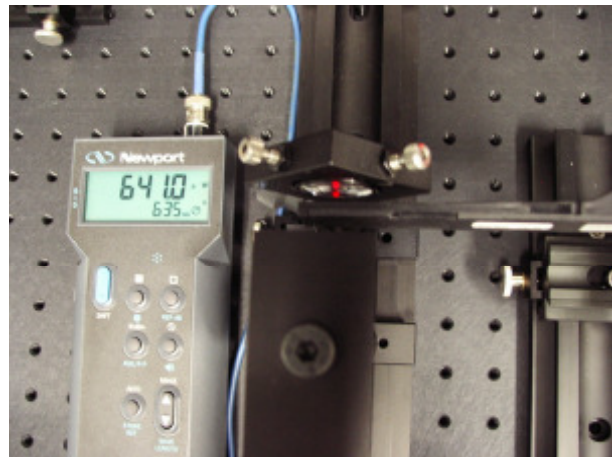


Figure 8: Total optical output power with  $1 \text{ cm}^2$  sensor (Newport)