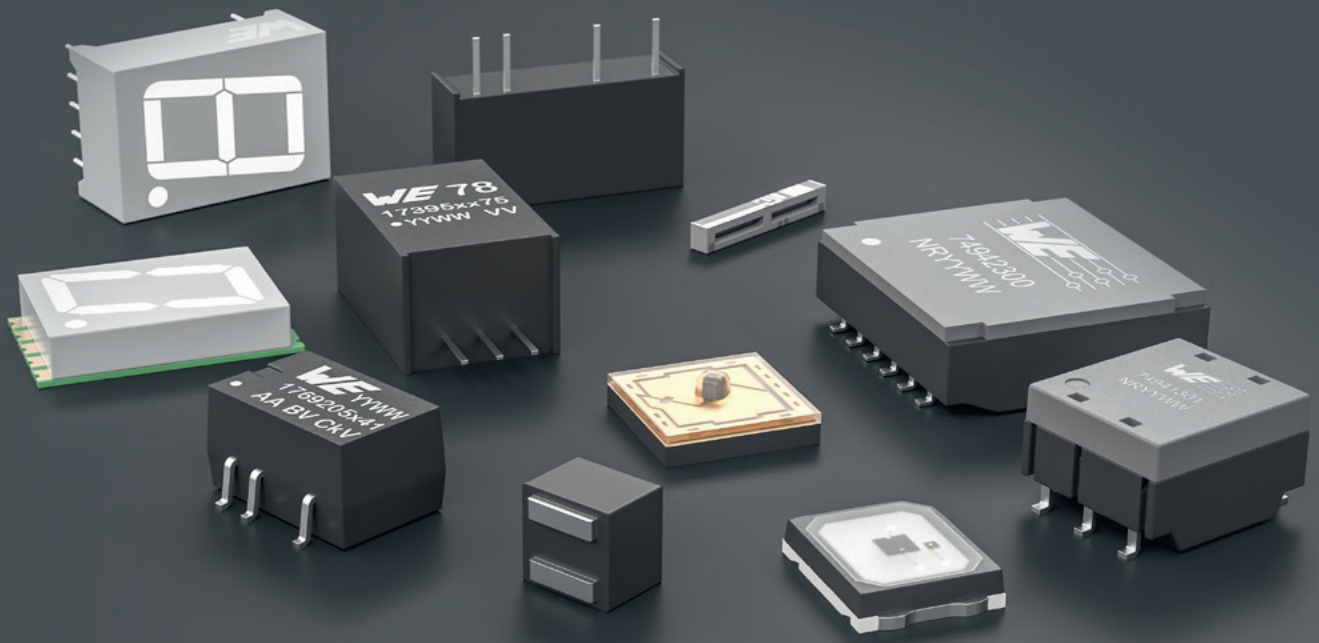


ELECTRONIC COMPONENTS

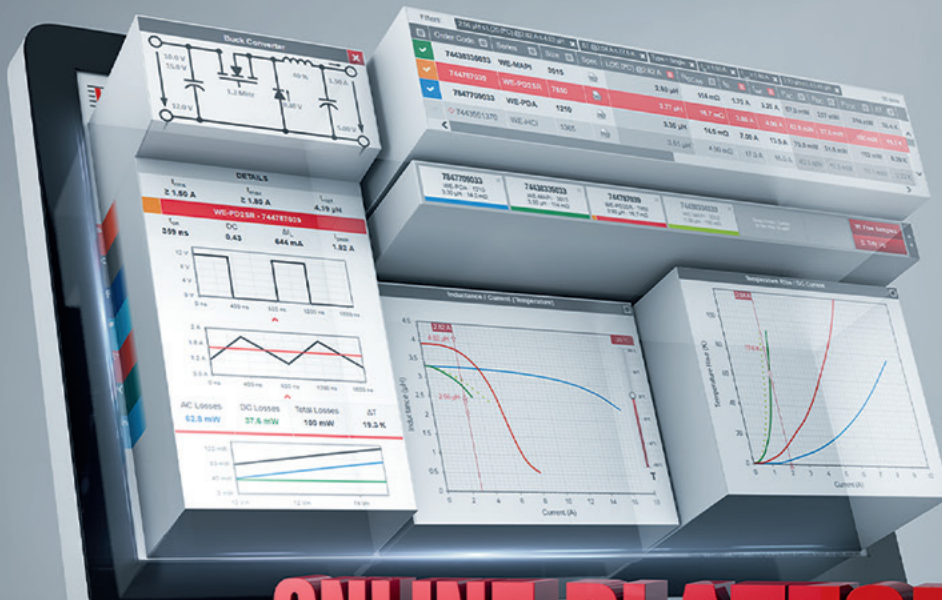
2022



WÜRTH ELEKTRONIK MORE THAN YOU EXPECT

WÜRTH ELEKTRONIK MORE THAN YOU EXPECT

REDEXPERT



ONLINE PLATFORM BASED ON MEASURED VALUES



REDEXPERT The online platform of Würth Elektronik to select electronic and electromechanical components.

#REDEXPERT

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






www.we-online.com/redexpert

CONTENT

1. NEW PRODUCTS

	WE-XHMI 6 SMT Power Inductor		WE-BMS 7 Transformer for Battery Management Systems		WE-MCA 8 Antennas
	WL-SUMW 9 SMT Ultraviolet Ceramic Waterclear		WL-SUTW 10 SMT Ultraviolet Top LED Waterclear		WL-S7DS 11 7 Segments Display SMT Single Digit
	WL-T7DS 12 7 Segments Display THT Single Digit		MagI³C-FDSM 13 Fixed Step Down Regulator Module		MagI³C-FISM 14 Fixed Isolated SIP/SMT Module

2. PRODUCT OVERVIEW

	EMC Components 15
	Power Magnetics 19
	Signal & Communications 22
	Quartz & Oscillators 24
	Capacitors 25
	Resistors 28
	Optoelectronics 29
	Power Modules 33
	Thermal Management 34
	Wireless Connectivity 35
	Sensors 36

Information in this publication is subject to change. The process of continually improving our product range leads to changes in content. For new designs please refer to the latest data sheets on www.we-online.com or contact our technical field staff.

THE WÜRTH ELEKTRONIK

eiSos GROUP



THE WÜRTH ELEKTRONIK GROUP

Employees: 8,000
Sales: 1.09 Bn. Euro

WÜRTH ELEKTRONIK eiSos GROUP



PRINTED CIRCUIT
BOARDS

INTELLIGENT
POWER AND
CONTROL SYSTEMS

Passive
Components



Power Modules &
Optoelectronics



Electromechanical
Components



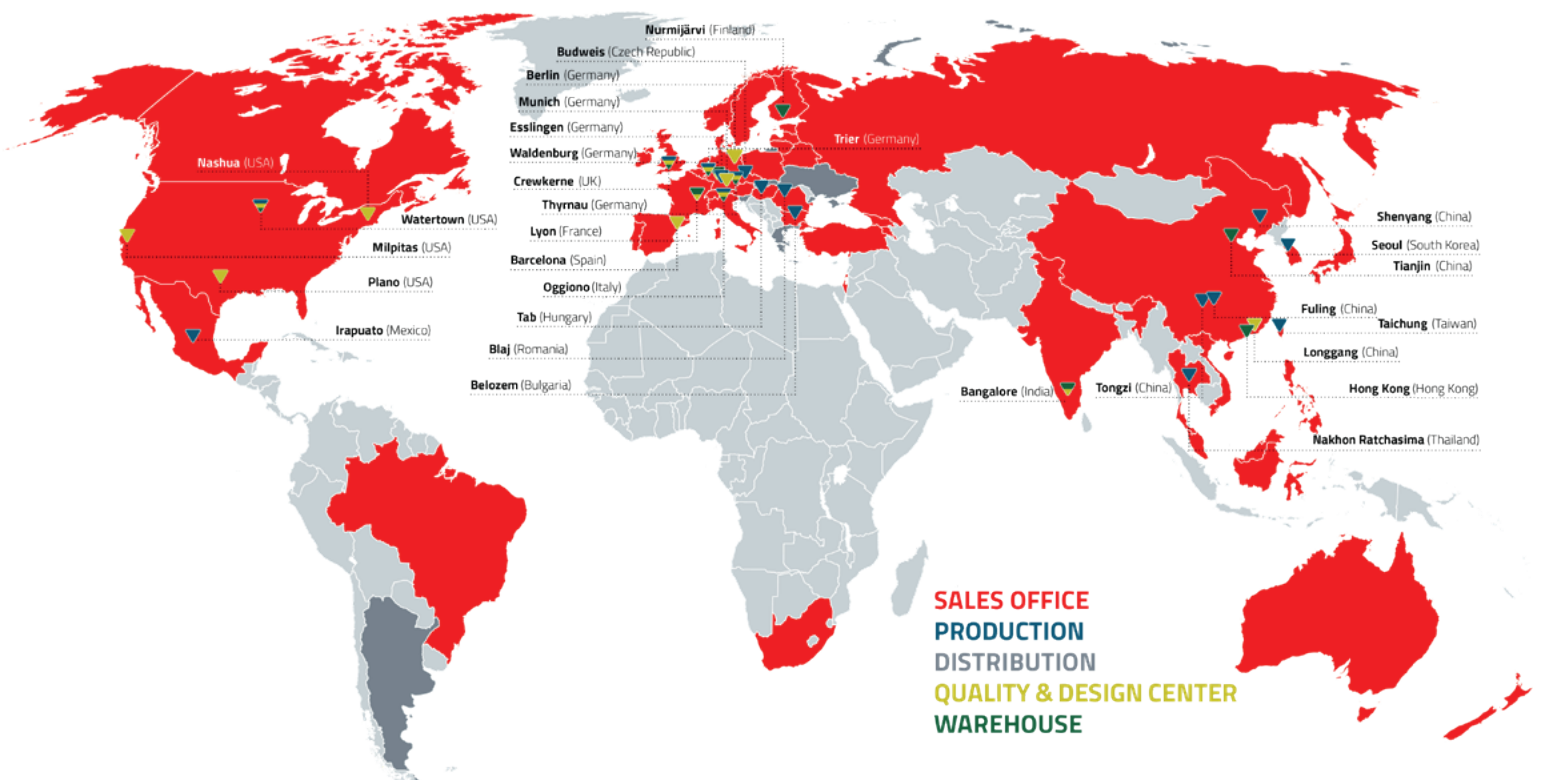
Automotive &
eMobility



Wireless Connectivity &
Sensors



GLOBALLY AVAILABLE. LOCALLY PRESENT.



MORE **THAN YOU EXPECT**



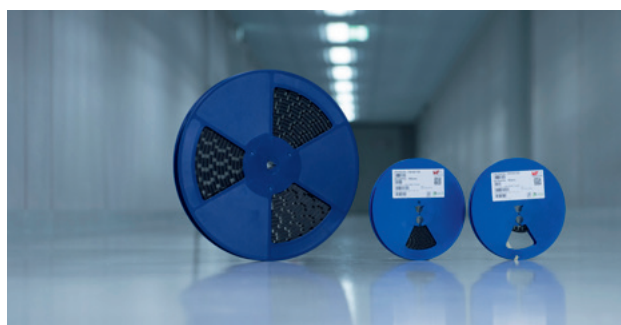
**SAY YES TO OUR FAST AND
COST-FREE DESIGN-IN SUPPORT**



**WE TAILOR THE QUANTITIES
TO YOUR NEEDS**



**ALL CATALOGUE PRODUCTS
AVAILABLE EX STOCK**



RE-REELING SERVICE



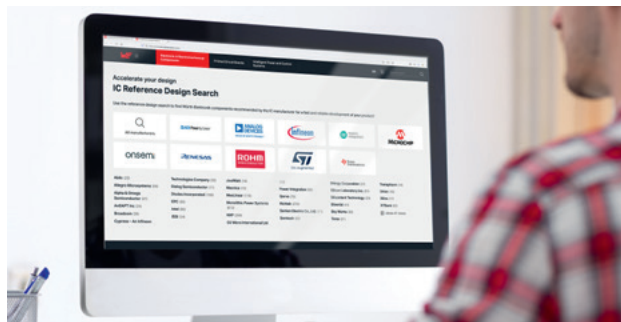
**DESIGN SEMINARS AND
WEBINARS FREE OF CHARGE**



**ONLINE DESIGN PLATFORM FOR
COMPONENT SELECTION & SIMULATION**



**DESIGN KITS WITH LIFELONG
FREE REFILL**



**REFERENCE DESIGNS OF
LEADING IC MANUFACTURERS**

WE-XHMI

SMT POWER INDUCTOR



Characteristics

- Flat wire coil for low copper losses
- Composite core material allows high saturation currents
- Compact design
- Magnetically shielded
- High current capability and handles high transient current spikes
- Low leakage flux noise
- Operating temperature: -40 °C up to +125 °C

Applications

- DC/DC-converter for high current power supplies
- DC/DC-converter for Field Programmable Gate Array (FPGA)
- Power supplies for mobile devices
- POL-converters
- Mainboards / graphic cards
- Battery powered devices
- Wireless communication devices
- Filter

Size 1090

Order Code	L (μH)	Tol. L	I _{RP,40K} (A)	I _{SAT,30%} (A)	R _{DC} (mΩ)	Tol. R _{DC}	f _{res} (MHz)
74439369015	1.5	±20 %	40.6	38.55	1.46	±20 %	31

Size 6060

Order Code	L (μH)	Tol. L	I _{RP,40K} (A)	I _{SAT,30%} (A)	R _{DC} (mΩ)	Tol. R _{DC}	f _{res} (MHz)
74439346012	1.2	±20 %	20.5	20	3.65	±20 %	50
74439346010	1.5		20.95	24	3.39		60
74439346015	1.5		19.35	20.5	3.9		44
74439346018	1.8		17.35	18.3	4.7		42
74439346022	2.2		15.75	19.5	5.58		37
74439346033	3.3		10.7	15	10.83		31

