

## ICPs – Pave and Power Factor

A CIRCUIT DISSIPATES 100W (PAVE) AT 150V (V<sub>EFF</sub>) + 2A (I<sub>EFF</sub>).

(1) FIND: THE POWER FACTOR

$$F_p = \cos(\theta) = \frac{PAVE}{V_{RMS} I_{RMS}} = \frac{100W}{(150V)(2A)}$$

$$\therefore F_p = \cos(\theta) = \underline{\underline{0.333}}$$

(2) IS THE LOAD RESISTIVE, REACTIVE OR BOTH? FIND  $\theta = |\theta_v - \theta_i|$  IN DEGREES

BOTH

$$\cos(\theta) = 0.333$$

$$\therefore \theta = 1.231 \text{ RAD} = \underline{\underline{70.53^\circ}}$$

(3) CAN WE TELL IF THE LOAD IS INDUCTIVE OR CAPACITIVE IN NATURE WITH THE GIVEN INFO?

NO

$$\theta = |\theta_v - \theta_i| = 90^\circ \text{ FOR } L \text{ + } C$$

WE DO NOT HAVE, PHASE INFO SPECIFIC ENOUGH