

# BALUN TRANSFORMERS FASFB2012 SERIES



## FEATURES:

Components for AV e quipment.  
 Realized balun fuction in a ultra-small SMD design.  
 Wound Chip constructure with standard 201212 size.  
 Impedance tolerance: Min at 20°C  
 Operating temperature: -20°C to +105°C.  
 Storage Temp: -0°C to +40°C.  
 Resistance to Soldering Heat: 260°C for 10 sec.  
 Temperature Rise: 40°C Typ. at Rated Current.  
 All parts meet RO HS compliance.

## APPLICATIONS:

CATV, D igital/Analog Tuner,  
 1 Segment Broadcasting Tuner.

## PRODUCT IDENTIFICATION:

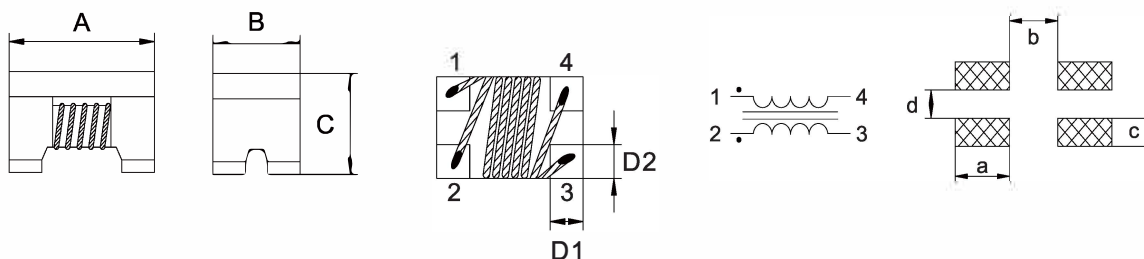
SFB XXXX - XXXXXX  
 Fpr example: SFB2012-5011M01

## ELECTRICAL CHARACTERISTICS

Part Number	Impedance [ohm]	Test Frequency	Insertion Loss [dB]Max	CMRR [dB]mm	D.C.Resistor [mohm] Max at 20°C	Rated current [mA]
FASFB2012-5011M01	50/50	45-870MHz	1.20	20	0.80	200
FASFB2012-7511M01	75/75	45-870MHz	1.10	18	0.77	200
FASFB2012-7511M02	75/75	50-1200MHz	1.60	19	0.40	300
FASFB2012-7511G01	75/75	1000-1500MHz	1.40	20	0.42	290
FASFB2012-7511G02	75/75	950-2150MHz	1.50	20	0.42	290
FASFB2012-7511G03	75/75	400-1800MHZ	2.00	10	0.42	290

## TECHNICAL INFORMATION

## ELECTRICAL SCHEMATIC & PAD LAYOUT



## DIMENSIONS:MM

Part number	A	B	C	D1	D2	a	b	c	d
FASFB2012	2.00±0.2	1.20±0.2	1.20±0.2	0.45 REF	0.40 REF	0.90 REF	0.80 REF	0.40 REF	0.40 REF

# COMMON MODE CHOKES FASF1210,2012HS SERIES



## FEATURES:

Low profile and very small size SMD Design, Wound Chip construction with standard 121009 and 201212 size, Best EMI suppression effect least impact to High Speed signal integrity.

## APPLICATIONS:

High Speed signal.

