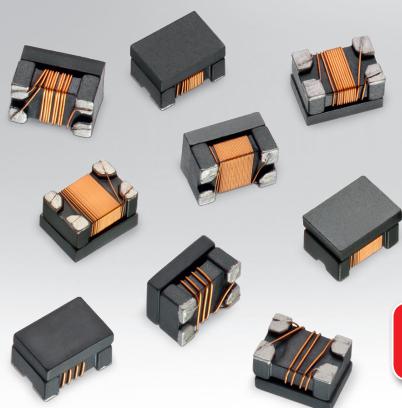




Characteristics

- High common mode noise suppression at high frequencies
- Small influence on high speed signals through winding symmetry
- Operating temperature: -40 °C to $+125\text{ °C}$

**High currents
up to 2 A**

Applications

- USB 2.0
- IEEE 1394 (Firewire)
- LVDS
- High Speed Data Lines
- LAN

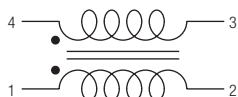
QR-Code



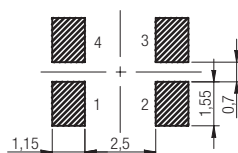
Electrical properties

Order Code	Z @ 100 MHz (Ω)	L (μH)	I _R (mA)	R _{DC} (m Ω)	U _R (V)	Qty.
744 235 900	90	0.3	2000	50	50	500
744 235 601	600	1.0	1200	120		
744 235 801	800	1.3	1000	120		
744 235 110	5000	11.0	450	800		
744 235 220	8000	22.0	250	2650		

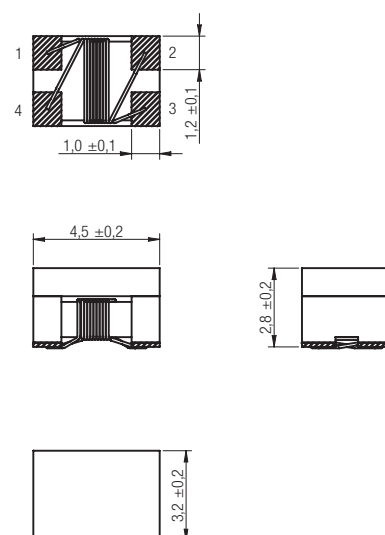
Schematic

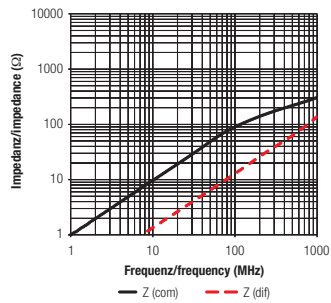
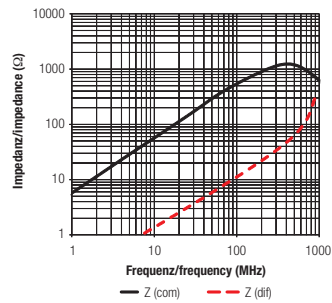
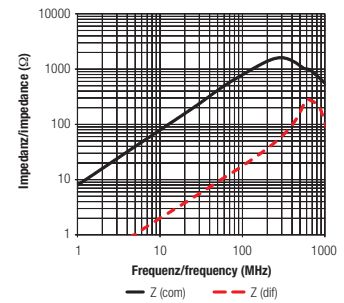
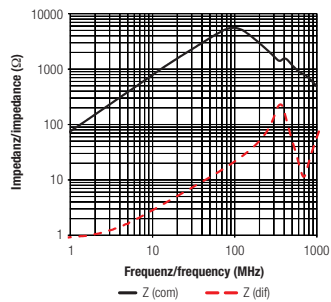
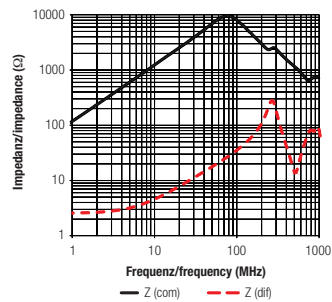


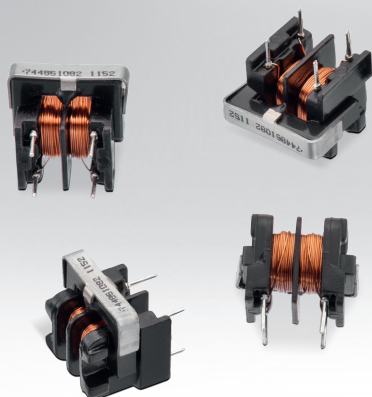
Land pattern (in mm)



Dimensions (in mm)



Typical impedance characteristics**744 235 900****744 235 601****744 235 801****744 235 110****744 235 220**



Characteristics

- Approximate 1% stray inductance for symmetrical interference suppression
- Optimized frequency range: 10 kHz to 100 MHz
- Attenuation up to 65 dB
- Inductance tolerance: +50%/−30%
- Operating temperature: −40 °C to +125 °C

**Tiny design
only 12.5 mm
height**

Applications

- Mains filter
- Suppression of common mode noise
- Compact switch mode power supplies
- Electronic ballast applications (LED bulb)
- Lighting
- White goods

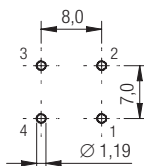
QR-Code



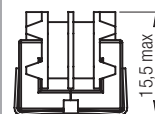
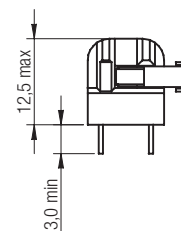
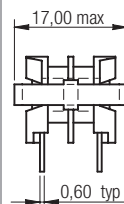
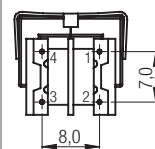
Electrical properties

Order Code	L (mH)	I _R (A)	R _{DC} (Ω)	Qty.
744 861 018	1.8	1.00	0.31	725
744 861 033	3.3	0.80	0.51	
744 861 056	5.6	0.60	0.83	
744 861 082	8.2	0.50	1.30	
744 861 120	12.0	0.40	2.00	
744 861 180	18.0	0.30	3.10	
744 861 250	25.0	0.25	3.60	

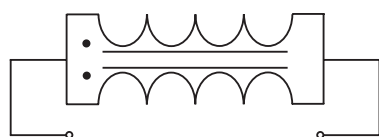
Hole pattern (in mm)



