

task_uzbbnoz8abe6201d_with_calculation

Student Group

First Name	Surname	Matrikel Nr.

Table of Contents

Exercise E5 Impedances at Frequencies (written test, approx. 14 % of a 60-minute written test, SS2023) 2

exam ee1 SS2023

Exercise E5 Impedances at Frequencies
(written test, approx. 14 % of a 60-minute written test, SS2023)

At an impedance with $Z = 50 - j10 \Omega$ following impedances are given as in table 2. The value of the result increases as ω increases with ω in $A \cdot 5.6 \cdot 10^3 \text{ rad/s}$.

1. An inductor with $X_{L1} = 60 \text{ m}\Omega$ and $L_1 = 15.9 \mu\text{H}$.

Solution

Solution

$$f_0 = 3000 \text{ Hz} \quad \omega = 2\pi \cdot 3000 \text{ rad/s}$$

$$X_{L1} = \omega L_1 = 2\pi \cdot 3000 \cdot 15.9 \cdot 10^{-6} \text{ }\Omega = 0.6 \text{ m}\Omega$$

$$X_{L1} = 0.6 \text{ m}\Omega$$

From: <https://mexle.te.hs-heilbronn.de/> - MEXLE Wiki

Permanent link: https://mexle.te.hs-heilbronn.de/electrical_engineering_and_electronics/task_uzbbnoz8abe6201d_with_calculation

Last update: 2023/08/17 06:46