## GENERAL SPECIFICATIONS:

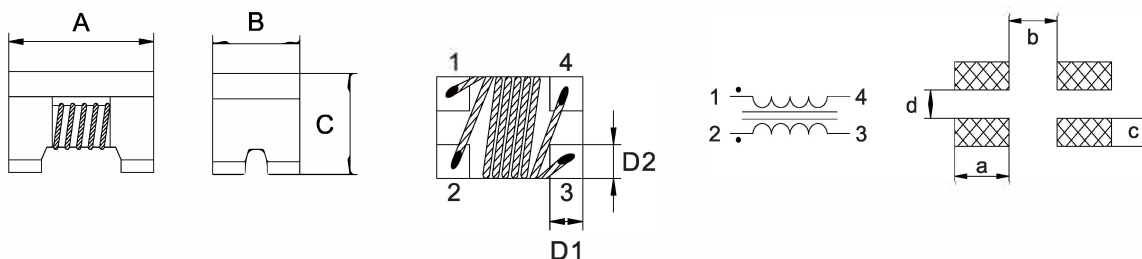
Impedance tolerance: Min at 20°C.  
Operating temperature: -20°C to +105°C.  
Storage Temp: -0°C to +40°C.  
Resistance to Soldering Heat: 260°C for 10 sec.  
Temperature Rise: 40°C Typ. at Rated Current.  
All parts meet ROHS compliance.

## ELECTRICAL CHARACTERISTICS

Part Number	Impedance [ohm] ± 25%	Test Frequency	CUT-OFF FREQUENC [GHz]Typ	D.C. Resistor [mohm] Max at 20°C	Rated current [mA]
FASF1210HS-250	25	100MHz	7.5	0.25	420
FASF1210HS-600	60	100MHz	6.0	0.25	400
FASF1210HS-900	90	100MHz	6.0	0.30	400
FASF2012HS-120	12	100MHz	7.5	0.20	450
FASF2012HS-240	24	100MHz	7.5	0.25	420
FASF2012HS-320	32	100MHz	7.5	0.25	400
FASF2012HS-670	67	100MHz	6.0	0.25	400
FASF2012HS-900	90	100MHz	6.0	0.30	400

## TECHNICAL INFORMATION

## ELECTRICAL SCHEMATIC & PAD LAYOUT



### DIMENSIONS:MM

Part number	A	B	C	D1	D2	a	b	c	d
FASF1210HS	1.20±0.2	1.00±0.2	0.90±0.2	0.36 REF	0.38 REF	0.45 REF	0.60 REF	0.45 REF	0.30 REF
FASF2012HS	2.00±0.2	1.20±0.2	1.20±0.2	0.45 REF	0.40 REF	0.90 REF	0.80 REF	0.40 REF	0.40 REF

# COMMON MODE CHOKES FASF1608,2012LP SERIES



## FEATURES:

Special very Low profile and very small size SMD Design, Wound chip construction with standard 160808 or 201209 size, with best EMI suppression effect at higher frequency 500MHz~up And least impact to signal wave form.

## APPLICATIONS:

Preventive measure against high speed signal radiation emissions such as USB 2.0 IEEE 1394 or LAN interface Best for NB, DSC, mobile device design.

## GENERAL SPECIFICATIONS:

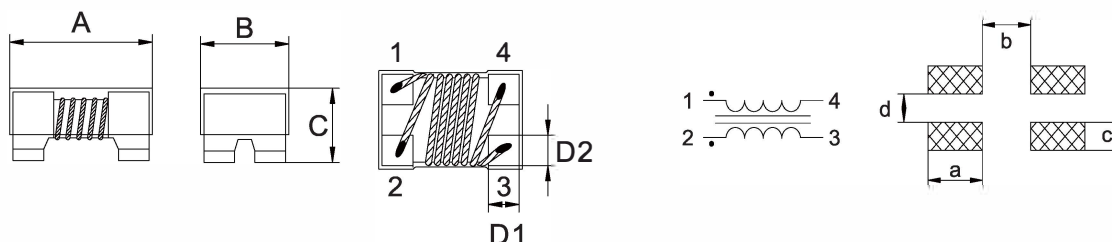
Impedance tolerance: Min at 20°C.  
Operating temperature: -20°C to +105°C.  
Storage Temp: -0°C to +40°C.  
Resistance to Soldering Heat: 260°C for 10 sec.  
Temperature Rise: 40°C Typ. at Rated Current.  
All parts meet ROHS compliance.