Size 8080

Order Code	L (μH)	Tol. L	I _{RP,40K} (A)	I _{SAT,30%} (A)	R _{DC} (mΩ)	Tol. R _{DC}	f _{res} (MHz)
744393580068	0.68	±20 %	38	52.2	1.41	±20 %	62
74439358015	1.5		25.1	32	2.91		37

Size 6030

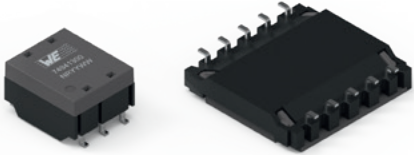
Order Code	L (μH)	Tol. L	I _{RP,40K} (A)	I _{SAT,30%} (A)	R _{DC} (mΩ)	Tol. R _{DC}	f _{res} (MHz)
744393440015	0.15	±20 %	37	56	1.24	±20 %	191

L: Inductance; Tol. L: Inductance (Tol.); I_{RP,40K}: Performance Rated Current; I_{SAT,30%}: Saturation Current @ 30%; R_{DC}: DC Resistance; Tol. R_{DC}: DC Resistance (Tol.); f_{res}: Self Resonant Frequency



WE-BMS

TRANSFORMER FOR BATTERY MANAGEMENT SYSTEMS



Characteristics

- Supports high isolation for BMS systems
- Supports serial daisy chain isoSPI and SPI
- 1000 V_{DC} working voltage
- Isolation test voltage 4300 V_{DC}
- AEC-Q200 qualification
- Strong EMI reduction
- Available in different footprints
- Low profile versions available
- Operating temperature:
-40 °C up to +125 °C

Applications

- Solar energy storage systems
- Energy storage systems
- Uninterrupted power supply (UPS)
- E-bikes, E-scooters

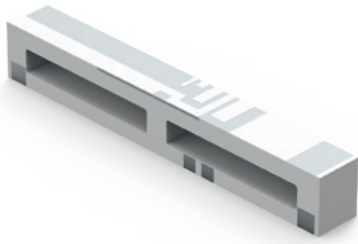
Order Code	Number of Ports	V _T (V (DC))	Working Voltage (V (DC))	Cr (mm)	L (mm)	W (mm)	H (mm)
74941301	1	4300	1000	5	7.6	9.5	5.5
74941300	1			6	7.6	9.5	5.5
74941302	1			10	9.5	15.4	3.45
74942300	2			10	15.1	14.7	3.45
74942301	2			10	15.1	14.9	3.45
74942302	2			10	15.1	15.4	3.45

V_T: Insulation Test Voltage; Cr: Creepage distance; L: Length; W: Width; H: Height



Check the complete series:
www.we-online.com/we-bms

WE-MCA ANTENNA



Characteristics

- SMD multilayer chip antenna
- Extremely low profile
- Omni-directional radiation pattern
- Excellent size to performance ratio
- Smallest form factor in the industry
- Operating temperature:
-40 °C up to +85 °C

Applications

- IoT devices
- GSM 900
- WLAN/WiFi 2.4 & 5.5
- Bluetooth
- GPS/GNSS
- Zigbee
- LoRa 868 & 915
- LPD433
- 2G/3G/4G

Size 40 x 6 mm

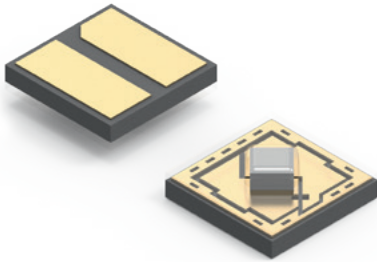
Order Code	Frequency Range (MHz)	G _{peak} (dBi)	VSWR (dB)	Frequency Range 2 (MHz)	G _{peak,2} (dBi)	VSWR ₁	Z (Ω)
7488918022	700 – 960	2.1	4	1710 – 2690	5.5	4	50

Frequency Range: Frequency Range Min & Max; G_{peak}: Peak Gain; Frequency Range 2: Frequency Range Min & Max 2; G_{peak,2}: Peak Gain; VSWR1: VSWR; Z: Impedance



WL-SUMW

SMT ULTRAVIOLET CERAMIC WATERCLEAR



Characteristics

- LED emitting UV-C light
- Peak wavelength: 275 nm
- High extraction efficiency package

Applications

- Sterilization
- Surface disinfection
- Water purification
- Air purification

UV-C emitter with high extraction efficiency package

Size 3535

Order Code	$\lambda_{\text{Peak typ.}}$ (nm)	$\Phi_{\text{e min.}}$ (mW)	$\Phi_{\text{e typ.}}$ (mW)	$V_{\text{F typ.}}$ (V)	Chip Technology	$2\theta_{50\% \text{ typ.}}$ (°)
15335327CA452	275	13	20	6	AlGaN	140
15335327CA554		40	50			150

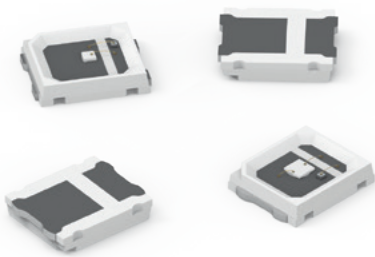
$\lambda_{\text{Peak typ.}}$: Peak Wavelength [typ.]; $\Phi_{\text{e min.}}$: Radiant Flux [min.]; $\Phi_{\text{e typ.}}$: Radiant Flux [typ.]; $V_{\text{F typ.}}$: Forward Voltage [typ.]; $2\theta_{50\% \text{ typ.}}$: Viewing Angle Phi 0° [typ.]



Check the complete series:
www.we-online.com/wl-sumv

WL-SUTW

SMT ULTRAVIOLET TOP LED WATERCLEAR



Characteristics

- UV-A emitting LED
- Peak wavelengths: 365, 385, 395, 405 nm
- Standard 2835 PLCC 2 package
- Flat package
- Viewing angle: 120°

Applications

- Horticulture
- UV curing
- Sensing applications
- Counterfeit detection

UV-A LED in
flat PLCC package

Size 2835

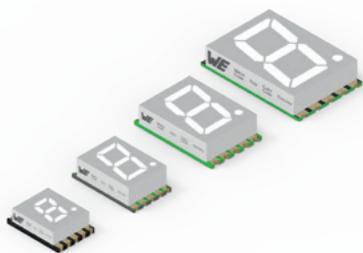
Order Code	$\lambda_{\text{Peak typ.}}$ (nm)	$\Phi_{\text{e min.}}$ (mW)	$\Phi_{\text{e typ.}}$ (mW)	$V_{\text{F typ.}}$ (V)	Chip Technology	$2\theta_{50\% \text{ typ.}}$ (°)
153283367A212	365	30	50	3.6	AlInGaN	120
153283387A212	385	50	90	3.4	GaN	
153283397A212	395	80	140	3.4	GaN	
153283407A212	405	80	140	3.4	GaN	

$\lambda_{\text{Peak typ.}}$: Peak Wavelength [typ.]; $\Phi_{\text{e min.}}$: Radiant Flux [min.]; $\Phi_{\text{e typ.}}$: Radiant Flux [typ.]; $V_{\text{F typ.}}$: Forward Voltage [typ.]; $2\theta_{50\% \text{ typ.}}$: Viewing Angle Phi 0° [typ.]



WL-S7DS

7 SEGMENTS DISPLAY SMT SINGLE DIGIT



Characteristics

- Industrial standard size and schematic
- Low power consumption
- Grey surface
- Milky / diffused segments
- Driving with DC current in forward direction only
- Suitable for high peak current up to 100 mA

Applications

- Audio / measure equipment
- Instrument panels
- Digital read out display
- Control units

0.2 inch

Order Code	Emitting Color	I_V typ. (mcd)	V_F typ. (V)	λ_{Dom} typ. (nm)	L (mm)	W (mm)	H (mm)	Circuitry
157102S12700	Super Red	15	2	635	10	6.9	3	Common Cathode
157102S12800	Super Red	16	2	635				Common Anode
157102V12800	Bright Green	17	2	570				Common Anode
157102V12700	Bright Green	17	2	570				Common Cathode
157102B12800	Blue	24	3	465				Common Anode
157102B12700	Blue	24	3	465				Common Cathode

0.3 inch

Order Code	Emitting Color	I_V typ. (mcd)	V_F typ. (V)	λ_{Dom} typ. (nm)	L (mm)	W (mm)	H (mm)	Circuitry
157112B12800	Blue	32	3	465	12	7.3	3.75	Common Anode
157112B12700								Common Cathode

0.39 inch

Order Code	Emitting Color	I_V typ. (mcd)	V_F typ. (V)	λ_{Dom} typ. (nm)	L (mm)	W (mm)	H (mm)	Circuitry
157121B12700	Blue	32	3	465	15	9.8	3.75	Common Cathode

0.56 inch

Order Code	Emitting Color	I_V typ. (mcd)	V_F typ. (V)	λ_{Dom} typ. (nm)	L (mm)	W (mm)	H (mm)	Circuitry
157143B12800	Blue	32	3	465	19	12.4	3.75	Common Anode

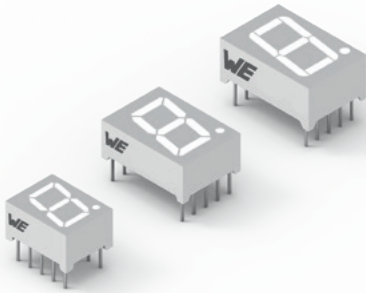
I_V typ.: Luminous Intensity [typ.]; V_F typ.: Forward Voltage [typ.]; λ_{Dom} typ.: Dominant Wavelength [typ.]; L: Length; W: Width; H: Height



Check the complete series:
www.we-online.com/wl-s7ds

WL-T7DS

7 SEGMENTS DISPLAY THT SINGLE DIGIT



Characteristics

- Industrial standard size and schematic
- Low power consumption
- Grey surface
- Milky / diffused segments
- Driving with DC current in forward direction only
- Suitable for high peak current up to 100 mA

Applications

- Audio / measurement equipment
- Instrument panels
- Digital read out display
- Control unit

0.39 inch

Order Code	Emitting Color	$I_{V \text{ typ.}}$ (mcd)	$V_{F \text{ typ.}}$ (V)	$\lambda_{\text{Dom typ.}}$ (nm)	L (mm)	W (mm)	H (mm)	Circuitry
157119B12801	Blue	32	3	465	13	10	7	Common Anode
157119B12701								Common Cathode

0.52 inch

Order Code	Emitting Color	$I_{V \text{ typ.}}$ (mcd)	$V_{F \text{ typ.}}$ (V)	$\lambda_{\text{Dom typ.}}$ (nm)	L (mm)	W (mm)	H (mm)	Circuitry
157136B12701	Blue	32	3	465	17.5	12.4	7	Common Cathode

0.56 inch

Order Code	Emitting Color	$I_{V \text{ typ.}}$ (mcd)	$V_{F \text{ typ.}}$ (V)	$\lambda_{\text{Dom typ.}}$ (nm)	L (mm)	W (mm)	H (mm)	Circuitry
157142B12703	Blue	32	3	465	19	12.6	7.9	Common Cathode
157142B12803							9	Common Anode

$I_{V \text{ typ.}}$: Luminous Intensity [typ.]; $V_{F \text{ typ.}}$: Forward Voltage [typ.]; $\lambda_{\text{Dom typ.}}$: Dominant Wavelength [typ.]; L: Length; W: Width; H: Height



MAGI³C-FDSM

FIXED STEP DOWN REGULATOR MODULE



Characteristics

- No power supply design experience necessary
- Leaded through-hole package for easy manufacturing and prototyping
- Stand alone solution (partially integrated input and output capacitors)
- L78x series linear regulator replacement (no heatsink required)
- Low conducted and radiated EMI (EN55032 class B compliant)

Applications

- Point-of-load DC-DC applications of 9 V, 12 V, 15 V, 18 V, 24 V, 36 V and 48 V industrial bus
- Applications for logistics and automation
- Linear regulator replacement
- Interface and microcontroller supply
- Test and measurement technology

173950x75 supports
48V DC Bus

Size SIP-3

Order Code	V _{IN} (V)	V _{OUT} (V)	I _{OUT} (A)	L (mm)	W (mm)	H (mm)
173011235	16 – 36	12	1	11.6	8	10.4
173951236	15 – 36	12	0.5	11.6	7.55	10.16
173951536	19 – 36	15	0.5	11.6	7.55	10.16
173011535	20 – 36	15	1	11.6	8	10.4
173950375	9 – 74.5	3.3	0.5	11.5	9	17.5
173950575	9 – 74.5	5	0.5	11.5	9	17.5
173951275	18 – 74.5	12	0.5	11.5	9	17.5

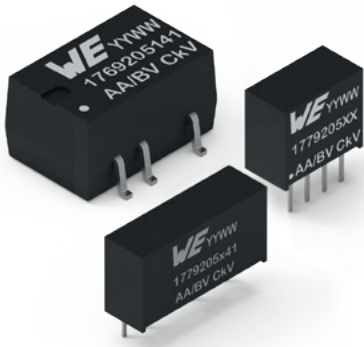
V_{IN}: Input Voltage; V_{OUT}: Output Voltage; I_{OUT}: Output Current; L: Length; W: Width; H: Height



Check the complete series:
www.we-online.com/magic-fdsm

MAGI³C-FISM

FIXED ISOLATED SIP/SMT MODULE



Characteristics

- Simplest design (no transformer design experience necessary)
- Leaded through-hole package or SMT-8 package for easy manufacturing and prototyping
- Stand alone solution (C_{IN} and C_{OUT} integrated, no external components)
- Simple functional isolation for overvoltage protection, avoiding ground loops, ground shift and noise in signal path or sensor systems
- Industrial standard package and pin configuration
- Low conducted and radiated EMI (EN55032 class B compliant)
- UL62368-1 approved

Applications

- Data acquisition
- Test and measurement systems
- Interface and microcontroller supply
- Industrial control

Continuous short circuit protected

Size SIP-4

Order Code	V_{IN} (V)	V_{OUT} (V)	P_O (W)	V_{ISO} (V)
1779205111	4.5 – 5.5	5	1	1500
1779205211	10.8 – 13.2			
1779205311	21.6 – 26.4			

Size SIP-7

Order Code	V_{IN} (V)	V_{OUT} (V)	P_O (W)	V_{ISO} (V)
1779205141	4.5 – 5.5	5	1	3000
1779205241	10.8 – 13.2			
1779205341	21.6 – 26.4			

V_{IN} : Input Voltage; V_{OUT} : Output Voltage; P_O : Total Output Power

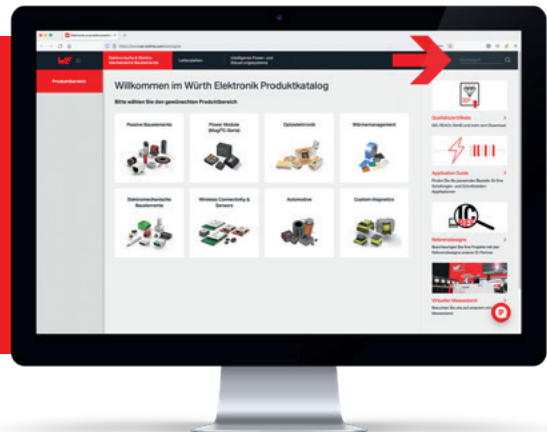


EMC COMPONENTS

HOW TO FIND DETAILED PRODUCT INFORMATION?

