

$$\begin{aligned}
P_S &= V_S \times I_1 \times \cos(\phi) \\
&= \times \times \cos(\phi) \\
\therefore \cos(\phi)_{1A} &= \frac{\times}{\times} \\
&= \\
I_S &= I_1 \sqrt{1 + THD^2} \\
\therefore THD &= \frac{I_S}{I_1} - 1 \\
&= -1 \\
&= \\
df &= \cos(\phi) \times \frac{1}{\sqrt{1 + THD^2}} \\
&= \times \frac{1}{\sqrt{1+2}} \\
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