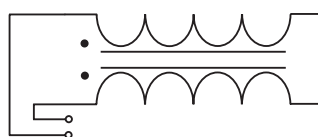
Dimensions (in mm)



Schematics



Common Mode



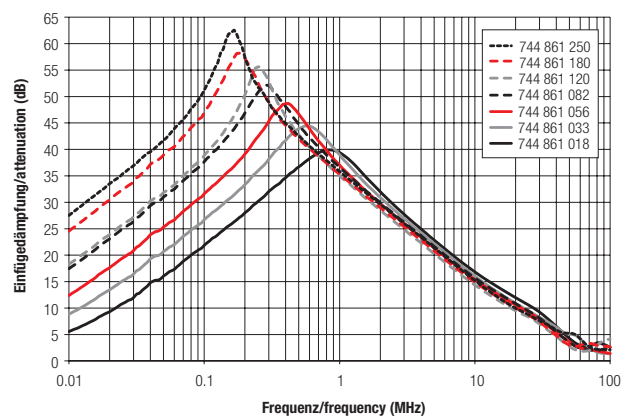
Differential Mode

Technical data:

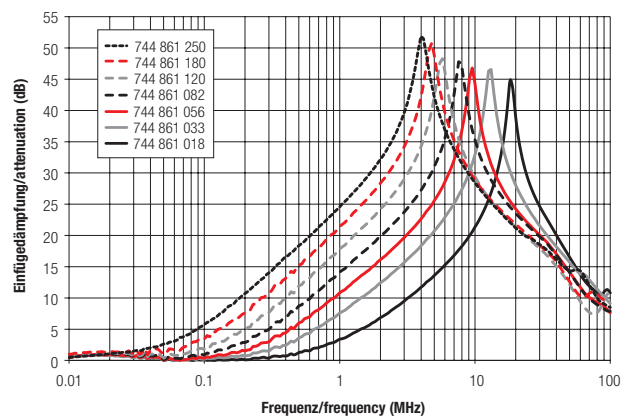
Rated voltage:	250 V _{AC}
Frequency:	50/60 Hz
Insulation test voltage:	2000 V _{AC}
Climate category:	40/125/21
Housing:	UL94 V-0
Rated Current:	relating to TU = 70 °C max. over TU = 70 °C apply: $I = I_R \cdot \sqrt{\frac{125^\circ\text{C} - TU}{55^\circ\text{C}}}$

Common Mode Power Line Choke

Insertion loss common mode



Insertion loss differential mode



WE-SECF

SMD EMI Contact Finger



**Automated
placement of
EMI Shielding**

Characteristics

- Material: Copper Beryllium (CuBe) gold-plated (AU)
- Corrosion resistant
- Wear resistant
- High temperatures and mechanical weight have no influence on the excellent connection properties
- Reliable solderability
- Tape & reel packaging
- Perfectly suited for automated placement
- Different types and sizes available

Applications

- Contact between PCB's ground and housing
- Low impedance RF connection between PCBs and/or PCB and metal case

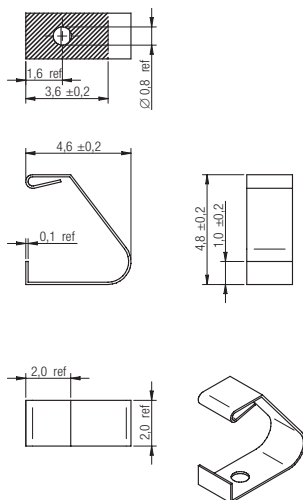
QR-Code



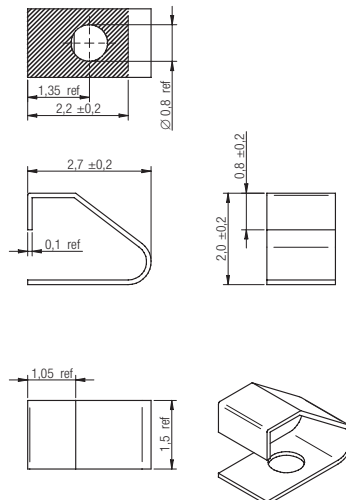
Mechanical properties

Order Code	Type	Length (mm)	Width (mm)	Height (mm)	Qty.
331 011 452 048	0148	4.60	2.00	4.80	1500
331 031 271 520	0315	2.70	1.50	2.00	3500
331 031 321 515	0320	3.20	1.50	1.50	4500
331 041 402 053	0453	4.10	2.00	5.30	1500
331 051 472 057	0557	4.70	2.00	5.70	1500
331 061 603 010	0610	6.00	3.00	10.00	500
331 081 302 025	0825	3.00	2.00	2.50	5500
331 141 352 540	1440	3.50	2.50	4.00	2000
331 151 702 562	1562	7.15	2.50	6.20	1200
331 161 452 070	1670	4.50	2.00	7.00	1000
331 161 702 513	1613	7.00	2.50	13.00	200
331 171 302 030	1730	3.15	2.00	3.00	2500
331 171 302 035	1735	3.00	2.00	3.50	2000
331 211 503 040	2140	5.00	3.00	4.00	2000
331 221 602 040	2240	6.00	2.00	4.00	1800

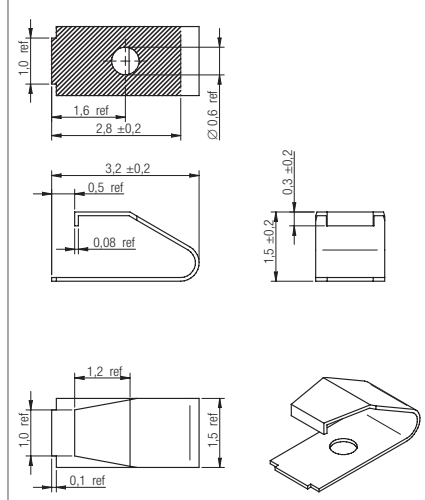
Dimensions type 0148 (in mm)



Dimensions type 0315 (in mm)



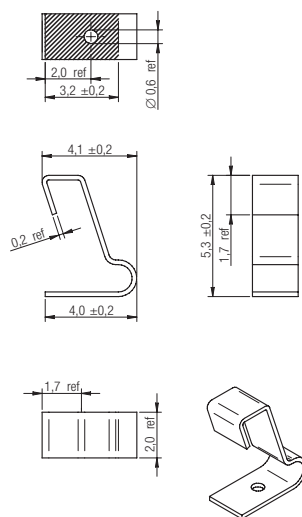
Dimensions type 0320 (in mm)