VISIT WWW.WE-ONLINE.COM AND SEARCH FOR PRODUCT SERIES INFORMATION, E.G.:

WE-CBF



FERRITES FOR PCB ASSEMBLY



WE-TMSB

Z @ 100 MHz: 10 ~ 1800 Ω
 I_{RZ} : 210 ~ 7500 mA
 R_{DC} : 2.95 m Ω ~ 1.91 Ω



WE-CMS

Z @ 25 MHz: 20 ~ 54 Ω
 Z @ 200 MHz: 30 ~ 83 Ω
 I_R : 17 ~ 21 A
 $R_{DC max}$: 3 m Ω



WE-CBF

Z @ 100 MHz: 5 ~ 2700 Ω
 I_{RZ} : 450 ~ 10000 mA
 $R_{DC max}$: 3 m Ω ~ 1.5 Ω



WE-SUKW

Z @ 25 MHz: 272 ~ 425 Ω
 Z @ 100 MHz: 416 ~ 580 Ω
 I_R : 5 A
 $R_{DC max}$: 11 ~ 12 m Ω



WE-CBF HF

Z @ 1 GHz: 180 ~ 1100 Ω
 I_{RZ} : 250 ~ 1300 mA
 $R_{DC typ}$: 0.13 ~ 1.2 Ω



WE-UKW

Z @ 25 MHz: 145 ~ 920 Ω
 Z @ 100 MHz: 230 ~ 1240 Ω
 I_R : 3 A



WE-MPSB

Z @ 100 MHz: 8 ~ 600 Ω
 I_{RZ} : 2100 ~ 10.500 mA
 $R_{DC typ}$: 1.0 ~ 43 m Ω



WE-MLS

Z @ 25 MHz: 115 ~ 292 Ω
 Z @ 100 MHz: 150 ~ 334 Ω
 I_R : 4 A



WE-PBF

Z @ 25 MHz: 23 ~ 65 Ω
 I_R : 14 ~ 18 A
 $R_{DC max}$: 0.4 ~ 0.9 m Ω



WE-WAFB

Z @ 10 MHz: 20 ~ 65 Ω
 Z @ 100 MHz: 70 ~ 130 Ω
 I_R : 3 ~ 6 A



WE-PF

Z_{max} : 2900 ~ 15000 Ω
 I_R : 4.5 ~ 10 A

FERRITES FOR CABLE ASSEMBLY



WE-STAR-BUENO

Z @ 25 MHz 1 turn: 120 ~ 180 Ω
 Z @ 100 MHz 1 turn: 200 ~ 350 Ω
 Cable Diameter: 2.5 - 5 ~ 4.5 - 8.5 mm



WE-STAR-TEC LFS

Z @ 1 MHz 1 turn: 20 ~ 94 Ω
 Z @ 10 MHz 1 turn: 32 ~ 65 Ω
 Cable Diameter: 3.5 - 5 ~ 22 - 25 mm



WE-STAR-TEC

Z @ 25 MHz 1 turn: 98 ~ 306 Ω
 Z @ 100 MHz 1 turn: 182 ~ 525 Ω
 Cable Diameter: 3.5 - 5 ~ 22 - 25 mm



WE-STAR-GAP

Z @ 25 MHz 1 turn: 28 ~ 35 Ω
 Z @ 500 MHz 1 turn: 345 ~ 400 Ω
 Cable Diameter: 4.5 - 8 ~ 8.5 - 12.5 mm



WE-STAR-RING

Z @ 25 MHz 1 turn: 55 ~ 83 Ω
 Z @ 100 MHz 1 turn: 110 ~ 165 Ω
 Cable Diameter: 8 ~ 27 mm



WE-STAR-FLAT

Z @ 25 MHz 1 turn: 42 ~ 97 Ω
 Z @ 100 MHz 1 turn: 101 ~ 194 Ω
 No. of Poles: 26 ~ 50



WE-STAR-CLIP

For the fixation of Snap Ferrite STAR-TEC (LFS), STAR-FIX (LFS) and STAR-GAP



WE-NCF

Z @ 25 MHz 1 turn: 48 ~ 100 Ω
 Z @ 100 MHz 1 turn: 93 ~ 200 Ω
 Cable Diameter: 7.8 ~ 26.5 mm

EMC COMPONENTS

FERRITES FOR CABLE ASSEMBLY



WE-SPLITRING

Z @ 25 MHz 1 turn: 98 ~ 306 Ω
Z @ 100 MHz 1 turn: 182 ~ 525 Ω
Cable Diameter: 3.5 - 5 ~ 25 mm



WE-SFA

Z @ 25 MHz 1 turn: 27 ~ 148 Ω
Z @ 100 MHz 1 turn: 57 ~ 267 Ω
No. of Poles: 10 ~ 64



WE-FLAT

Z @ 25 MHz 1 turn: 17 ~ 90 Ω
Z @ 100 MHz 1 turn: 42 ~ 166 Ω
Version: Snap-On with adhesive tape



WE-FLAT Ferrite for Flexible Printed Circuit Boards

Z @ 25 MHz 1 turn: 7 ~ 71 Ω
Z @ 100 MHz 1 turn: 19 ~ 130 Ω
Version: round, square



WE-FCAC

Easy fixation for flat cores on ribbon cables



WE-TOP

Z @ 25 MHz 1 turn: 25 ~ 110 Ω
Z @ 100 MHz 1 turn: 37 ~ 205 Ω
Cable diameter: 3.0 ~ 55.3 mm



WE-AFB LFS

Z @ 1 MHz 1 turn: 7.48 ~ 130 Ω
Z @ 10 MHz 1 turn: 18.8 ~ 100 Ω
Cable diameter: 0.8 ~ 17.65 mm



WE-AFB

Z @ 25 MHz 1 turn: 30 ~ 300 Ω
Z @ 100 MHz 1 turn: 45 ~ 451 Ω
Cable diameter: 3.3 ~ 17.5 mm



WE-SAFB

Z @ 25 MHz 1 turn: 20 ~ 144 Ω
Z @ 100 MHz 1 turn: 40 ~ 278 Ω
Cable diameter: 0.55 ~ 4 mm



WE-RIB

Z @ 25 MHz 1 turn: 35 ~ 126 Ω
Z @ 100 MHz 1 turn: 91 ~ 260 Ω
Cable diameter: 0.8 ~ 3.5 mm

FILTER CHOKES



WE-MI

L: 0.047 ~ 33 μH
I_B: 3 ~ 300 mA
R_{DC}: 0.15 ~ 2.1 Ω



WE-SD

L: 2 ~ 10 μH
I_B: 2.5 ~ 15 A
R_{DC}: 1.7 ~ 33 mΩ



WE-FI

L: 8.2 ~ 860 μH
I_B: 0.9 ~ 9 A
R_{DC}: 0.01 ~ 0.4 Ω



WE-CMB

L: 0.5 ~ 39 mH
I_B: 0.3 ~ 35 A
R_{DC}: 2.3 ~ 3000 mΩ
Number of Windings: 2



WE-CMBNC

L: 0.4 ~ 190 mH
I_B: 0.6 ~ 38 A
R_{DC}: 1.1 ~ 1000 mΩ
Number of Windings: 2



WE-CMB HC

L: 0.175 ~ 0.7 mH
I_B: 5 ~ 10 mA
R_{DC}: 4 ~ 15 mΩ
Number of Windings: 2



WE-CMB HV

L: 0.7 ~ 4.7 mH
I_B: 6.8 ~ 21.5 A
R_{DC}: 3.8 ~ 44 mΩ
Number of Windings: 2



WE-CMB NiZn

L: 14 ~ 110 μH
I_B: 1.5 ~ 10 A
R_{DC}: 2.7 ~ 80 mΩ
Number of Windings: 2



WE-ExB

L: 47 ~ 1000 μH
I_B: 4.5 ~ 15 A
R_{DC}: 4.6 ~ 42 mΩ
Number of Windings: 2



WE-CMBH

L: 1 ~ 20 mH
I_B: 2 ~ 15 A
R_{DC}: 7.5 ~ 230 mΩ
Number of Windings: 2

COMMON MODE CHOKES POWER LINES



WE-LF

L: 0.4 ~ 50 mH
 I_R : 0.3 ~ 6 A
 R_{DC} : 0.02 ~ 2.6 Ω
 Number of Windings: 2



WE-LF SMD

L: 0.7 ~ 4.7 mH
 I_R : 0.4 ~ 5.25 A
 R_{DC} : 0.03 ~ 2.6 Ω
 Number of Windings: 2



WE-TFC

L: 1.8 ~ 25 mH
 I_R : 0.25 ~ 1 A
 $R_{DC\ max}$: 0.31 ~ 3.6 Ω
 Number of Windings: 2



WE-FC

L: 1.1 ~ 4.3 mH
 I_R : 0.4 ~ 2.65 A
 $R_{DC\ max}$: 0.08 ~ 2.88 Ω
 Number of Windings: 2



WE-FCL

L: 3.9 ~ 100 mH
 I_R : 1.25 ~ 5 A
 R_{DC} : 50 ~ 900 m Ω
 Number of Windings: 2



WE-LPCC

L: 120 ~ 450 μ H
 I_R : 9.5 ~ 23.5 A
 $R_{DC\ max}$: 1.4 ~ 9.6 m Ω
 Number of Windings: 2



WE-FCLP

L: 6 ~ 100 mH
 I_R : 0.5 ~ 2.4 A
 R_{DC} : 220 ~ 3470 m Ω
 Number of Windings: 2



WE-TPB

L: 0.52 ~ 12 mH
 I_R : 6 ~ 24 A
 R_{DC} : 3 ~ 65 m Ω
 Number of Windings: 3



WE-TPB HV

L: 0.2 ~ 208 mH
 I_R : 7.2 ~ 46 A
 R_{DC} : 1.6 ~ 85 m Ω
 Number of Windings: 3

COMMON MODE CHOKES SIGNAL LINES



WE-CNSW

Z @ 100 MHz: 22 ~ 8000 Ω
 I_R : 90 ~ 2000 mA
 R_{DC} : 0.05 ~ 5.5 Ω
 Number of Windings: 2



WE-CNSW HF

Z @ 100 MHz: 60 ~ 120 Ω
 I_R : 280 ~ 600 mA
 R_{DC} : 220 ~ 300 m Ω
 Number of Windings: 2



WE-CMDC

Z @ 100 MHz: 700 ~ 1500 Ω
 I_R : 4.5 ~ 8 A
 R_{DC} : 6 ~ 21 m Ω
 Number of Windings: 2



WE-CCMF

f_c : 8 ~ 12 GHz
 I_R : 300 mA
 Common mode Attenuation @ 2450 MHz: 20 ~ 30 dB



WE-SLM

L: 11 ~ 470 μ H
 I_R : 300 ~ 400 mA
 R_{DC} : 0.18 ~ 0.58 Ω
 Number of Windings: 2



WE-SL1

L: 10 ~ 330 μ H
 I_R : 300 mA
 R_{DC} : 0.16 ~ 0.3 Ω
 Number of Windings: 2



WE-SL2

L: 10 ~ 20000 μ H
 I_R : 200 ~ 1700 mA
 R_{DC} : 0.06 ~ 2.6 Ω
 Number of Windings: 2



WE-SL3

L: 20 ~ 100 μ H
 I_R : 450 ~ 700 mA
 R_{DC} : 0.14 ~ 0.45 Ω
 Number of Windings: 2 ~ 3



WE-SL5

L: 120 ~ 4700 μ H
 I_R : 350 ~ 2500 mA
 R_{DC} : 0.025 ~ 0.72 Ω
 Number of Windings: 2



WE-SL5 HC

L: 5 ~ 30 μ H
 I_R : 1400 ~ 5000 mA
 R_{DC} : 0.0055 ~ 0.06 Ω
 Number of Windings: 2



WE-SL

L: 35 ~ 4700 μ H
 I_R : 0.8 ~ 2700 mA
 R_{DC} : 0.035 ~ 0.85 Ω
 Number of Windings: 2 ~ 4



WE-SCC

L: 1 ~ 1000 μ H
 I_R : 150 ~ 4750 mA
 R_{DC} : 0.01 ~ 4.3 Ω
 Number of Windings: 2



WE-UCF

L: 0.013 ~ 100 mH
 I_R : 0.15 ~ 10 A
 R_{DC} : 0.0027 ~ 8.5 Ω
 Number of Windings: 2

ESD AND SURGE PROTECTION



WE-TVS Standard Series

Operating Voltage: 3.3 ~ 24 V_{DC}
 C_{min} : 12 ~ 1650 pF
 Channels: 1 ~ 5
 Size: DFN1610-2L ~ SOT23-6L



WE-TVS High Speed

Operating Voltage: 3.3 ~ 5 V_{DC}
 C_{min} : 1 ~ 3 pF
 Channels: 2+1 ~ 4+1
 Size: SC70-6L ~ SOT23-6L