## ELECTRICAL CHARACTERISTICS

Part Number	Impedance [Ω] ±25% 100MHz	D.C. Resistor [Ω] Max at 20°C	Rated current (mA) Max	Part Number	Impedance [Ω] ±25% 100MHz	D.C. Resistor [Ω] Max at 20°C	Rated current (mA) Max
FASF1608LP-100	10	0.30	500	FASF2012LP-120	12	0.25	500
FASF1608LP-200	20	0.40	400	FASF2012LP-900	90	0.35	400
FASF1608LP-300	30	0.45	350	FASF2012LP-121	120	0.40	500
FASF1608LP-450	45	0.50	300	FASF2012LP-181	180	0.50	250
FASF1608LP-600	60	0.50	300				
FASF1608LP-670	67	0.50	300				
FASF1608LP-900	90	0.55	250				
FASF1608LP-121	120	0.80	200				
FASF1608LP-161	160	0.80	200				

## TECHNICAL INFORMATION

## ELECTRICAL SCHEMATIC & PAD LAYOUT



## DIMENSIONS:MM

Part number	A	B	C	D1	D2	a	b	c	d
FASF1608LP	1.20±0.2	1.00±0.2	0.90±0.2	0.36 REF	0.38 REF	0.45 REF	0.60 REF	0.45 REF	0.30 REF
FASF2012LP	2.00±0.2	1.20±0.2	1.20±0.2	0.45 REF	0.40 REF	0.90 REF	0.80 REF	0.40 REF	0.40 REF

# COMMON MODE CHOKES FASF2012,3216 SERIES



## FEATURES:

Low profile and very small size SMD design, Wound chip constructure with standard 201212 to 482822 size, with best EMI suppression effect but least impact to data signal wave form.

## APPLICATIONS:

Preventive measure against high speed signal radiation emissions such as USB 2.0 IEEE 1394 or LAN interface. Best for NB, DSC, mobile device design.

## GENERAL SPECIFICATIONS:

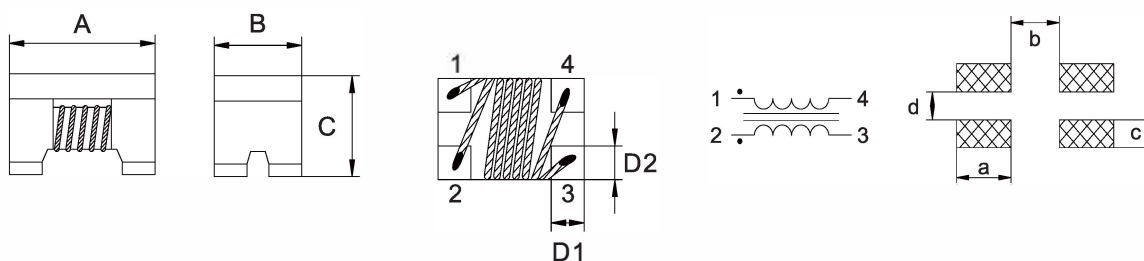
Impedance tolerance: M in at 20°C.  
Operating temperature: -20°C to +105°C.  
Storage Temp: -0°C to +40°C.  
Resistance to Soldering Heat: 260°C for 10 sec.  
Temperature Rise: 40°C Typ. at Rated Current.  
All parts meet ROHS compliance.