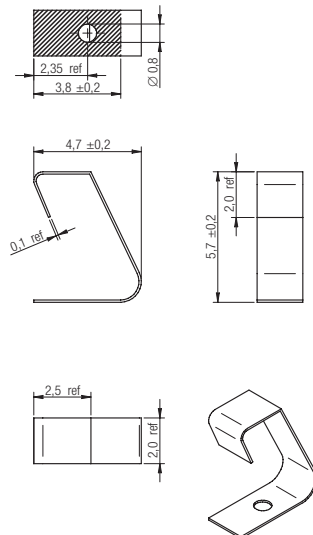
WE-SECF

SMD EMI Contact Finger

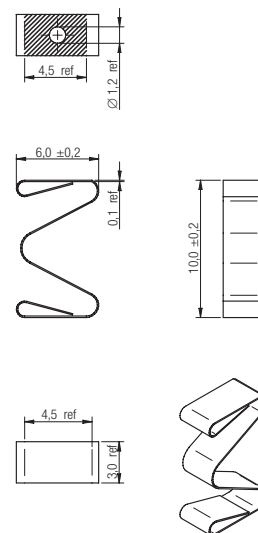
Dimensions type 0453 (in mm)



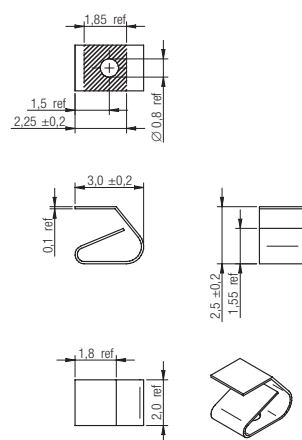
Dimensions type 0557 (in mm)



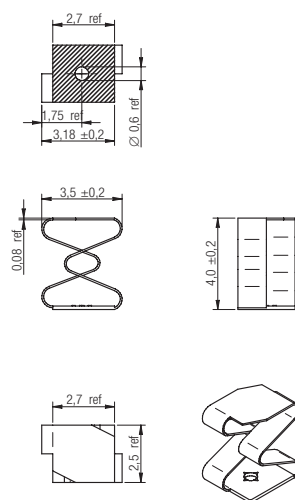
Dimensions type 0610 (in mm)



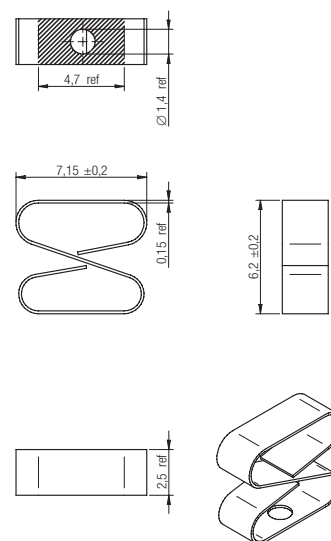
Dimensions type 0825 (in mm)



Dimensions type 1440 (in mm)



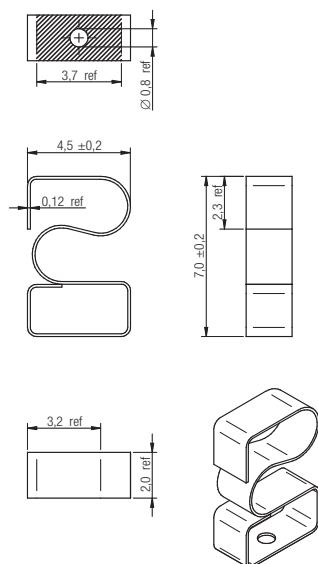
Dimensions type 1562 (in mm)



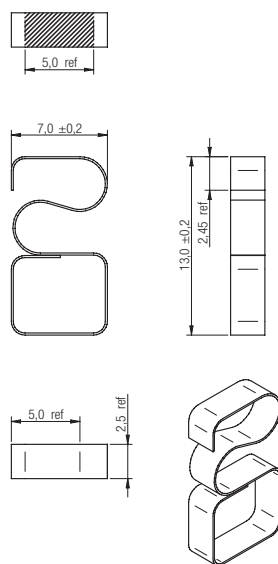
WE-SECF

SMD EMI Contact Finger

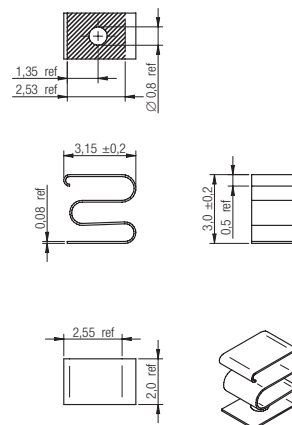
Dimensions type 1670 (in mm)



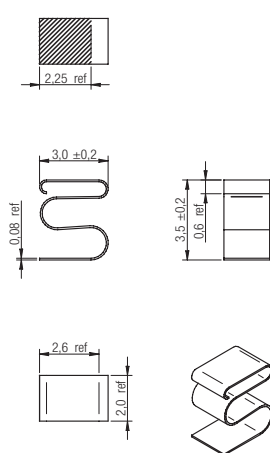
Dimensions type 1613 (in mm)



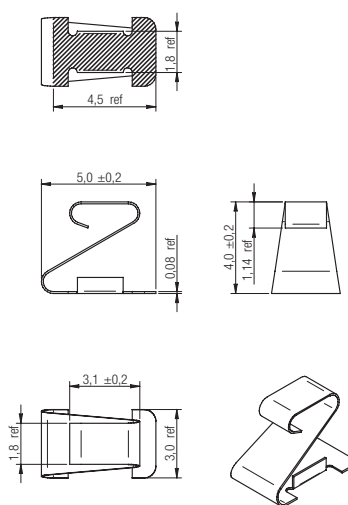
Dimensions type 1730 (in mm)