WE-TVS Super Speed

Operating Voltage: 1.2 ~ 5 V_{DC}
 C_{typ} : 0.18 ~ 0.6 pF
 Channels: 2 ~ 8
 Size: DFN1210-6L ~ MSOP-10L

EMC COMPONENTS

ESD AND SURGE PROTECTION



WE-VE

Operating Voltage: 5 ~ 26 V_{DC}
 C_{min}: 1 ~ 100 pF
 Size: 0402 - 0805



WE-VE ULC

Operating Voltage: 5 ~ 12 V_{DC}
 C_{min}: 0.2 pF
 Size: 0402 - 0603



WE-VE femtoF

Operating Voltage: 6 ~ 26 V_{DC}
 C_{typ}: 0.05 pF
 Size: 0402 - 0603



WE-VEA

Operating Voltage: 5 ~ 18 V_{DC}
 C_{typ}: 10 ~ 120 pF
 Size: 0508 - 0612



WE-VS

Operating Voltage: 2.5 ~ 60 V_{DC}
 Operating Voltage: 3.3 ~ 85 V_{AC}
 I_{peak}: 10 ~ 200 A
 W_{max}: 0.02 ~ 1.1 J
 Size: 0402 - 1206



WE-VD

Operating Voltage: 14 ~ 1000 VAC
 Operating Voltage: 18 ~ 1465 VDC
 I_{peak}: 100 ~ 10000 A
 W_{max}: 0.7 ~ 620 J
 Diameters: 5 ~ 20 mm



WE-TVSP

Operating Voltage: 5 ~ 440 VDC
 I_{peak} (10/100 μs): 2.5 ~ 326 A
 V_{clamp}: 9.2 ~ 713 V
 Size: DO-214AC: SMAJ
 DO-214AA: SMBJ
 DO-214AB: SMCJ, SMDJ

EMC SHIELDING SOLUTIONS



EMC Tapes

EMC tapes with copper tape, aluminum tape, conductive foam, conductive fabric



Board Level Shielding

WE-SHC & WE-SHC Seamless

Metal cabinets for board level shielding, ShieldDIY for prototyping, SMD & THT, frame & cover, one piece solution



EMI Gaskets & Grounding

WE-SECF, WE-SMGS, WE-EEL, WE-ST

SMD grounding contacts, grounding cables for earthing belts, cable shielding and metal clips



Magnetic Shielding WE-FAS,

WE-FSFS, WE-CPU

Absorber Sheets, Thermal Conductive & EMI Absorber Sheets, Flexible Ferrite Sheets, Ferrite Plates

LINE FILTERS



WE-CLFS Line Filter

I_B: 1.5 ~ 20 A
 Inductance: 1 ~ 20 mH
 R_{DC}: 10 ~ 300 mΩ
 Phase: 1

D-SUB FILTER CONNECTORS



D-SUB Filter Connectors

Bent 90°, solder cup, solder pin straight, filter adapter



All EMC Components at a glance:

www.we-online.com/emc-components



Explore our application notes for EMC Components:

www.we-online.com/appnotes



Component libraries available for:

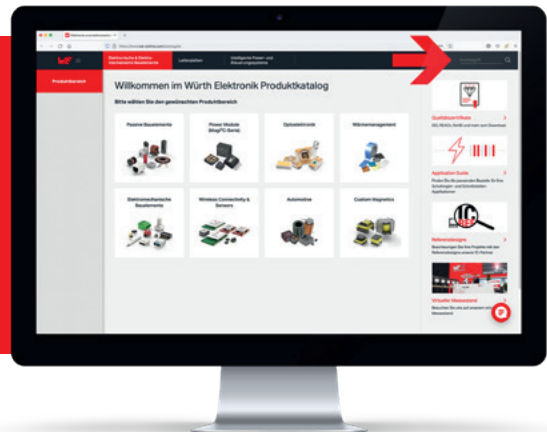
- PCB library: Altium Designer, EAGLE, Cadence OrCAD & Allegro, Zuken CAD-Star
 - S-Parameter & SPICE model: S-Parameter, LTspice, PSpice, Spectre
 - RF & microwave simulation models: Modelithics
- www.we-online.com/library

POWER MAGNETICS

























HOW TO FIND DETAILED PRODUCT INFORMATION?

VISIT WWW.WE-ONLINE.COM AND SEARCH FOR PRODUCT SERIES INFORMATION, E.G.:

WE-PD



SINGLE COIL POWER INDUCTORS

 <p>WE-PMI L: 0.11 ~ 10 µH I_{RZ}: 650 ~ 4000 mA R_{DC max}: 8.75 ~ 625 mΩ I_{SAT}: 100 ~ 5000 mA</p>	 <p>WE-MAPI L: 0.33 ~ 47 µH I_{RZ}: 0.39 ~ 9.9 A R_{DC typ}: 6 ~ 2090 mΩ I_{SAT}: 1.18 ~ 12.4 A</p>	 <p>WE-PD4 L: 0.47 ~ 10000 µH I_{RZ}: 0.07 ~ 18 A R_{DC}: 0.002 ~ 39 Ω I_{SAT}: 14.25 A</p>
 <p>WE-PMCI L: 0.24 ~ 2.2 µH I_{RZ}: 1000 ~ 5500 mA R_{DC}: 10 ~ 166 mΩ I_{SAT}: 1700 ~ 12000 mA</p>	 <p>WE-TPC L: 0.056 ~ 1500 µH I_{RZ}: 0.08 ~ 8.5 A R_{DC}: 0.0035 ~ 9 Ω I_{SAT}: 0.05 ~ 10 A</p>	 <p>WE-HCI L: 0.13 ~ 82 µH I_{RZ}: 3.5 ~ 41.5 A R_{DC}: 0.35 ~ 34.5 mΩ I_{SAT}: 4 ~ 65 A</p>
 <p>WE-GF L: 0.1 ~ 1000 µH I_{RZ}: 30 ~ 450 mA R_{DC max}: 0.32 ~ 50 Ω</p>	 <p>WE-SPC L: 0.22 ~ 100 µH I_{RZ}: 0.40 ~ 5.30 A R_{DC}: 0.014 ~ 1.133 Ω I_{SAT}: 0.68 ~ 13.5 A</p>	 <p>WE-HCC L: 0.22 ~ 10 µH I_{RZ}: 4.4 ~ 27 A R_{DC}: 1.1 ~ 38.5 mΩ I_{SAT}: 7 ~ 85 A</p>
 <p>WE-GFH L: 1.0 ~ 220 µH I_{RZ}: 160 ~ 1900 mA R_{DC}: 81 ~ 9126 mΩ</p>	 <p>WE-PD L: 0.47 ~ 2200 µH I_{RZ}: 0.2 ~ 23.5 A R_{DC}: 0.003 ~ 9.44 Ω I_{SAT}: 0.18 ~ 26.4 A</p>	 <p>WE-HCF L: 0.7 ~ 680 µH I_{RZ}: 4.8 ~ 56 A R_{DC}: 0.44 ~ 118.3 mΩ I_{SAT}: 3 ~ 125 A</p>
 <p>WE-LQ L: 1 ~ 2200 µH I_{RZ}: 0.04 ~ 1.8 A R_{DC}: 0.08 ~ 47 Ω</p>	 <p>WE-PDF L: 0.22 ~ 27 µH I_{RZ}: 4.3 ~ 19 A R_{DC}: 1.95 ~ 42.5 mΩ I_{SAT}: 3.1 ~ 32 A</p>	 <p>WE-HCFT L: 1 ~ 65 µH I_{RZ}: 17.2 ~ 75 A R_{DC}: 0.34 ~ 13.13 mΩ I_{SAT}: 8.8 ~ 125 A</p>
 <p>WE-LQS L: 0.16 ~ 10000 µH I_{RZ}: 0.1 ~ 8 A R_{DC}: 6 ~ 22800 mΩ I_{SAT}: 140 ~ 16000 mA</p>	 <p>WE-PD2SR L: 1.2 ~ 220 µH I_{RZ}: 0.67 ~ 4.85 A R_{DC typ}: 8.5 ~ 743 mΩ I_{SAT}: 0.58 ~ 6 A</p>	 <p>WE-HIDA L: 8.2 ~ 22 µH I_{RZ}: 5.7 ~ 19 A R_{DC}: 2.5 ~ 14.8 mΩ I_{SAT}: 6.5 ~ 58 A</p>
 <p>WE-LQSH L: 0.47 ~ 10 µH I_{RZ}: 0.58 ~ 4.5 A R_{DC}: 18 ~ 680 mΩ I_{SAT}: 0.95 ~ 15.5 A</p>	 <p>WE-PD2 L: 1 ~ 2200 µH I_{RZ}: 0.18 ~ 6 A R_{DC}: 0.007 ~ 4.4 Ω I_{SAT}: 0.18 ~ 11 A</p>	 <p>WE-LHMD L: 8.2 ~ 22 µH I_{RZ}: 2 ~ 7 A R_{DC}: 16 ~ 104 mΩ I_{SAT}: 13 ~ 25 A</p>
 <p>WE-LQFS L: 1.0 ~ 470 µH I_{RZ}: 0.26 ~ 4.47 A R_{DC}: 18 ~ 2336 mΩ I_{SAT}: 0.18 ~ 4.06 A</p>	 <p>WE-PD3 L: 1 ~ 1000 µH I_{RZ}: 0.19 ~ 3.9 A R_{DC}: 0.027 ~ 3.2 Ω I_{SAT}: 0.02 ~ 8 A</p>	 <p>WE-HCM L: 0.025 ~ 1.5 µH I_{RZ}: 23 ~ 70 A R_{DC}: 0.114 ~ 0.7 mΩ I_{SAT}: 8 ~ 125 A</p>

POWER MAGNETICS





SINGLE COIL POWER INDUCTORS

EXTENDED	WE-XHMI 	L: 0.15 ~ 33 μ H I _g : 4.7 ~ 20.0 A R _{DC} : 1.32 ~ 31.0 m Ω I _{SAT} : 7.6 ~ 58 A
	WE-LHMI 	L: 0.1 ~ 100 μ H I _g : 1 ~ 32.5 A R _{DC} : 0.60 ~ 500 m Ω I _{SAT} : 2 ~ 125 A
	WE-FAMI 	L: 3.0 ~ 22.0 μ H I _g : 3.7 ~ 14.5 A R _{DC} : 3.1 ~ 30.9 m Ω I _{SAT} : 5.7 ~ 19.7 A
	WE-TI 	L: 1 ~ 68000 μ H I _g : 0.05 ~ 8.5 A R _{DC} : 0.006 ~ 90.8 Ω I _{SAT} : 0.07 ~ 15 A
	WE-TIS 	L: 1.3 ~ 8200 μ H I _g : 0.1 ~ 8.5 A R _{DC} : 0.006 ~ 12.5 Ω I _{SAT} : 0.05 ~ 14 A
	WE-SI 	L: 12 ~ 1619 μ H I _g : 0.5 ~ 5 A R _{DC} : 0.008 ~ 0.7 Ω I _{SAT} : 0.5 ~ 6.9 A
	WE-PD HV 	L: 47 ~ 6800 μ H I _g : 0.24 ~ 1.7 A R _{DC} : 0.16 ~ 9.6 Ω I _{SAT} : 0.2 ~ 2.3 A
	WE-PD2 HV 	L: 560 ~ 2200 μ H I _g : 0.15 ~ 0.41 A R _{DC} : 1.77 ~ 6 Ω I _{SAT} : 0.2 ~ 0.41 A
	WE-TI HV 	L: 220 ~ 3300 μ H I _g : 0.25 ~ 0.9 A R _{DC} : 0.5 ~ 5.9 Ω I _{SAT} : 0.27 ~ 1.3 A

DUAL COIL POWER INDUCTORS

	WE-EHPI 	L ₁ : 7 ~ 25 μ H L ₂ : 10000 ~ 70000 μ H R _{DC1} : 0.085 ~ 0.2 Ω R _{DC2} : 42 ~ 205 Ω
	WE-TDC 	L: 0.33 ~ 22 μ H I _g : 0.7 ~ 4.5 A R _{DC} : 0.0111 ~ 0.435 Ω
	WE-DD 	L: 1.3 ~ 470 μ H I _g : 0.3 ~ 8.6 A R _{DC} : 0.011 ~ 1.4 Ω
	WE-DCT 	L: 0.091 ~ 100 μ H I _g : 1.1 ~ 14.5 A R _{DC} : 2.8 ~ 265 m Ω I _{SAT} : 1.1 ~ 14.5 A
	WE-CFWI 	L: 0.8 ~ 10 μ H I _g : 11.5 ~ 28 A R _{DC} : 1.6 ~ 13.9 m Ω I _{SAT} : 14.25 A
	WE-DPC 	L: 1 ~ 100 μ H I _g : 0.35 ~ 4.5 A R _{DC} : 25 ~ 1990 m Ω I _{SAT} : 14.25 A
	WE-MTCI 	L ₁ : 10 ~ 33 μ H L ₂ : 22.5 ~ 297 μ H R _{DC1} : 349 ~ 1466 m Ω R _{DC2} : 408 ~ 3758 m Ω
	WE-DPC HV 	L: 1 ~ 47 μ H I _g : 0.6 ~ 2.9 A R _{DC} : 32 ~ 840 m Ω
	WE-TDC HV 	L: 4.7 ~ 33 μ H I _g : 0.75 ~ 2.45 A R _{DC} : 85 ~ 700 m Ω
	WE-MCRI 	L: 1 ~ 47 μ H I _g : 1.5 ~ 17 A R _{DC} : 4.5 ~ 312 m Ω

