

Available products

| EMC Components | Power Products | Signal & Communications | Capacitors |
|--|---|---|---|
| Ferrites for PCB Assembly > | Power Inductors > | RF Inductors > | Interference Suppression Capacitors (X-/Y-Capacitors) > |
| Ferrites for Cable Assembly > | Wireless Power Transmission > | RJ45 LAN Transformers > | Ceramic Capacitors (MLCC's) > |
| Common Mode Chokes for Power Lines > | MagPC Power Module > | LAN Transformers > | Aluminum Polymer Capacitors > |
| Common Mode Chokes for Data and Signal Lines > | | | Aluminum Electrolytic Capacitors > |

Available Applications

DC/DC converters

WPT
resonance tank

Pulse designer

Attenuation
designer

Advantages for registered users

| ■ | Series | □ | Spec | Order Code | □ | P _{AC} | □ | P _{DC} | □ | P _{TOT} | □ | ΔT | □ | Height Max | □ | R _{DC-type} | □ | I _{sat} | □ |
|---|---------|---|------|-------------|---|-----------------|---|-----------------|---|------------------|---|--------|---|------------|---|----------------------|---|------------------|---|
| ▼ | WE-MAIA | | | 78438356056 | | 85.6 mW | | 272 mW | | 358 mW | | 28.8 K | | 2.10 mm | | 68.0 mΩ | | 4.60 A | |
| ▼ | WE-PDA | | | 78477068 | | 17.4 mW | | 84.0 mW | | 101 mW | | 9.61 K | | 8.30 mm | | 21.0 mΩ | | 8.50 A | |
| ▼ | WE-MAPI | | | 74430357002 | | 46.0 mW | | 324 mW | | 370 mW | | 25.6 K | | 3.10 mm | | 81.0 mΩ | | 5.20 A | |

- Compare up to 16 products
- Add up to 5 chart markers
- Compare losses in the article table and filter for lowest loss or temperature rise
- Use manual loss calculation independent of converter topology
- Full access to all charts



Calculate Losses X

PARAMETERS

Frequency Setup

f DC

Inductor

type Show

Winding 1

I_{rms} ΔI_A

Watch the video for more details:
[www.we-online.com/
redexpert-video](http://www.we-online.com/redexpert-video)





THE WORLD'S MOST ACCURATE AC LOSS MODEL

REDEXPERT. Würth Elektronik's online platform for simple component selection and performance simulation.

- The world's most accurate AC loss model
- Inductor simulation and selection for DC/DC converters
- Ability to compare inductance/current and temperature rise/DC current using interactive measurement curves
- Filter settings for over 20 electrical and mechanical parameters
- Online platform based on measured values
- Available in seven languages
- No login required
- Order free samples directly
- Direct access to product datasheets

#REDEXPERT

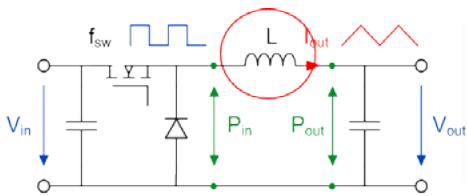
*WE speed up
the future*

www.we-online.com/redexpert

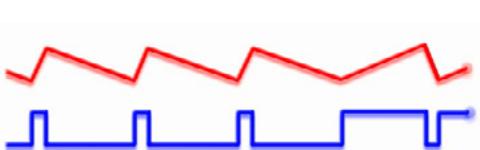
REDEXPERT

World's Most Accurate AC Loss Model

Inductor losses are one of the critical factors in the design of an efficient power supply. In **REDEXPERT** you can determine accurately your total AC losses at any operating condition, with our **World's Most Accurate AC Loss Model for Power Inductors, which incorporate the AC core and AC wire losses.**