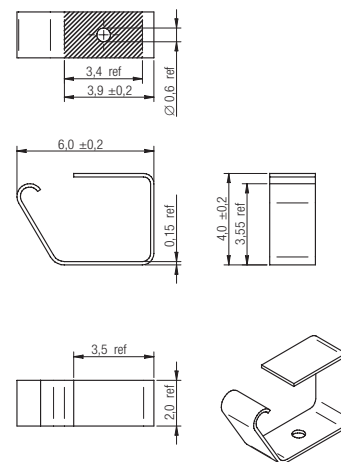
Dimensions type 1735 (in mm)



Dimensions type 2140 (in mm)



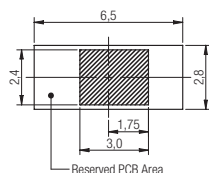
Dimensions type 2240 (in mm)



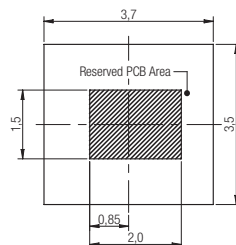
WE-SECF

SMD EMI Contact Finger

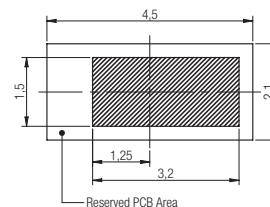
Land pattern type 0148 (in mm)



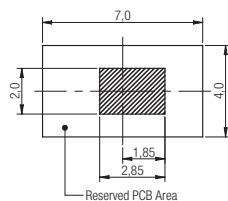
Land pattern type 0315 (in mm)



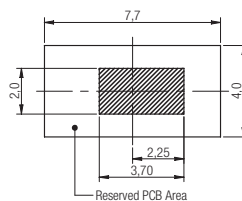
Land pattern type 0320 (in mm)



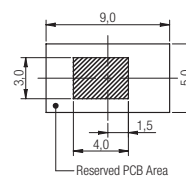
Land pattern type 0453 (in mm)



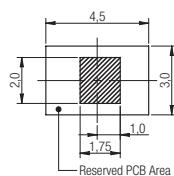
Land pattern type 0557 (in mm)



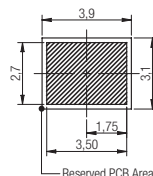
Land pattern type 0610 (in mm)



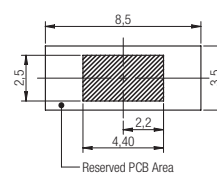
Land pattern type 0825 (in mm)



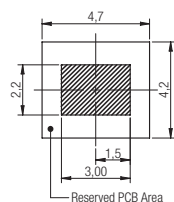
Land pattern type 1440 (in mm)



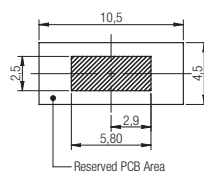
Land pattern type 1562 (in mm)



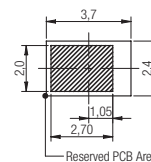
Land pattern type 1670 (in mm)



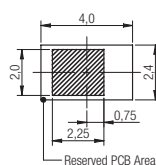
Land pattern type 1613 (in mm)



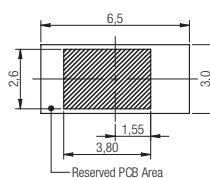
Land pattern type 1730 (in mm)



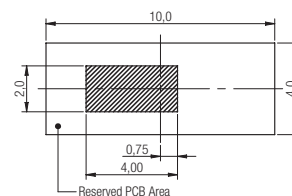
Land pattern type 1735 (in mm)



Land pattern type 2140 (in mm)



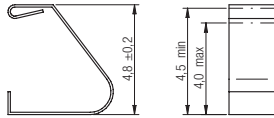
Land pattern type 2240 (in mm)



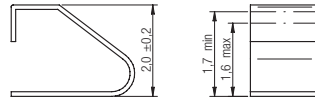
WE-SECF

SMD EMI Contact Finger

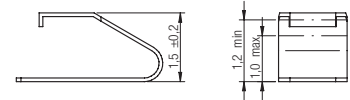
Rec. compression type 0148 (in mm)



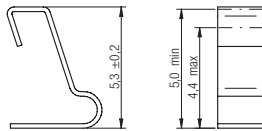
Rec. compression type 0315 (in mm)



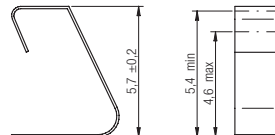
Rec. compression type 0320 (in mm)



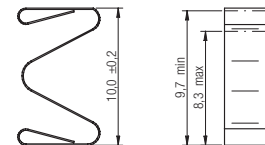
Rec. compression type 0453 (in mm)



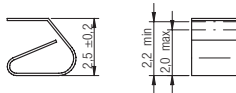
Rec. compression type 0557 (in mm)



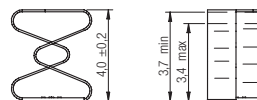
Rec. compression type 0610 (in mm)



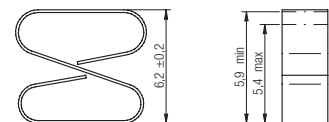
Rec. compression type 0825 (in mm)



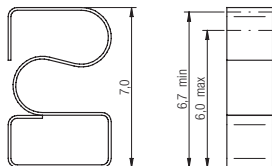
Rec. compression type 1440 (in mm)



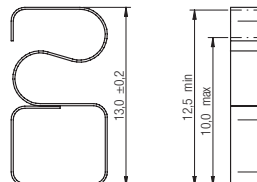
Rec. compression type 1562 (in mm)



Rec. compression type 1670 (in mm)



Rec. compression type 1613 (in mm)



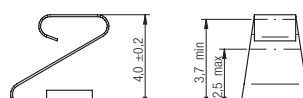
Rec. compression type 1730 (in mm)



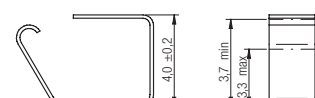
Rec. compression type 1735 (in mm)



Rec. compression type 2140 (in mm)



Rec. compression type 2240 (in mm)



WE-EHP

Energy Harvesting Power Inductor



Optimized for
LTC3108/LT3508/
LT3509 and other

Characteristics

- Low profile: 4 mm
- Small footprint 6 x 6 mm
- Very low secondary R_{DC}
- Different turn ratios available
- Separated welding/soldering pad for a high reliable component
- Optimized, high reliable winding style

