**Chapter 1, Problem 14.**

The voltage *v* across a device and the current *i*(*t*)

through it are

*v*(*t*) = 10cos(2*t*) V, *i*(*t*) = 20(1 – e–0.5*t*) mA

Calculate:

1. the total charge in the device at *t* = 1 s.
2. the power consumed by the device at *t =* 1 s.