WIRELESS POWER TRANSMISSION

WE-WPCC Wireless Power Transmitter Coil 	L: 2.8 ~ 24 μ H Q: 30 ~ 220 I _g : 2.0 ~ 18 A R _{DC} : 10 ~ 255 m Ω
WE-WPCC Wireless Power Array 	L: 6.4 ~ 12.5 μ H μ HQ: 100 ~ 145 I _g : 8.0 ~ 10.0 A R _{DC} : 38 ~ 56 m Ω
WE-WPCC Wireless Power Receiver Coil 	L: 1.4 ~ 47.0 μ H Q: 10 ~ 50 I _g : 0.40 ~ 5.0 A R _{DC} : 0.08 ~ 1200 Ω
WE-WPCC WPT / NFC Combination Coil 	L: L1 = 6.3 ~ 24 μ H L2 = 0.7 ~ 1.6 μ H Q1 = 19 ~ 125 Q2 = 47 ~ 82 I _g : IR1 = 6 ~ 7.5 A IR2 = 2.6 ~ 50 A R _{DC} : RDC1 = 0.048 ~ 0.4 Ω RDC2 = 0.03 ~ 0.1 Ω

PFC CHOKES

WE-PFC 	L: 150 ~ 1800 μ H I _g : 0.3 ~ 3.0 A R _{DC1} : 78 ~ 1550 m Ω R _{DC2} : 140 ~ 1200 m Ω
--	--

HIGH PERFORMANCE	1:1 HIGH VOLTAGE
CONSUMER	1:1 HIGH CURRENT
LOW PROFILE	HIGH VOLTAGE
HIGH CURRENT	1:N MULTI TURNS RATIO
SEPIC	THT INDUCTORS
CLASS D	ALL PURPOSE

POWER TRANSFORMERS



WE-FLEX

suitable for all switch mode power supply topologies like: Buck-Converter, Boost-Converter, SEPIC-Converter, Flyback-Converter, Forward-Converter and Push-Pull-Converter



WE-UNIT

U_i: 85 ~ 265 Vac
U_{O1}: 5 ~ 24 V
I_{O1}: 0.13 ~ 2.0 A



WE-FLEX+

suitable for all switch mode power supply topologies like: Buck-Converter, Boost-Converter, SEPIC-Converter, Flyback-Converter, Forward-Converter and Push-Pull-Converter



WE-GDT

L: 260 ~ 650 µH
R_{DC1}: 520 ~ 1200 mΩ
R_{DC2}: 150 ~ 600 mΩ
R_{DC3}: 170 ~ 600 mΩ



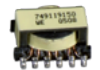
WE-FLEX HV

suitable for all switch mode power supply topologies like: Buck-Converter, Boost-Converter, SEPIC-Converter, Flyback-Converter, Forward-Converter and Push-Pull-Converter



WE-GDTI

L: 735 ~ 1800 µH
R_{DC1}: 1000 ~ 1600 mΩ
R_{DC2}: 600 ~ 1300 mΩ
R_{DC3}: 650 ~ 1300 mΩ



WE-PoE

suitable for Power over Ethernet ICs



WE-CST

for Switch Mode Power Supply and AC current detection



WE-PoE+

Compliant with the 30W PoE+ objectives of IEEE802.3at

Suitable for PoE+ powered devices



WE-AGDT

Input Voltage: 9 - 18 - 18 - 36 V
Output Unipolar: 15 - 20 V
Output Bipolar: +15 / -4 V
Interwinding Capacitance: 6.8 pF
Total Output Power: Up to 6 W



WE-PoEH

- PoE and PoE+ powered devices
- Flyback or Forward Transformer
- designed for 12 V, 24 V or 48 V input of Switching Mode Power Supply



WE-FB

for LT3573, LT3751, LT3574, LT3575, LT3748



WE-UOST

U_i: 85 ~ 265 V_{ac}
U_{O1}: 5 ~ 24 V
I_{O1}: 0.56 ~ 3.0 A



WE-LLCR

U_i: 360 ~ 400 V_{dc}
U_o: 12, 24 or 48 V_{dc}
P: 150, 200 or 250 W



All Power Magnetic Components at a glance:

www.we-online.com/power-magnetics



Explore our application notes for Power Magnetics:

www.we-online.com/appnotes



Component libraries available for:

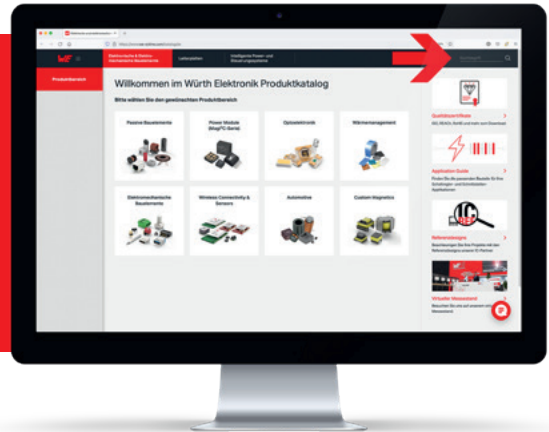
- PCB library: Altium Designer, EAGLE, Cadence OrCAD & Allegro, Zuken CAD-Star
 - S-Parameter & SPICE model: S-Parameter, LTSpice, PSpice, Spectre
 - RF & microwave simulation models: Modelithics
- www.we-online.com/library

SIGNAL & COMMUNICATIONS

HOW TO FIND DETAILED PRODUCT INFORMATION?

VISIT WWW.WE-ONLINE.COM AND SEARCH FOR PRODUCT SERIES INFORMATION, E.G.:

WE-ASI



AS-INTERFACE INDUCTOR



WE-ASI

L: 3 ~ 18.0 mH
 I_R : 0.08 ~ 0.5 A
 R_{DC} : 2.9 ~ 57.7 Ω

LAN TRANSFORMERS



WE-LAN

Data rate: 10/100/1000/2.5G/5GBASE-T
 Ports: 1 ~ 4
 Temp. Range: -40 up to +125 °C
 PoE: PoE (up to 2 A per center tap)



WE-LAN 10G

Data rate: 10GBASE-T
 Ports: 1
 Temp. Range: -40 up to +85 °C
 PoE: PoE (up to 1.5 A per center tap)



WE-LAN AQ

Data rate: 10/100/1000BASE-T
 Ports: 1
 Temp. Range: -40 up to +85 °C
 PoE: PoE (up to 720 mA per center tap)



WE-RJ45 LAN

Data rate: 10/100/1000BASE-T
 Ports: 1x1 - 1x2 - 2x4
 Temp. Range: -40 up to +85 °C
 PoE: PoE (up to 1 A per center tap)



WE-RJ45 LAN 10G

Data rate: 10GBASE-T
 Ports: 1
 Temp. Range: -40 up to +85 °C
 PoE: 350 ~ 1000 mA



WE-STST

Data rate (Standard Ethernet): 10/100/1000/10GBASE-T
 Data rate (Single Pair Ethernet): 10/100/1000BASE-T1
 Temp. Range: -40 up to +105 °C
 PoE: PoE (up to 600 mA)



WE-LANMX

Data rate: 10/100BASE-T
 Code: D
 Temp. Range: -40 up to +85 °C
 PoE: non-PoE

FILTER SOLUTIONS



WE-EPLE

USB-A connector with integrated circuit protection device and EMI noise reduction

NEW



WE-BMS

Working voltage: 1000 V_{DC}
 Temp. Range: -40 up to +125 °C
 Creepage: 4 to 10 mm
 Qualification: AEC-Q200

RF INDUCTORS



WE-KI

L ($\pm 2\%$ or $\pm 5\%$): 1 ~ 1800 nH
 Q: 15 ~ 60
 SRF: 188 ~ 12500 MHz
 I_R : 100 ~ 1360 mA
 Sizes: 0402, 0603, 0805, 1008



WE-KI HC

L ($\pm 2\%$): 1 ~ 390 nH
 Q: 18 ~ 46
 SRF: 880 ~ 16000 MHz
 I_R : 170 ~ 2300 mA
 Sizes: 0402, 0603



WE-RFI

L ($\pm 5\%$): 0.47 ~ 47 μ H
 Q: 15 ~ 45
 SRF: 17 ~ 375 MHz
 I_R : 45 ~ 500 mA
 Sizes: 0805, 1008



WE-RFH

L ($\pm 5\%$): 0.56 ~ 10 μ H
 Q: 15 ~ 45
 SRF: 40 ~ 415 MHz
 I_R : 300 ~ 760 mA
 Sizes: 1008



WE-TCI

L (± 0.1 nH or 2 %): 1 ~ 22 nH
 Q: 8 ~ 13
 SRF: 2800 ~ 9000 MHz
 I_R : 90 ~ 700 mA
 Sizes: 0201, 0402



WE-MK

L ($\pm 2\%$ or $\pm 5\%$): 1 ~ 470 nH
 Q: 8 ~ 12
 SRF: 300 ~ 10000 MHz
 I_R : 110 ~ 470 mA
 Sizes: 0201, 0402, 0603, 0805



WE-CAIR

L ($\pm 2\%$ or $\pm 5\%$): 1.65 ~ 538 nH
 Q: 100 ~ 140
 SRF: 0.49 ~ 12.5 GHz
 I_R : 1.5 ~ 4 A
 Sizes: 1322, 1340, 3136, 3168, 4248, 5910



WE-AC HC

L ($\pm 20\%$): 22 ~ 146 nH
 Q_{typ} : 163 ~ 280
 S_{RFtyp} : 332 ~ 867 MHz
 I_R : 19 ~ 40 A
 Sizes: 1010, 1212

SIGNAL FILTERS



WE-LPF

Low-Pass Filter
 Frequency Range: 902 ~ 5875 MHz
 Sizes: 0603, 0805



WE-BPF

Band-Pass Filter
 Frequency Range: 2400 ~ 5920 MHz
 Sizes: 0805, 1008

BALUN



WE-BAL

Balun
 Frequency Range: 2400 ~ 5875 MHz
 Sizes: 0603, 0805

ANTENNAS

EXTENDED



WE-MCA

Multilayer Chip Antenna
 Frequency Range: 423 ~ 5875 MHz



All Signal & Communications
 Components at a glance:
www.we-online.com/signal-com



Explore our application notes for
 Signal & Communications:
www.we-online.com/appnotes



Component libraries available for:

- PCB library: Altium Designer, EAGLE, Cadence OrCAD & Allegro, Zuken CAD-Star
- S-Parameter & SPICE model: S-Parameter, LTSpice, PSpice, Spectre
- RF & microwave simulation models: Modelithics

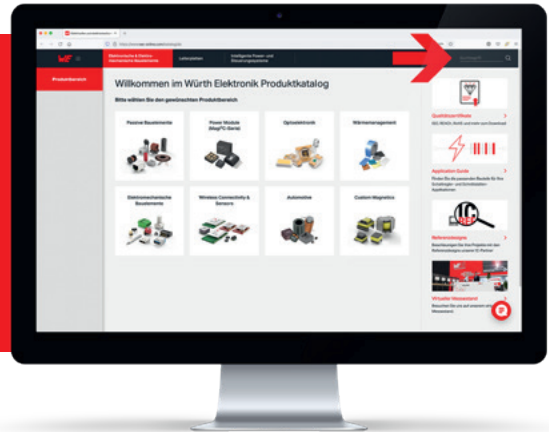
www.we-online.com/library

QUARTZ & OSCILLATORS

HOW TO FIND DETAILED PRODUCT INFORMATION?

VISIT WWW.WE-ONLINE.COM AND SEARCH FOR PRODUCT SERIES INFORMATION, E.G.:

WE-XTAL



QUARTZ CRYSTALS



WE-XTAL

Frequency: 1.8432 – 50 MHz
 Tolerance: $\pm 7 - \pm 50$ ppm
 Stability: $\pm 10 - \pm 100$ ppm
 Load Capacitance: 5 – 30 pF
 Size: 1.2 x 1.0 mm – 13.4 x 4.9 mm



WE-XTAL (Watch)

Frequency: 32.7680 kHz
 Load Capacitance: 4 pF – 12.5 pF
 Size: 1.2 x 1.0 mm – 9.5 x 2.54 mm

CRYSTAL OSCILLATORS



WE-SPXO

Frequency: 32.768 kHz,
 3.6864 – 156.25 MHz
 Stability: ± 25 ppm – ± 100 ppm
 Supply Voltage: 1.8 V – 5.0 V
 Output Logic: CMOS, HCMOS,
 HCMOS/TTL, LVDS, LVPECL
 Size: 2.0 x 1.6 mm – 7.0 x 5.0 mm



All Frequency Products at a glance:
www.we-online.com/frequency-products



Component libraries available for:

- PCB library: Altium Designer, EAGLE, Cadence OrCAD & Allegro, Zuken CAD-Star
- S-Parameter & SPICE model: S-Parameter, LTSpice, PSpice, Spectre
- RF & microwave simulation models: Modelithics

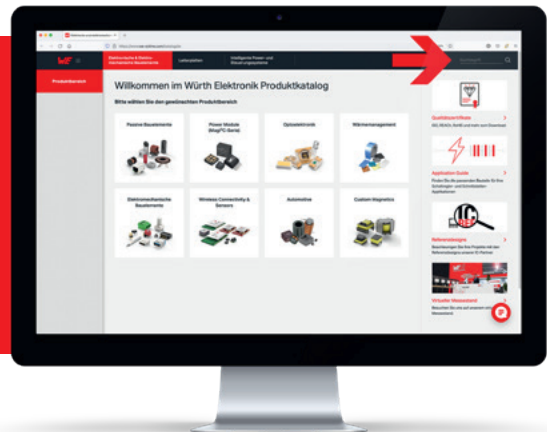
www.we-online.com/library

CAPACITORS

HOW TO FIND DETAILED PRODUCT INFORMATION?