Applications

- Wireless fire, alarm, gas and metering remote sensors driven by environmental energies based on energy harvesting voltage transformers like LT3508/LT3509/LTC3108
- Sensors with predictive battery replacements in applications which are difficult to access
- Energy self-sufficient supply using subsequent installed sensors for energy harvesting

QR-Code



Electrical properties

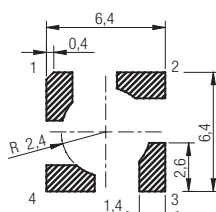
Order Code	$L_1 \pm 20\%$ (μH)	$L_2 \pm 20\%$ (μH)	n	I_{R1} (A)	I_{sat1} (A)	R_{DC1} (Ω)	R_{DC2} (Ω)	Qty.
744 885 400 70	7.5	75000	1:100	1.9	1.3	0.085	205	1000
744 885 401 20	13.0	33000	1:50	1.7	1.0	0.090	135	
744 885 402 50	25.0	10000	1:20	1.5	0.7	0.200	42	

I_{R1} rated current of 40K over the ambient temperature by energizing L_1
 I_{sat1} inductance loss of 10% typ. by energizing L_1

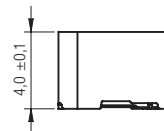
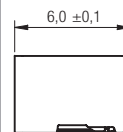
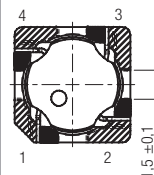
Schematic



Land pattern (in mm)

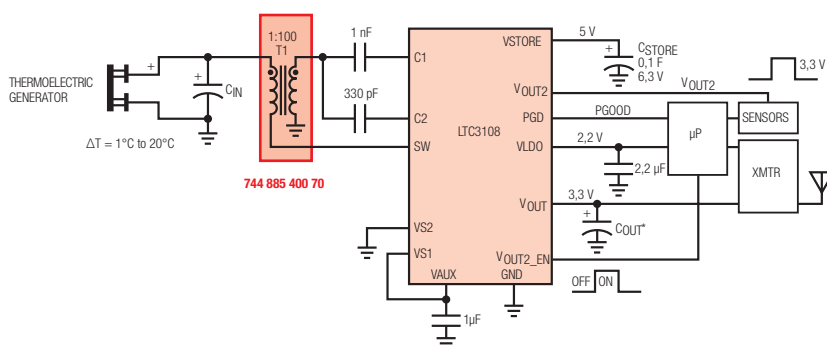


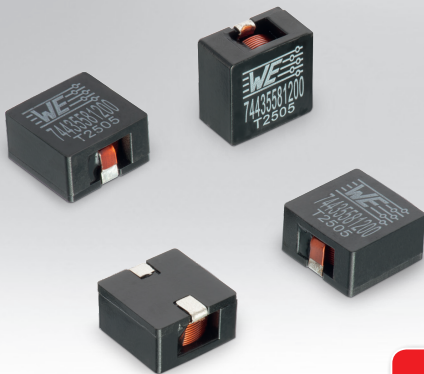
Dimensions (in mm)



Note

Recently ICs are able to operate in the milliwatt range. The power supply can be developed by using new methods. Their batteries can be charged or even replaced by development of energy harvesting applications. Such as energy harvesting, which is based on the Peltier effect, is useful for temperature difference. For example LTC3108.





Characteristics

- Core material Manganese Zinc
- High current
- High inductance values
- Operating temperature: -40°C up to $+125^{\circ}\text{C}$
- Low core losses, low self-heating

Applications

- Power PCs
- Industrial Computer/Server
- High Current/Low Voltage Buck or Boost
- Class-D Filter

Up to 82 μH
and 31 A

QR-Code

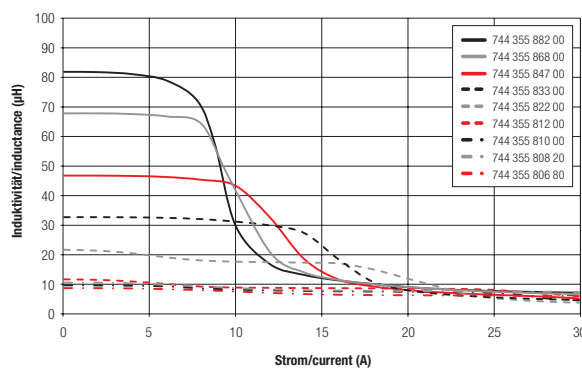


Electrical properties

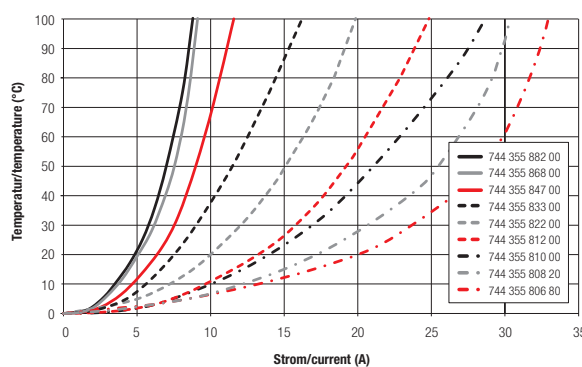
Order Code	$L \pm 20\%$ (μH)	L_R (μH)	$R_{DC} \pm 10\%$ ($\text{m}\Omega$)	I_R (A)	I_{sat} (A)	Core Material	Qty.
744 355 806 80	6.8	4.82	2.10	28.5	31.0	MnZn	150
744 355 808 20	8.2	5.98	2.70	25.5	30.0		
744 355 810 00	10.0	7.80	3.40	21.0	26.0		
744 355 812 00	12.0	8.90	4.30	19.0	25.0		
744 355 822 00	22.0	17.7	7.00	15.0	18.0		
744 355 833 00	33.0	30.5	13.2	11.5	15.0		
744 355 847 00	47.0	45.2	19.2	9.0	12.0		
744 355 868 00	68.0	66.0	27.3	7.5	9.5		
744 355 882 00	82.0	76.0	30.4	7.0	8.5		

I_R referring to 50 K self-heating above ambient temperature
 I_{sat} referring to inductance loss of 30% typ.