## ELECTRICAL CHARACTERISTICS

Part Number	Impedance [Ω] ±25% 100MHz	D.C.Resistor [Ω] Max at 20°C	Rated current [mA]Max	Part Number	Impedance [Ω] ±25% 100MHz	D.C.Resistor [Ω] Max at 20°C	Rated current [mA]Max
FASF2012-120	12	0.20	450	FASF3216-330	33	0.20	400
FASF2012-240	24	0.25	420	FASF3216-500	50	0.25	400
FASF2012-320	32	0.25	400	FASF3216-900	90	0.30	400
FASF2012-500	50	0.25	400	FASF3216-121	120	0.30	400
FASF2012-670	67	0.25	400	FASF3216-161	160	0.40	350
FASF2012-750	75	0.70	280	FASF3216-221	220	0.45	300
FASF2012-900	90	0.30	400	FASF3216-261	260	0.50	300
FASF2012-121	120	0.30	370	FASF3216-501	500	0.80	260
FASF2012-141	140	0.32	360	FASF3216-601	600	0.80	260
FASF2012-161	160	0.35	350	FASF3216-102	1000	1.00	250
FASF2012-181	180	0.35	330	FASF3216-222	2200	1.20	200
FASF2012-201	200	0.40	300				
FASF2012-221	220	0.40	300				
FASF2012-261	260	0.40	300				
FASF2012-371	370	0.45	280				

## TECHNICAL INFORMATION

## ELECTRICAL SCHEMATIC & PAD LAYOUT



### DIMENSIONS:MM

Part number	A	B	C	D1	D2	a	b	c	d
FASF2012	2.00 ± 0.2	1.20 ± 0.2	1.20 ± 0.2	0.45 REF	0.40 REF	0.90 REF	0.80 REF	0.40 REF	0.40 REF
FASF3216	3.20 ± 0.2	1.60 ± 0.2	2.00 ± 0.2	0.60 REF	0.60 REF	1.05 REF	1.60 REF	0.60 REF	0.40 REF

# COMMON MODE CHOKES FASF4532,4828 SERIES



## FEATURES:

Low profile and very small size SMD design, Wound chip constructure with standard 201212 to 482822 size, with best EMI suppression effect but least impact to data signal wave form.

## APPLICATIONS:

Preventive measure against high speed signal radiation emissions such as USB 2.0 IEEE 1394 or LAN interface. Best for NB, D SC, mobile device design.

## GENERAL SPECIFICATIONS:

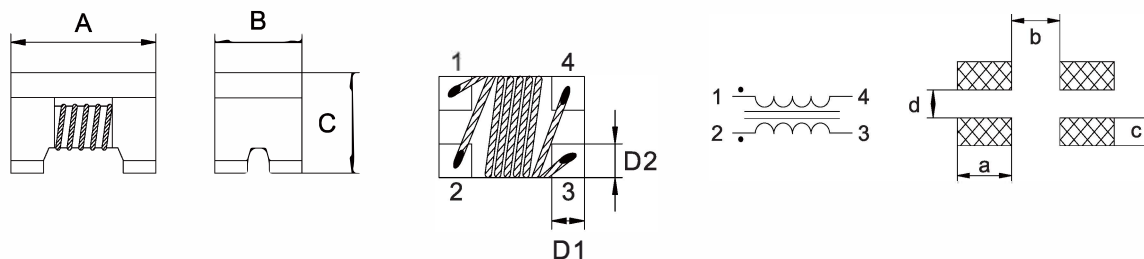
Impedance tolerance: Min at 20°C.  
Operating temperature: -20°C to +105°C.  
Storage Temp: -0°C to +40°C  
Resistance to Soldering Heat: 260°C for 10 sec.  
Temperature Rise: 40°C Typ. at Rated Current.  
All parts meet ROHS compliance.

## ELECTRICAL CHARACTERISTICS

Part Number	Impedance [Ω] ±25% 100MHz	D.C.Resistor [Ω] Max at 20°C	Rated current [mA]Max	Part Number	Impedance [Ω] ±25% 100MHz	D.C.Resistor [Ω] Max at 20°C	Rated current [mA]Max
FASF4532-900	90	0.050	4000	FASF4828-600	60	0.10	3000
FASF4532-231	230	0.051	3500	FASF4828-121	120	0.20	2000
FASF4532-421	420	0.052	3200	FASF4828-221	220	0.20	2000
FASF4532-601	600	0.065	2500	FASF4828-601	600	0.20	2000
FASF4532-801	800	0.100	2300	FASF4828-701	700	0.15	2000
FASF4532-901	900	0.100	2200	FASF4828-102	1000	0.40	1000
FASF4532-102	1000	0.110	2100	FASF4828-122	1200	0.40	1000
FASF4532-142	1400	0.120	2000	FASF4828-142	1400	0.40	1000