Measured in real DC/DC application

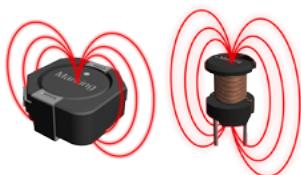


Switching Frequency: 10 kHz ... 10 MHz

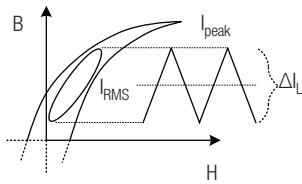
Duty Cycle: 0.1 ... 0.9

Advantages of Würth Elektronik AC Loss Model

Components



Method



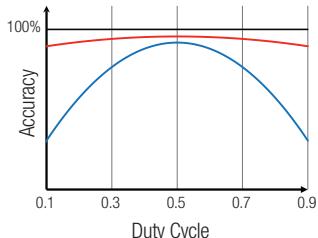
Model based on actual components

- All types of core materials
- All core shapes (not only ring cores)
- Air gap and fringing effects
- Effects and changes in winding structure

Point of operation

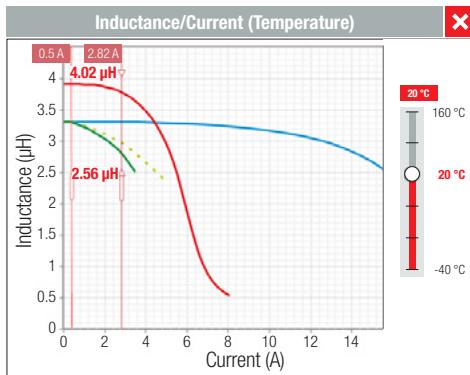
The Model was measured with a pulsating square wave voltage, which is applied across the inductor and results in a triangular current with DC offset.

Accuracy

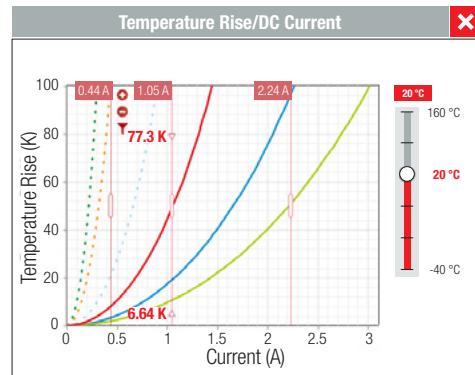


Compared to **Steinmetz** the **Würth Elektronik** model has a higher accuracy over a wider range of duty cycles.

Changeable ambient temperature and measurement conditions

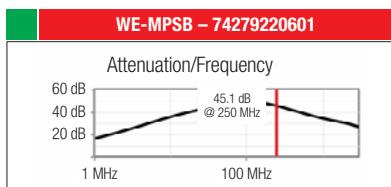
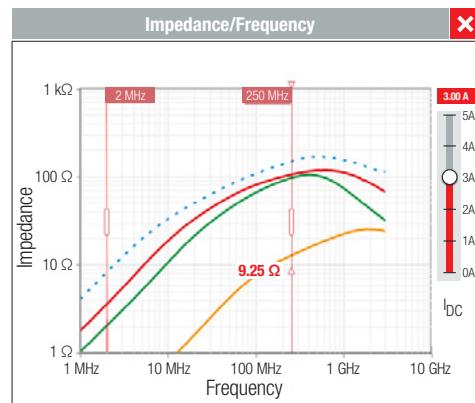
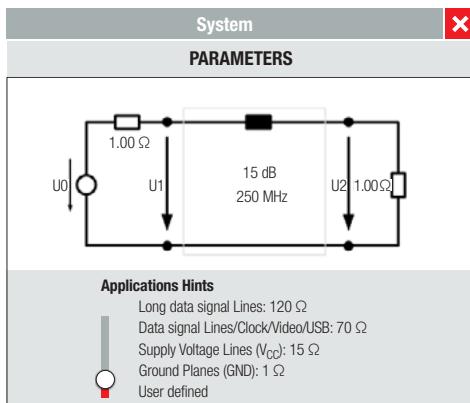


Display inductance value dependent on ambient temperature



Temperature Rise vs. DC current chart considering ambient temperature

Impedance determination considering DC-Bias



| Order-Code | Att. @250 MHz |
|-------------|---------------|
| 74279224551 | 50.4 dB |
| 74279220601 | 45.1 dB |
| 782963820 | 34.6 dB |

Enter your desired attenuation and frequency and **REDEXPERT** will propose suitable ferrites and common mode chokes based on system model calculations.