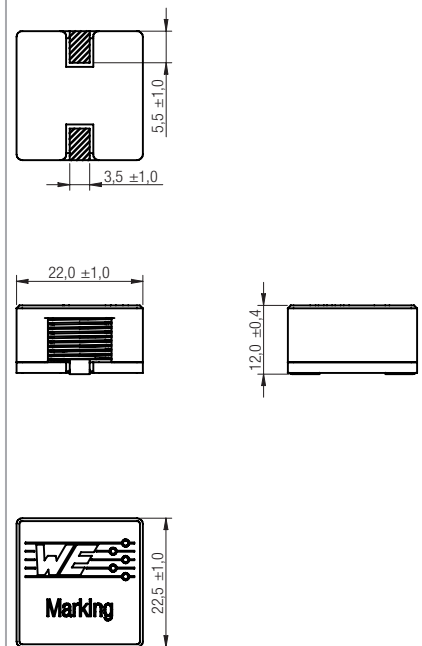
Inductance vs. current



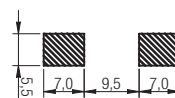
Temperature vs. current



Dimensions (in mm)

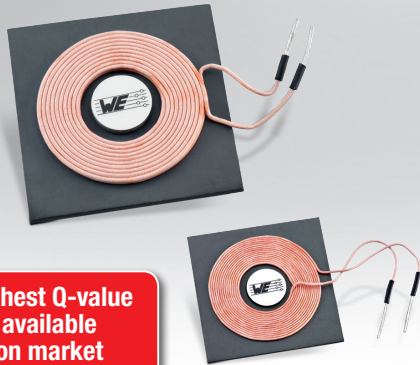


Land pattern (in mm)



WE-WPC

Wireless Power Charging Coil



Highest Q-value
available
on market

Characteristics

- Qi standard compliant
- Evaluated and approved by Texas Instruments and Integrated Device Technology
- Litzwire used – highest Q-value available on market



See our website regularly for more
upcoming WPC conform coils like
A5, A6, A10 and A11

Applications

- Cell phones
- Smartphones
- Headsets
- Digital cameras
- Portable media players
- Hand-held devices

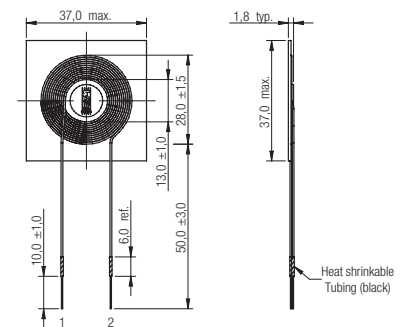
QR-Code



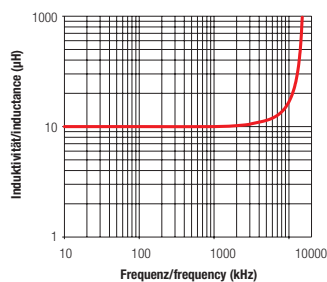
Electrical properties: Size 3737 Receiver

Order Code	L (μH)	R_{DC} (Ω)	I_{R} (A)	I_{sat} (A)	f_{res} (MHz)	Q	Qty.
760 308 201	10	0.2	4.5	8	15	50	576

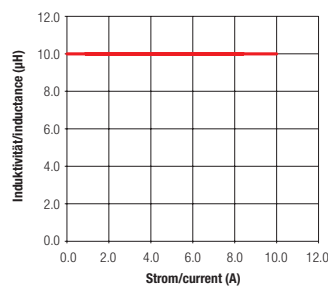
Dimensions (in mm)



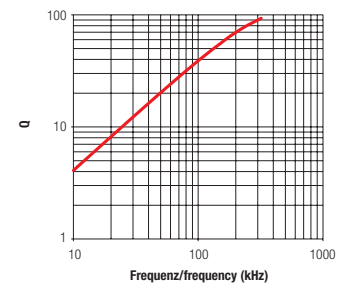
Inductance vs. frequency



Inductance vs. current



Q vs. frequency



WE-WPC

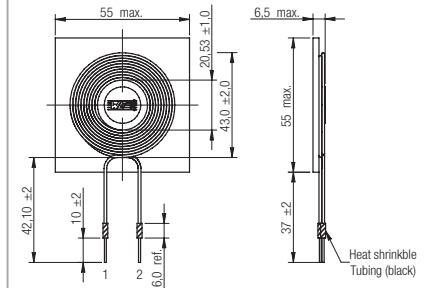
Wireless Power Charging Coil



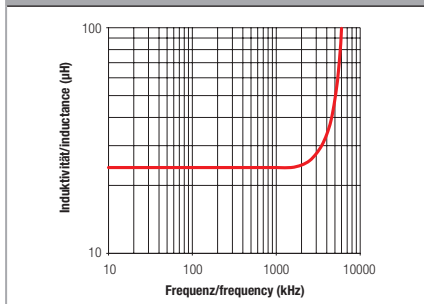
Electrical properties: Size 5555 Transmitter

Order Code	L (μH)	R _{DC} (Ω)	I _R (A)	I _{sat} (A)	f _{res} (MHz)	Q	Qty.
760 308 101	24	0.1	5.5	10	6	90	96

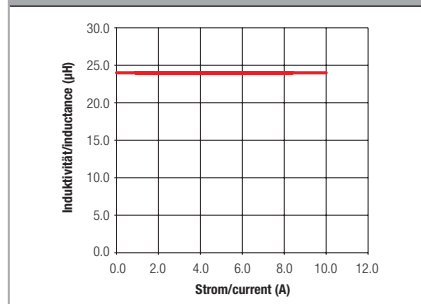
Dimensions (in mm)



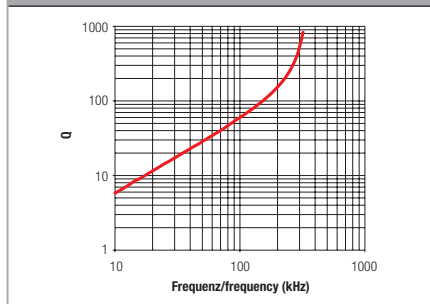
Inductance vs. frequency

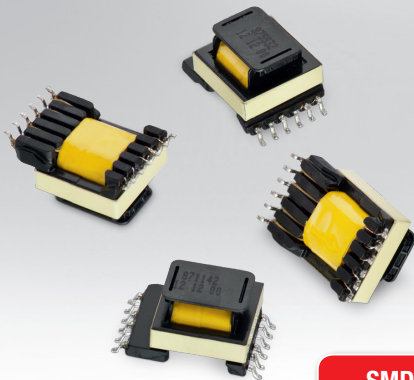


Inductance vs. current



Q vs. frequency





Characteristics

- Input voltage range 85–265 V_{AC} (125–375 V_{DC})
- Output power 12–16 W
- Designed to comply with EN61558-2-16:
Reinforced insulation
- Creepage and clearance distance >6.5 mm
- Insulation test voltage 4 kV_{AC}
- For SMD assembly