VISIT WWW.WE-ONLINE.COM AND SEARCH FOR PRODUCT SERIES INFORMATION, E.G.:

WCAP-ATG8



ALUMINIUM ELECTROLYTIC CAPACITORS RADIAL THT

WCAP-ATG8
General Purpose +85 °C
C: 0.1 – 33000 µF
UR: 10 – 400 V_{DC}
Temp.: -40 °C or -25 °C up to +85 °C
Endurance: 2000 h

WCAP-ATG5
General Purpose +105 °C
C: 0.1 – 18000 µF
U_R: 10 – 400 V_{DC}
Temp.: -40 °C or -25 °C up to +105 °C
Endurance: 2000 h

WCAP-AT1H
Long Life
C: 6.8 – 3300 µF
U_R: 10 – 450 V_{DC}
Temp.: -40 °C or -25 °C up to +105 °C
Endurance: 5000 – 10000 h

WCAP-ATET
High Temperature +125 °C
C: 0.47 – 1000 µF
U_R: 10 – 350 V_{DC}
Temp.: -40 °C or -25 °C up to +125 °C
Endurance: 1000 – 2000 h

WCAP-ATLI
Low Impedance
C: 4.7 – 6800 µF
U_R: 10 – 100 V_{DC}
Temp.: -55 °C up to +105 °C
Endurance: 2000 – 5000 h

WCAP-ATUL
Low Leakage & Long Life
C: 22 – 4700 µF
U_R: 10 – 100 V_{DC}
Temp.: -40 °C up to +105 °C
Endurance: 4000 – 10000 h

WCAP-ATLL
Long Life
C: 0.47 – 6800 µF
U_R: 10 – 50 V_{DC}
Temp.: -55 °C up to +105 °C
Endurance: 3000 – 10000 h

ALUMINIUM ELECTROLYTIC CAPACITORS V-CHIP SMT

WCAP-ASLI
Low Impedance
C: 0.1 – 6800 µF
UR: 6.3 – 100 V_{DC}
Temp.: -55 °C up to +105 °C
Endurance: 2000 h

WCAP-ASLL
Low Impedance & Long Life
C: 1.0 – 6800 µF
U_R: 6.3 – 450 V_{DC}
Temp.: -55 °C or -40 °C up to +105 °C
Endurance: 2000 – 5000 h

WCAP-ASLU
Low Leakage Current
C: 0.1 – 330 µF
U_R: 6.3 – 63 V_{DC}
Temp.: -40 °C up to +85 °C
Endurance: 1000 – 2000 h

WCAP-ASNP
Non-Polar
C: 0.1 – 560 µF
U_R: 6.3 – 50 V_{DC}
Temp.: -40 °C up to +85 °C
Endurance: 2000 h

WCAP-AS5H
Long Life
C: 0.1 – 1000 µF
U_R: 6.3 – 50 V_{DC}
Temp.: -40 °C up to +105 °C
Endurance: 5000 h

ALUMINIUM ELECTROLYTIC CAPACITORS SNAP-IN

WCAP-AIG8
General Purpose +85 °C
C: 47 – 6800 µF
UR: 63 – 450 V_{DC}
Temp.: -40 °C or -25 °C up to +85 °C
Endurance: 2000 h

WCAP-AIE8
Long Life
C: 68 – 6800 µF
U_R: 63 – 450 V_{DC}
Temp.: -40 °C or -25 °C up to +105 °C
Endurance: 3000 h

WCAP-AIG5
General Purpose +105 °C
C: 33 – 10000 µF
U_R: 63 – 450 V_{DC}
Temp.: -40 °C or -25 °C up to +105 °C
Endurance: 2000 h

WCAP-AI3H
Long Life
C: 68 – 10000 µF
U_R: 63 – 450 V_{DC}
Temp.: -40 °C or -25 °C up to +105 °C
Endurance: 3000 h

CAPACITORS

ALUMINIUM POLYMER CAPACITORS RADIAL THT



WCAP-PTG5
General Purpose +105 °C
C: 39 – 2000 μ F
 U_R : 6.3 – 25 V_{DC}
Temp.: -55 °C up to +105 °C
Endurance: 2000 h



WCAP-PTHR
Low ESR & High Voltage
C: 10 – 150 μ F
 U_R : 35 – 100 V_{DC}
Temp.: -55 °C up to +105 °C
Endurance: 2000 h



WCAP-PTHT
High Temperature +125 °C
C: 22 – 2000 μ F
 U_R : 6.3 – 50 V_{DC}
Temp.: -55 °C up to +125 °C
Endurance: 2000 h



WCAP-PT5H
Long Life
C: 22 – 2000 μ F
 U_R : 6.3 – 35 V_{DC}
Temp.: -55 °C up to +105 °C
Endurance: 5000 h

ALUMINIUM POLYMER CAPACITORS V-CHIP SMT



WCAP-PSLC
Large Capacitance
C: 10 – 2000 μ F
 U_R : 6.3 – 100 V_{DC}
Temp.: -55 °C up to +105 °C
Endurance: 2000 h



WCAP-PSLP
Low Profile
C: 4.7 – 390 μ F
 U_R : 6.3 – 100 V_{DC}
Temp.: -55 °C up to +105 °C
Endurance: 2000 h



WCAP-PSHP
High Ripple Current
C: 6.8 – 1200 μ F
 U_R : 6.3 – 100 V_{DC}
Temp.: -55 °C up to +105 °C
Endurance: 2000 – 5000 h

ALUMINIUM POLYMER CAPACITORS H-CHIP SMT



WCAP-PHGP
General Purpose
C: 100 – 560 μ F
 U_R : 2 – 6.3 V_{DC}
Temp.: -55 °C up to +105 °C
Endurance: 2000 h



WCAP-PHLE
Low ESR
C: 100 – 560 μ F
 U_R : 2 – 6.3 V_{DC}
Temp.: -55 °C up to +105 °C
Endurance: 2000 h



WCAP-PHSE
Super Low ESR
C: 330 – 560 μ F
 U_R : 2 – 2.5 V_{DC}
Temp.: -55 °C up to +105 °C
Endurance: 2000 h

ALUMINIUM POLYMER CAPACITORS H-CHIP SMT



WCAP-CSGP
General Purpose
C: 0.5 pF – 100 μ F
 U_R : 6.3 – 100 V_{DC}
Ceramic: NPO, X7R, X5R



WCAP-CSMH
Mid and High Voltage
C: 10 pF – 470 nF
 U_R : 200 – 3,000 V_{DC}
Ceramic: NPO, X7R



WCAP-CSRF
High Frequency
C: 0.2 pF – 33 pF
 U_R : 25 – 50 V_{DC}
Ceramic: NPO



WCAP-CSST
Soft Termination
C: 220 pF – 2.2 μ F
 U_R : 16 – 2,000 V_{DC}
Ceramic: X7R

DC FILM CAPACITORS



WCAP-FTBP Boxed Type
Metallized Polypropylene
C: 33 nF – 6.8 μ F
 U_R : 160 – 630 V_{DC}
Pitch: 7.5 / 10.0 / 15.0 / 22.5 / 27.5 mm
Dielectric: Polypropylene



WCAP-FTBE Boxed Type
Metallized Polyester
C: 10 nF – 6.8 μ F
 U_R : 100 – 1,000 V_{DC}
Pitch: 7.5 / 10.0 / 15.0 / 22.5 / 27.5 / 37.5 mm
Dielectric: Polyester



WCAP-STSC
Standard Cylindrical
C: 3 – 50 F
 U_R : 2.7 V_{DC}
Temp.: -40 °C up to +65 °C

DC FILM CAPACITORS



WCAP-FTXX X2-Capacitors

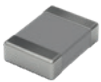
C: 5.6 nF – 6.8 μ F
U_g: 310 V_{AC}
Pitch: 7.5 / 10.0 / 12.5 / 15.0 / 22.5 /
27.5 / 37.5 mm
Safety class: X2



WCAP-FTX2 X2-Capacitors

C: 5.6 nF – 6.8 μ F
U_g: 275 V_{AC}
Pitch: 7.5 / 10.0 / 12.5 / 15.0 / 22.5 /
27.5 / 37.5 mm
Safety class: X2

SMT-CHIP



WCAP-CSSA Safety Capacitors

C: 33 pF – 4.7 nF
U_g: 250 V_{AC}
Ceramic: NPO, X7R
Safety class: X1 / Y2, X2



All Capacitors at a glance
www.we-online.com/capacitors



Explore our application notes for
Capacitors:
www.we-online.com/appnotes



Component libraries available for:

- PCB library: Altium Designer, EAGLE, Cadence OrCAD & Allegro, Zuken CAD-Star
- S-Parameter & SPICE model: S-Parameter, LTSpice, PSpice, Spectre
- RF & microwave simulation models: Modelithics

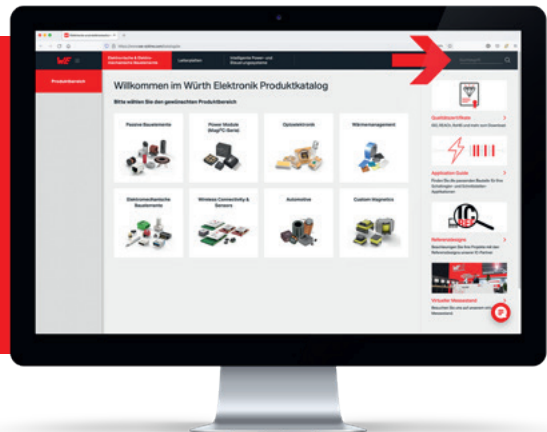
www.we-online.com/library

RESISTORS

HOW TO FIND DETAILED PRODUCT INFORMATION?

VISIT WWW.WE-ONLINE.COM AND SEARCH FOR PRODUCT SERIES INFORMATION, E.G.:

WRIS-PSMB



METAL PLATE RESISTORS

WRIS-PSMB

Enhanced Current Sensing

R: 5 mΩ – 10 mΩ
 R_{Tol} : ±1 %
 P: 0.33 W up to 1 W
 TCR: ±100 ppm/°C
 Temp.: -55 °C up to +155 °C



THICK FILM RESISTORS

WRIS-KSKE

General Purpose Current Sensing

R: 50 mΩ – 10 Ω
 R_{Tol} : ±1 %
 P: 0.125 W up to 1 W
 TCR: ±100 / +200 / +250 / +300 ppm/°C
 Temp.: -55 °C up to +155 °C



WRIS-PSMC

High Power Current Sensing

R: 2 mΩ – 10 mΩ
 R_{Tol} : ±1 % / ±5 %
 P: 2 W
 TCR: ±100 ppm/°C
 Temp.: -55 °C up to +155 °C



WRIS-KWKB

High Power

R: 2.2 Ω – 18 kΩ
 R_{Tol} : ±1 % / ±5 %
 P: 0.75 W up to 2 W
 TCR: ±200 ppm/°C
 Temp.: -55 °C up to +155 °C



WRIS-PWMC

High Power Current Sensing

R: 1 mΩ – 5 mΩ
 R_{Tol} : ±1 %
 P: 3 W up to 6 W
 TCR: ±100 ppm/°C
 Temp.: -55 °C up to +170 °C



WRIS-KWKH

High Power Current Sensing

R: 100 mΩ – 620 mΩ
 R_{Tol} : ±1 % / ±5 %
 P: 1 W
 TCR: +200 / +250 / +350 ppm/°C
 Temp.: -55 °C up to +155 °C



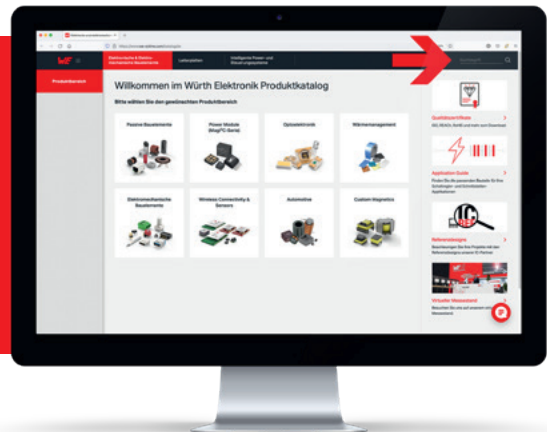
All resistors at a glance:
www.we-online.com/resistors

OPTOELECTRONICS

HOW TO FIND DETAILED PRODUCT INFORMATION?

VISIT WWW.WE-ONLINE.COM AND SEARCH FOR PRODUCT SERIES INFORMATION, E.G.:

WL-SMCC



VISIBLE LEDS

CHIP LEDS

WL-SMCC SMD Mono-color Chip LED Compact



Size: 0402, 0603
 $\lambda_{DOM\ typ}$: 470 – 630 nm
 $I_V\ typ$: 50 – 800 mcd
 $V_F\ typ$: 2.0 – 3.2 V
 Emitting color: Super Red, Red, Amber, Yellow, Bright Green, Green, Blue

CHIP LEDS

WL-SBCW SMD Bi-color Chip LED Waterclear



Size: 0606, 1210
 $\lambda_{DOM\ typ}$: 520 – 630 nm
 $I_V\ typ$: 30 – 560 mcd
 $V_F\ typ$: 2 – 3.2 V
 Emitting color: Super Red/Bright Green, Yellow/Bright Green, Red, Green

CHIP LED SIDE VIEW

WL-SMSW SMD Mono-color Side view Waterclear



Size: 0603, 3014, 1204
 $\lambda_{DOM\ typ}$: 470 – 624 nm
 $I_V\ typ$: 50 – 600 mcd
 $V_F\ typ$: 2 – 3.4 V
 Emitting color: Red, Yellow, Bright Green, Green, Blue

WL-SBCC SMD Bi-Color Chip LED Compact



Size: 0603
 $\lambda_{DOM\ typ}$: 570 – 625 nm
 $I_V\ typ$: 30 – 60 mcd
 $V_F\ typ$: 2 V
 Emitting color: Red/Bright Green

WL-SFCW SMD Full-color Chip LED Waterclear



Size: 0606, 0805, 1206, 1210
 $\lambda_{DOM\ typ}$: 470 – 624 nm
 $I_V\ typ$: 70 – 360 mcd
 $V_F\ typ$: 1.9 – 3.3 V
 Emitting color: Red, Green, Blue

WL-SBSW SMD Bi-color Side view Waterclear



Size: 1204
 $\lambda_{DOM\ typ}$: 525 – 624 nm
 $I_V\ typ$: 30 – 160 mcd
 $V_F\ typ$: 2 – 3.3 V
 Emitting color: Red/Bright Green, Red/Green

WL-SFCC SMD Full-color Chip LED Compact



Size: 0404
 $\lambda_{DOM\ typ}$: 470 – 621 nm
 $I_V\ typ$: 50 – 180 mcd
 $V_F\ typ$: 2 – 2.8 V
 Emitting color: Red, Green, Blue