Applications

- SMPS with power up to 16 W
- Auxiliary power supplies
- Usable with all low power AC/DC ICs like LT3798/99, UCC28610, ViPER & Tiny/Link Switch

QR-Code

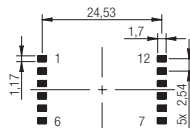


**SMD standard offline transformer
ex stock for more than 30 applications**

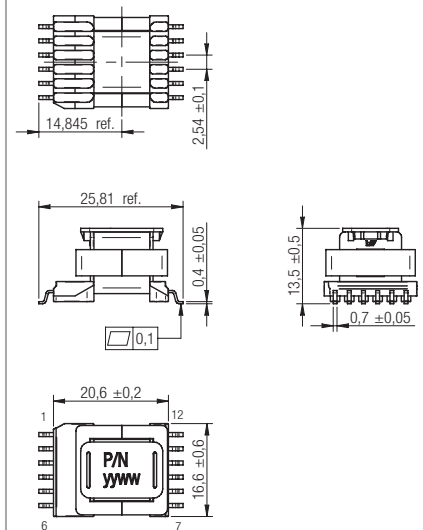
Electrical properties

Order Code	U _i (V _{DC})	L (μH)	f _{switch} (kHz)	U _{o1} (V)	I _{o1} (A)	U _{o2} (V)	I _{o2} (A)	U _{aux} (V)	Schematic	Qty.
760 871 113	125–375	1310	60–150	5	1.25	5	1.25	14	1	150
760 871 135		1250		12	0.55	12	0.55		1	
760 871 543		1310		24	0.30	5	1.15		2	
760 871 534		1250		12	0.55	5	1.25		2	
760 871 142		1250		24	0.28	24	0.28		1	
760 875 112	275–375	1500		5	1.50	5	1.50		1	
760 875 131		1500		12	0.65	12	0.65		1	
760 875 532		1500		12	0.70	5	1.36		2	

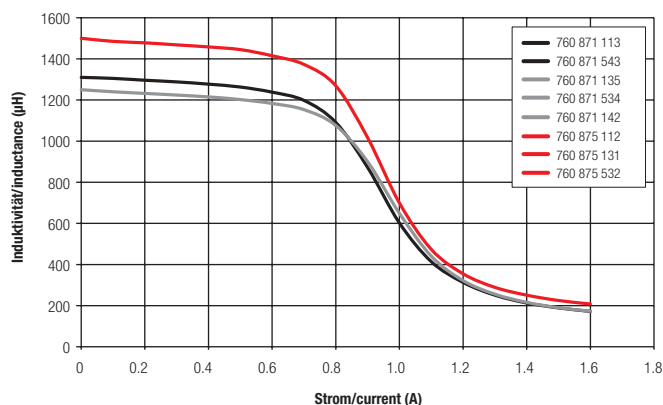
Land pattern (in mm)



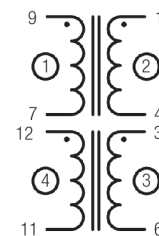
Dimensions (in mm)



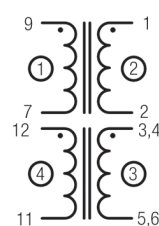
Inductance vs. current



Schematic 1



Schematic 2



Universal offline standard transformers

Switch Mode Power Supplies are state of the art to generate the universal input mains (85–265 V_{AC}) isolated output voltages in lower voltage ranges. Especially in the low power range of 10–20 W there are a lot of state of the art different IC solutions on the market. Typically for isolated power supplies there has to be a customized transformer. Getting samples of a customized transformer needs a certain time which engineers have to wait to start their first measurements or prototype production.

The standard offline transformers WE-UOST enable customers to build a power supply with one out of 8 standard transformers which are on stock. These transformers are designed to supply the standard output voltages of 5 V, 12 V and 24 V. Also some of the parts allow 2 output voltages (5 V and 12 V resp. 5 V and 24 V). Due to the intelligent winding construction it is also possible to supply different output voltages by connecting windings in series which allows to build a 10 V (9 V), a 12 V/24 V dual output or a 48 V power supply. The table shows the possibilities of the standard parts.

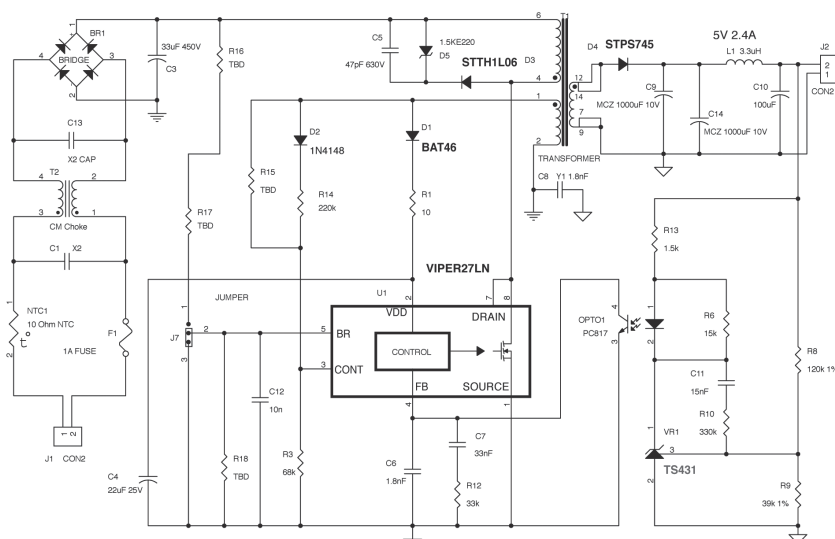
Target output voltage		Order Code for 85–265 V _{AC} (125–375 V _{DC}) input voltage range	Order Code for 195–265 V _{AC} (275–375 V _{DC}) input voltage range	Connection of secondary windings
U ₀₁ (V)	U ₀₂ (V)			
5	—	760 871 113	760 875 112	Parallel
5	5	760 871 113	760 875 112	Separate
5	10	760 871 113	760 875 112	Series stacked secondaries
5	12	760 871 534	760 875 532	Series stacked secondaries
5	24	760 871 543	760 871 543	Series stacked secondaries
9	—	760 871 113	760 875 112	Series
10	—	760 871 113	760 875 112	Series
12	—	760 871 135	760 875 131	Parallel
12	12	760 871 135	760 875 131	Separate
12	24	760 871 135	760 875 131	Series stacked secondaries
15	—	760 871 135	760 875 131	Parallel
15	15	760 871 135	760 875 131	Separate
24	—	760 871 135	760 875 131	Series
		760 871 142	760 871 142	Parallel
24	24	760 871 142	760 871 142	Separate
24	48	760 871 142	760 871 142	Series stacked secondaries
48	—	760 871 142	760 871 142	Series