WL-SFCD SMD Full-color Chip LED Diffused



Size: 0606, 0805, 1210
 $\lambda_{DOM\ typ}$: 470 – 624 nm
 $I_V\ typ$: 70 – 900 mcd
 $V_F\ typ$: 2 – 3.3 V
 Emitting color: Red, Green, Blue

WL-SFSW SMD Full-color Side view Waterclear



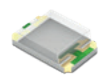
Size: 1204
 $\lambda_{DOM\ typ}$: 465 – 622 nm
 $I_V\ typ$: 140 – 850 mcd
 $V_F\ typ$: 2 – 3 V
 Emitting color: Red, Green, Blue

WL-SMCW SMD Mono-color Chip LED Waterclear



Size: 0603, 0805, 1206
 $\lambda_{DOM\ typ}$: 470 – 630 nm
 $I_V\ typ$: 40 – 1600 mcd
 $V_F\ typ$: 1.9 – 3.3 V
 Emitting color: Super Red, Red, Amber, Yellow, Bright Green, Green, Blue

WL-SBCD SMD Bi-color Chip LED Diffused



Size: 0606, 0805
 $\lambda_{DOM\ typ}$: 573 – 624 nm
 $I_V\ typ$: 60 – 18 mcd
 $V_F\ typ$: 2 – 3.3 V
 Emitting color: Red, Super Red, Green, Bright Green, Yellow

WL-SMCD SMD Mono-color Chip LED Diffused



Size: 0603
 $\lambda_{DOM\ typ}$: 470 – 630 nm
 $I_V\ typ$: 60 – 430 mcd
 $V_F\ typ$: 2.0 – 3.2 V
 Emitting color: Super Red, Red, Yellow, Bright Green, Green, Blue

OPTOELECTRONICS

VISIBLE LEDS

CHIP LED REVERSE MOUNT

WL-SMRW SMD Mono-color Reverse mount Waterclear



Size: 1205 (rectangular),
1206 (rectangular, cylindrical, dome)
 $\lambda_{\text{DOM typ}}$: 470 – 630 nm
 $I_{\text{V typ}}$: 30 – 2200 mcd
 $V_{\text{F typ}}$: 2 – 3.3 V
Emitting color: Super Red, Red, Amber,
Yellow, Bright Green, Green, Blue

WL-SMRD SMD Mono-color Reverse mount Diffused



Size: 1205
 $\lambda_{\text{DOM typ}}$: 470 – 624 nm
 $I_{\text{V typ}}$: 40 – 200 mcd
 $V_{\text{F typ}}$: 2 – 3.3 V
Emitting color: Red, Yellow, Bright
Green, Green, Blue

WL-SBRW SMD Bi-color Reverse mount Waterclear



Size: 1205
 $\lambda_{\text{DOM typ}}$: 470 – 624 nm
 $I_{\text{V typ}}$: 45 – 285 mcd
 $V_{\text{F typ}}$: 2 – 3.3 V
Emitting color: Red/Green, Red/Bright
Green, Red/Blue, Yellow/Bright Green

WL-SFRW SMD Full-color Reverse mount Waterclear



Size: 1205, 1206
 $\lambda_{\text{DOM typ}}$: 470 – 624 nm
 $I_{\text{V typ}}$: 70 – 280 mcd
 $V_{\text{F typ}}$: 2 – 3.3 V
Emitting color: Red, Green, Blue

TOP LED

WL-SMTW SMD Mono-color TOP LED Waterclear



Size: 2214, 3020, 2835, 3528, 5050
 $\lambda_{\text{DOM typ}}$: 465 – 636 nm
 $I_{\text{V typ}}$: 70 – 3500 mcd
 $V_{\text{F typ}}$: 2 – 3.2 V
Emitting color: Super Red, Red, Amber,
Yellow, Bright Green, Green, Blue

WL-SMTD Mono-color TOP LED Diffused



Size: 3528
 $\lambda_{\text{DOM typ}}$: 470 – 630 nm
 $I_{\text{V typ}}$: 3500 – 30000 mcd
 $V_{\text{F typ}}$: 2.4 – 3.2 V
Emitting color: Super Red, Red,
Yellow, Green, Blue

WL-SBTW SMD Bi-color TOP LED Waterclear



Size: 3528
 $\lambda_{\text{DOM typ}}$: 470 – 625 nm
 $I_{\text{V typ}}$: 60 – 260 mcd
 $V_{\text{F typ}}$: 2 – 3.2 V
Emitting color: Red/Blue, Red/Bright
Green, Yellow/Blue, Yellow/Bright Green

WL-SFTW SMD Full-color TOP LED Waterclear



Size: 3528, 5050
 $\lambda_{\text{DOM typ}}$: 470 – 625 nm
 $I_{\text{V typ}}$: 230 – 1700 mcd
 $V_{\text{F typ}}$: 2 – 3.2 V
Emitting color: Red, Green, Blue

WL-STFD SMD Full-color TOP LED Diffused



Size: 1616, 2022, 2828, 3535
 $\lambda_{\text{DOM typ}}$: 470 – 625 nm
 $I_{\text{V typ}}$: 400 – 1900 mcd
 $V_{\text{F typ}}$: 2 – 3.2 V
Emitting color: Red, Green, Blue

WHITE LEDS

TOP LED

WL-SWTP SMD White Top view PLCC



Size: 3014, 3022, 3030, 5630
CCT: 2700 – 6000 K
 $\Phi_{\text{V typ}}$: 7 – 39 lm
 $V_{\text{F typ}}$: 2.8 – 3.2 V
Emitting color: Sunrise, Warm White,
Moonlight, Daylight, Cool White

HIGH POWER CERAMIC

WL-SWTC SMD White Top view Ceramic LED



Size: 3535
CCT: 4000 – 6000 K
 $\Phi_{\text{V typ}}$: 121 – 135 lm
 $V_{\text{F typ}}$: 3.2 V
Emitting color: Moonlight, Daylight,
Cool White

ULTRAVIOLET LEDS

HIGH POWER CERAMIC

EXTENDED

WL-SUMW SMD Ultraviolet Ceramic Waterclear



Size: 3535
 λ_{Peak} : 275 – 405 nm
 I_{e} : 1.5 – 1100 mW
 $V_{\text{F typ}}$: 3.5 – 6.5 V

THT ROUND

WL-TMRW THT Mono-color Round Waterclear



Size: 3 mm (with/without stopper)
5 mm (with/without stopper)
 $\lambda_{\text{DOM typ}}$: 470 – 623 nm
 $I_{\text{V typ}}$: 1500 – 15000 mcd
 $V_{\text{F typ}}$: 1.9 – 3.4 V
Emitting color: Red, Yellow, Green, Blue

WL-TMRC THT Mono-color Round Color



Size: 3 mm (without stopper)
5 mm (without stopper)
 $\lambda_{\text{DOM typ}}$: 470 – 645 nm
 $I_{\text{V typ}}$: 30 – 500 mcd
 $V_{\text{F typ}}$: 2 – 3.2 V
Emitting color: Red, Super Red, Yellow,
Bright Green, Blue

HIGH POWER CERAMIC

WL-SMDC SMD Mono-color Ceramic LED Waterclear



Size: 3535
 $\lambda_{\text{DOM typ}}$: 460 – 625 nm
 $\Phi_{\text{V typ}}$: 25 – 85 lm
 $V_{\text{F typ}}$: 2 – 3.4 V
Emitting color: Red, Yellow, Green, Blue

WL-SMDC Mono-color Ceramic LED Waterclear Horticulture



Size: 3535
 $\lambda_{\text{DOM typ}}$: 450 – 730 nm
 $\Phi_{\text{V typ}}$: Radiant 240 – 600 mW
 $V_{\text{F typ}}$: 1.8 – 3.2 V
Emitting color: Far Red, Hyper Red,
Deep Blue

TOP LED

NEW

WL-SUTW SMT Ultraviolet Top LED Waterclear



Size: 2835
 λ_{Peak} : 365 – 405 nm
 $I_{\text{e typ}}$: 50 – 140 mW
 $V_{\text{F typ}}$: 3.4 – 3.6

INFRARED

PHOTODIODES

INFRARED EMITTER

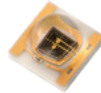
CHIP LED

HIGH POWER CERAMIC

CHIP TOP VIEW



WL-SICW SMD Infrared Chip LED Waterclear
 Size: 0402, 0603, 0805, 1206
 $\lambda_{\text{Centroid}}$: 850, 940 nm
 $I_{\text{e typ}}$: 0.8 – 2 mW/sr
 $V_{\text{F typ}}$: 1.2 – 1.4 V



WL-SIMW SMD Infrared Ceramic Waterclear
 Size: 3535
 $\lambda_{\text{Centroid}}$: 850, 940 nm
 $I_{\text{e typ}}$: 220 – 350 mW/sr
 $V_{\text{F typ}}$: 1.9 – 2.2 V



WL-SDCB SMT Photodiode Chip Black
 Size: 0805, 1206
 λ_{Peak} : 940 nm
 $I_{\text{p typ}}$: 1.8 μA
 $I_{\text{D max}}$: 10 nA

CHIP LED SIDE VIEW

HIGH POWER QFN

CHIP SIDE VIEW



WL-SISW SMD Infrared Sideview LED Waterclear
 Size: 0402, 1002, 1104, 1106, 1206
 $\lambda_{\text{Centroid}}$: 850, 940 nm
 $I_{\text{e typ}}$: 1 – 11 mW/sr
 $V_{\text{F typ}}$: 1.2 – 1.6 V



WL-SIQW Infrared QFN LED Waterclear
 Size: 2720, 3535, 3737
 $\lambda_{\text{Centroid}}$: 850, 940 nm
 $I_{\text{e typ}}$: 125 – 800 mW/sr
 $V_{\text{F typ}}$: 1.8 – 3.2 V



WL-SDSB SMT Photodiode Sideview Black
 Size: 1002, 1104
 λ_{Peak} : 940 nm
 $I_{\text{p typ}}$: 2.5 μA
 $I_{\text{D max}}$: 10 nA

CHIP LED REVERSE MOUNT

THT INFRARED ROUND

THT ROUND



WL-SIRW SMD Infrared Reverse mount Waterclear
 Size: 1206 (dome)
 $\lambda_{\text{Centroid}}$: 850, 940 nm
 $I_{\text{e typ}}$: 5 – 20 mW/sr
 $V_{\text{F typ}}$: 1.2 – 1.4 V



WL-TIRW THT Infrared Round Waterclear
 Size: 3 mm (without stopper)
 5 mm (without stopper)
 $\lambda_{\text{Centroid}}$: 845, 940 nm
 $I_{\text{e typ}}$: 30 – 85 mW/sr
 $V_{\text{F typ}}$: 1.3 – 1.5 V



WL-TDRW THT Photodiode Round Waterclear
 Size: 3 mm (without stopper)
 5 mm (without stopper)
 λ_{Peak} : 940 nm
 $I_{\text{p typ}}$: 28 μA
 $I_{\text{D max}}$: 30 nA

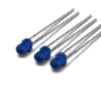
TOP LED

THT INFRARED ROUND COLOR

WL-TDRB THT Photodiode Round Black



WL-SITW SMD Infrared TOP LED Waterclear
 Size: 3528
 $\lambda_{\text{Centroid}}$: 845, 940 nm
 $I_{\text{e typ}}$: 5 – 70 mW/sr
 $V_{\text{F typ}}$: 1.4 – 1.5 V



WL-TIRC THT Infrared Round Color
 Size: 3 mm (without stopper)
 5 mm (without stopper)
 $\lambda_{\text{Centroid}}$: 845, 940 nm
 $I_{\text{e typ}}$: 30 – 85 mW/sr
 $V_{\text{F typ}}$: 1.2 – 1.4 V



WL-TDRB THT Photodiode Round Black
 Size: 3 mm (without stopper)
 5 mm (without stopper)
 λ_{Peak} : 940 nm
 $I_{\text{p typ}}$: 31 μA
 $I_{\text{D max}}$: 30 nA



All Optoelectronic Components at a glance:
www.we-online.com/optoelectronic



Explore our application notes for Optoelectronics:
www.we-online.com/appnotes

OPTOELECTRONICS

PHOTOTRANSISTORS

CHIP TOP VIEW



**WL-STCW SMT Phototransistor
Chip Waterclear**
Size: 0603, 0805, 1206
 λ_{Peak} : 940 nm
 $I_{CE, p. typ.}$: 1.6 mA
 $I_{CEO, Dark max.}$: 100 nA



**WL-STCB SMT Phototransistor
Chip Black**
Size: 0603, 1206
 λ_{Peak} : 940 nm
 $I_{CE, p. typ.}$: 1.2 mA
 $I_{CEO, Dark max.}$: 100 nA

PLCC TYPE



**WL-STTW SMT Phototransistor
Top Waterclear**
Size: 3528
 λ_{Peak} : 940 nm
 $I_{CE, p. typ.}$: 3.1 mA
 $I_{CEO, Dark max.}$: 100 nA



**WL-STTB SMT Phototransistor
Top Black**
Size: 3528
 λ_{Peak} : 940 nm
 $I_{CE, p. typ.}$: 2.8 mA
 $I_{CEO, Dark max.}$: 100 nA

OPTOCOUPLER

WL-OCPT Optocoupler Phototransistor

Package: Series 814/817 DIP 4
Series 354/356/357 SOP4
Series 101x LSOP4
CTR: 50 – 600 %
Viso: 3750 – 5000 V



WL-OCDA Optocoupler Darlington

Package: Series 352/355 SOP4,
Series 815 DIP4
CTR: 600-15000 %
Viso: 3750 – 5000 V



CHIP SIDE VIEW



**WL-STSW SMT Phototransistor
Sideview Waterclear**
Size: 1104
 λ_{Peak} : 940 nm
 $I_{CE, p. typ.}$: 2.5 mA
 $I_{CEO, Dark max.}$: 100 nA



**WL-STSB SMT Phototransistor
Chip Black**
Size: 1002
 λ_{Peak} : 940 nm
 $I_{CE, p. typ.}$: 1 mA
 $I_{CEO, Dark max.}$: 100 nA

THT ROUND



**WL-TTRB THT Phototransistor
Round**
Size: 3 mm, 5 mm
 λ_{Peak} : 940 nm
 $I_{CE, p. typ.}$: 10 mA
 $I_{CEO, Dark max.}$: 100 nA



**WL-TTRW THT Phototransistor
Round Waterclear**
Size: 3 mm, 5 mm
 λ_{Peak} : 850 nm
 $I_{CE, p. typ.}$: 15 mA
 $I_{CEO, Dark max.}$: 300 nA

LASER



**WL-VCSL Vertical Cavity
Surface Emitting Laser**
Size: 3535
 λ_{Peak} : 850 – 940 nm
 Φ_V typ.: 1900 – 2100 mW
 V_F typ.: 2 – 2.1 V

CHIP REVERSE MOUNT



**WL-STRB SMT Phototransistor
Reverse mount Black**
Size: 1206 (dome)
 λ_{Peak} : 940 nm
 $I_{CE, p. typ.}$: 4.4 mA
 $I_{CEO, Dark max.}$: 100 nA

7 SEGMENTS DISPLAY

EXTENDED



WL-S7DS
 $\lambda_{Dom typ.}$: 465 – 635 nm
 I_q typ.: 15 – 38 mcd
 V_F typ.: 2 – 3 V
Emitting Color: Bright Green,
Super Red, Blue

EXTENDED



WL-T7DS
 $\lambda_{Dom typ.}$: 465 – 635 nm
 I_q typ.: 32 – 46 mcd
 V_F typ.: 2 – 3 V
Emitting Color: Bright Green,
Super Red, Blue



Component libraries available for:

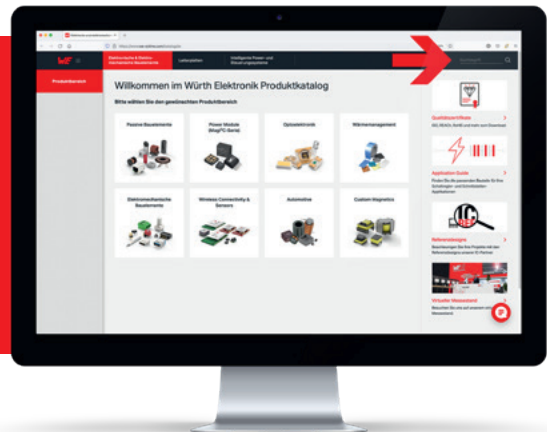
- PCB library: Altium Designer, EAGLE, Cadence OrCAD & Allegro, Zuken CAD-Star
- S-Parameter & SPICE model: S-Parameter, LTSpice, PSpice, Spectre
- RF & microwave simulation models: Modelithics
www.we-online.com/library

POWER MODULES

HOW TO FIND DETAILED PRODUCT INFORMATION?

VISIT WWW.WE-ONLINE.COM AND SEARCH FOR PRODUCT SERIES INFORMATION, E.G.:

Magi³C-VDMM



VARIABLE STEP DOWN REGULATOR MODULES

Magi³C-VDRM Variable Step Down Regulator Modules



V_{IN} : 2.95 – 50 V
 V_{OUT} : 0.8 – 24 V
 I_{OUT} : 1 – 6 A
 F_{SW} : 0.2 – 2 MHz

LED STEP DOWN HIGH CURRENT MODULES

Magi³C-LDHM LED Step Down High Current Modules



V_{IN} : 4.5 – 60 V
 $N_{LED,max}$: 16 ($V_F = 3.2 V$)
 I_{OUT} : 0.45 A
 F_{SW} : 0.8 MHz

VARIABLE ISOLATED SIP MODULES

Magi³C-VISM Variable Isolated SIP Modules



V_{IN} : 8 – 42 V
 V_{OUT} : 3.3 – 6 V
 P_G : 1 W
 V_{ISO} : 2000 V

VARIABLE STEP DOWN MICROMODULES

Magi³C-VDMM Variable Step Down Micro-Modules



V_{IN} : 2.5 – 36 V
 V_{OUT} : 0.6 – 6 V
 I_{OUT} : 0.3 – 1.2 A
 F_{SW} : 1.2 – 4 MHz

FIXED ISOLATED SIP/SMT MODULES

EXTENDED

Magi³C-FISM Fixed Isolated SIP/SMT Modules



V_{IN} : 2.97 – 26.4 V
 V_{OUT} : 5 – 15 V
 P_G : 1 W
 V_{ISO} : 1000 – 4000 V

VARIABLE STEP DOWN LGA MODULES

Magi³C-VDLM Variable Step Down LGA Modules



V_{IN} : 4 – 18 V
 V_{OUT} : 0.8 – 17 V
 I_{OUT} : 1 – 3 A
 F_{SW} : 850 kHz

FIXED STEP DOWN REGULATOR MODULES

EXTENDED

Magi³C-FDSM Fixed Step Down Regulator Modules



V_{IN} : 4.75 – 74.5 V
 V_{OUT} : 3.3 – 15 V
 I_{OUT} : 0.5 – 1 A
 F_{SW} : 0.166 – 0.7 MHz



All Power Modules at a glance:
www.we-online.com/power-mod



Explore our application notes for Power Modules:
www.we-online.com/appnotes



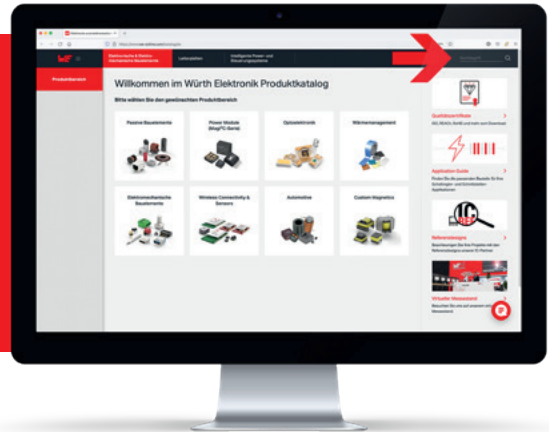
Component libraries available for:
Altium Designer, EAGLE
www.we-online.com/library

THERMAL MANAGEMENT

HOW TO FIND DETAILED PRODUCT INFORMATION?

VISIT WWW.WE-ONLINE.COM AND SEARCH FOR PRODUCT SERIES INFORMATION, E.G.:

WE-TGF



WE-TTT



WE-TTT Thermal Transfer Tape

Length: 25 m
Width: 8 - 50 mm
Height: 0.2 mm
Thermal Conductivity: 1 W/(m*K)

WE-TINS



WE-TINS Thermally Conductive Insulator Pad

Length: 60 - 300 mm
Width: 60 - 300 mm
Height: 0.23 - 0.25 mm
Thermal Conductivity: 1.6 - 3.5 W/(m*K)

WE-TGS



WE-TGS Thermal Graphite Sheet

Length: 100 - 297 mm
Width: 100 - 210 mm
Height: 37 µm
Thermal Conductivity: 1800 W/(m*K)

WE-TGF



WE-TGF Thermal Gap Filler Pad

Length: 100 - 200 mm
Width: 100 - 400 mm
Height: 0.5 - 5 mm
Thermal Conductivity: 2 - 6 W/(m*K)

WE-PCM



WE-PCM Thermal Phase Changing Material

Length: 100 - 400 mm
Width: 100 - 300 mm
Height: 0.2 mm
Thermal Conductivity: 1.6 - 5 W/(m*K)























WE-TGFG













WE-TGFG Thermal Gap Filler Pad

Length: 15 - 45 mm
Width: 15 - 20 mm
Height: 1.5 - 20 mm
Thermal Conductivity: 400 W/(m*K)

WIRELESS CONNECTIVITY

WIRELESS CONNECTIVITY		
GNSS	BLUETOOTH	PROPRIETARY
 <p>Elara-I GPS, GLONASS Integrated Antenna 10 x 10 x 5.9 mm</p>	 <p>Proteus-I / -II Bluetooth® LE 4.2 Bluetooth® LE 5.0 Nordic nRF52832 3 dBm output power 11 x 8 x 2 mm</p>	 <p>Thadeus 433 MHz RF Pad 15 dBm output power 27 x 17 x 3.8 mm</p>
 <p>Elara-II GPS, GLONASS RF Pad 4.1 x 4.1 x 2.2 mm</p>	 <p>Proteus-III Bluetooth® LE 5.1 Nordic nRF52840 6 dBm output power 12 x 8 x 2 mm</p>	 <p>Tarnos-III 868 MHz RF Pad / PCB Antenna 14 dBm output power 27 x 17 x 3.8 mm</p>
 <p>Erinome-I GPS, GLONASS, GALILEO, BEIDOU Integrated Antenna 18 x 18 x 6.4 mm</p>	 <p>Proteus-e Bluetooth® LE 5.1 Nordic nRF52805 4 dBm output power 9 x 7 x 2 mm</p>	 <p>Thebe-II 868 MHz RF Pad 27 dBm output power 27 x 17 x 3.8 mm</p>
 <p>Erinome-II GPS, GLONASS , GALILEO, BEIDOU RF Pad 7 x 7 x 1.6 mm</p>	COMBINED	
WM-BUS		
 <p>Mimas-I 169 MHz OMS Operating mode: N (a-f) output power 14 dBm 27 x 17 x 3.8 mm</p>	 <p>Setebos-I Bluetooth® LE 5.1 & WE-ProWare 2.4 GHz 8 dBm output power 12 x 8 x 2 mm</p>	 <p>Telesto-III 915 MHz RF Pad / PCB Antenna 14 dBm output power 27 x 17 x 3.8 mm</p>
WIREPAS		
 <p>Themisto-I 915 MHz RF Pad 25 dBm output power 27 x 17 x 3.8 mm</p>	 <p>Triton 2.4 GHz RF Pad / Chipantenna 10 dBm output power 27.5 x 16 x 3.2 mm</p>	
 <p>Metis-II 868 MHz OMS operating modes S, T, C output power 14 dBm 27 x 17 x 3.8 mm</p>	 <p>Thetis-I Wirepas routing mesh protocol, 2.4 GHz +6 dBm output power 8 x 12 x 2 mm</p>	 <p>Thyone-I 2.4 GHz Smart antenna selection 8 dBm output power 12 x 8 x 2 mm</p>
 <p>Metis-Analyzer 868 MHz OMS parser operating modes S, T, C deep packet analysis Decryption (AES128)</p>	WIFI	
 <p>Metis-Simulator 868 MHz OMS operating modes S, T, C Simulates Meter Data</p>	CELLULAR	
 <p>Calypso IEEE 802.11 b/g/n 2.4 GHz +18 dBm output power 19 x 27,5 x 4 mm</p>	 <p>Adrastea-I LTE-NB.IoT / Cat.M1 incl. GNSS 14 x 13 x 2 mm</p>	

SENSORS

SENSORS		
HUMIDITY	ABSOLUTE PRESSURE	DIFFERENTIAL PRESSURE
 <p>WSEN-HIDS 16 bit humidity and temperature output I²C and SPI interface 2 x 2 x 0.9 mm</p>	 <p>WSEN-PADS 26 – 126 kPa 260 – 1260 mbar 24 bit output resolution 2 x 2 x 0.8 mm</p>	 <p>WSEN-PDUS ±0.1 kPa / ±1 mbar 15 bit digital output Analog & I²C interface 13.3 x 8 x 7.55 mm</p>
TEMPERATURE	ACCELERATION	
 <p>WSEN-TIDS digital temp. sensor up to ±0.25 °C typ. 16 bit output resolution 2 x 2 x 0.55 mm</p>	 <p>WSEN-ITDS 3 axis acceleration 14 bit output resolution ±2g, ±4g, ±8g, ±16g 2 x 2 x 0.7 mm</p>	 <p>WSEN-PDUS ±1 kPa / ±10 mbar 15 bit digital output Analog & I²C interface 13.3 x 8 x 7.55 mm</p>
		 <p>WSEN-PDUS ±10 kPa / ±100 mbar 15 bit digital output Analog & I²C interface 13.3 x 8 x 7.55 mm</p>
		 <p>WSEN-PDUS -100-1000kPa/-1-10bar 15 bit digital output Analog & I²C interface 13.3 x 8 x 7.55 mm</p>
		 <p>WSEN-PDUS 0-100 kPa / 0- 1 bar 15 bit digital output Analog & I²C interface 13.3 x 8 x 7.55 mm</p>
		 <p>WSEN-PDUS 0-1500 kPa / 0- 15 bar 15 bit digital output Analog & I²C interface 13.3 x 8 x 7.55 mm</p>



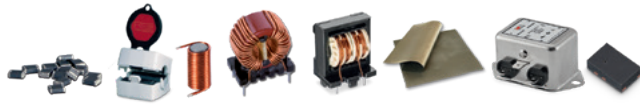
Product Guide Download:
www.we-online.com/wcs-product-guide

**YOU NEED SUPPORT?
 CONTACT US!**
www.we-online.com/wcs-support

NOTES

NOTES

ELECTRONIC & ELECTROMECHANICAL COMPONENTS



EMC Components



Power Magnetics



Signal & Communications



Quartz & Oscillators



Capacitors



Resistors



Automotive Standard Products



Optoelectronics



Power Modules



Wireless Connectivity & Sensors



Connectors



Fuseholders



Switches



Assembly Technique



REDCUBE Terminals

MORE THAN YOU EXPECT

Würth Elektronik eiSos differs from all other component manufacturers in several aspects:

- We guarantee all catalog products are available ex stock
- Samples free of charge
- Orders below MOQ
- Design kits with lifelong free refill
- Design Guide Trilogy of Magnetics, Trilogy of Connectors, Trilogy of Wireless Power Transfer, Abc of Capacitors, Abc of Power Modules & Application Handbook LTspice IV Simulator Design
- Seminars and webinars free of charge
- Reference designs of leading IC manufacturers
- Worldwide technical sales force and field application engineers on site