Another hint for offline transformers is that these are generally through hole devices. International safety standards require creepage and clearance distances which are usually not achievable with Surface Mount Technology transformers. A special constructed bobbin has integrated the required creepage distance from pins to winding resp. core. Due to the used triple insulated wire these parts are designed to comply with IEC (EN) 61558-2-16 reinforced isolation for a working voltage of 250 Vrms. A plastic cap allows for full automatic assembly.

A typical offline flyback power supply is shown in the figure.

Reference Design

Circuit example of a typical SMPS for 12.5 W and 5 V output voltage

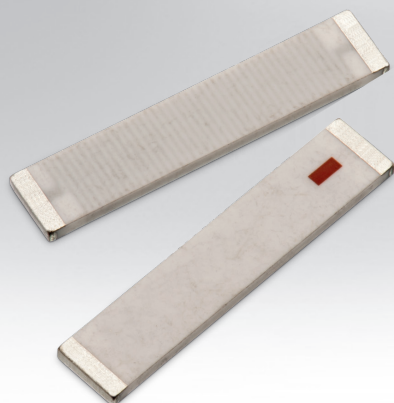


Source: STMicroelectronics

WE-MCA

Multilayer Chip Antenna

433 MHz



Characteristics

- Low profile
- Low VSWR
- Omnidirectional
- Testboard available

Applications

- Radio remote control
- Roller shutter control
- Garage door opener
- Wireless thermometer
- Wireless measurement systems

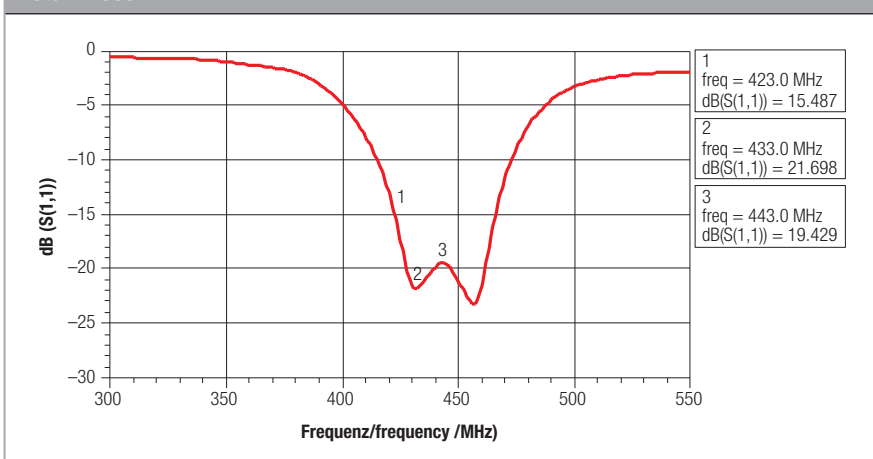
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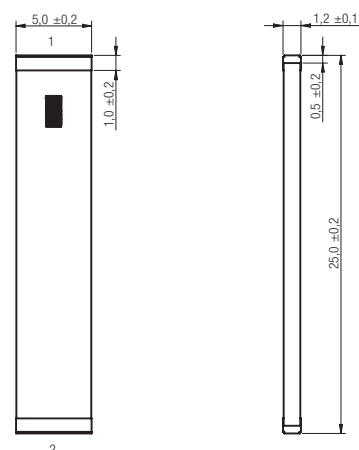
Electrical properties

Order Code	Frequency Range (MHz)	Average Gain typ. (XZ-V) (dBi)	Z (Ω)	VSWR max.	Qty.
7488910043	423-443	-4.0	50	2	500

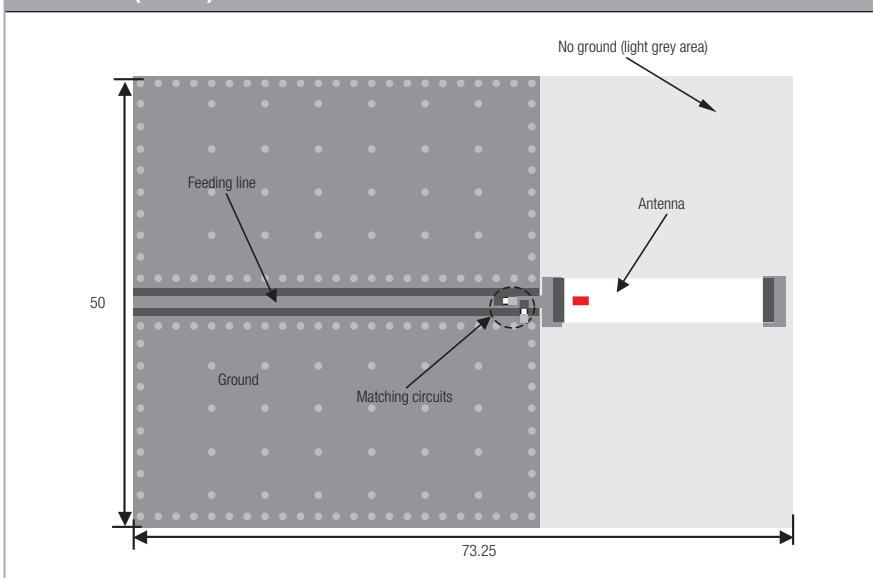
Return loss



Dimensions (in mm)



Test board (in mm)



Land pattern (in mm)



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