## TECHNICAL INFORMATION

## ELECTRICAL SCHEMATIC & PAD LAYOUT



### DIMENSIONS:MM

Part number	A	B	C	D1	D2	a	b	c	d
FASF4532	4.50 ± 0.2	3.20 ± 0.2	2.80 ± 0.2	1.00 REF	1.00 REF	1.40 REF	2.10 REF	1.60 REF	0.40 REF
FASF4828	4.80 ± 0.2	2.80 ± 0.2	2.20 ± 0.2	0.75 REF	0.75 REF	1.25 REF	3.00 REF	1.00 REF	0.70 REF

## COMMON MODE CHOKES FASF453226,453228L SERIES



### FEATURES:

Low profile and very small size SMD Design, Wound Chip constructure with standard 453226 to 453228 size, with best EMI suppression effect but least impact to data signal wave form.

### APPLICATIONS:

Preventive measure against high speed signal radiation emissions such as USB 2.0 IEEE 1394 or LAN interface. Best for NB, DSC, mobile device design.

### GENERAL SPECIFICATIONS:

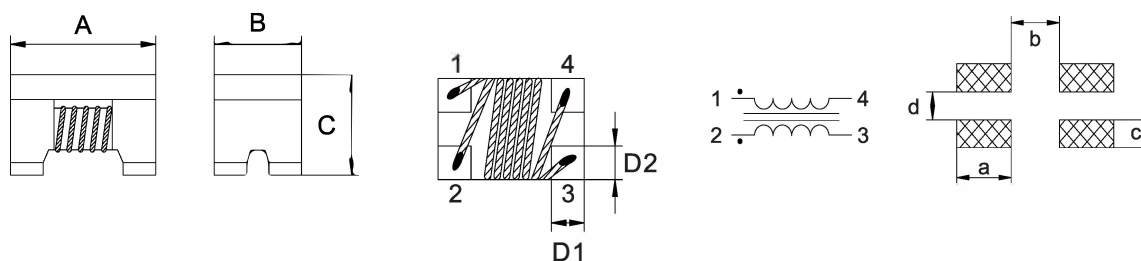
Impedance tolerance: Min at 20°C.  
Operating temperature: -20°C to +105°C  
Storage Temp: -0°C to +40°C  
Resistance to Soldering Heat: 260°C for 10 sec.  
Temperature Rise: 40°C Typ. at Rated Current.  
All parts meet ROHS compliance.

### ELECTRICAL CHARACTERISTICS

Part Number	Inductance [uH] 100KHz/100mV	Tolerance	Impedance [Ω] Typ 10MHz	D.C.Resistor [Ω] Max at 20°C	Rated current [mA]Max
FASF453226L-101	100	+50[-30]%	5800	2.0	250
FASF453228L-110	11	+50[-30]%	600	0.6	250
FASF453228L-220	22	+50[-30]%	1200	1.0	200
FASF453228L-510	51	+50[-30]%	2800	1.0	200

### TECHNICAL INFORMATION

### ELECTRICAL SCHEMATIC & PAD LAYOUT



### DIMENSIONS:MM

Part number	A	B	C	D1	D2	a	b	c	d
FASF453226	4.50±0.2	3.20±0.2	2.60±0.2	1.00 REF	1.00 REF	1.40 REF	2.10 REF	1.60 REF	0.40 REF
FASF453228	4.80±0.2	3.20±0.2	2.80±0.2	1.00 REF	1.00 REF	1.40 REF	2.10 REF	1.60 REF	0.40 REF

# COMMON MODE CHOKES FASF2012HDMI SERIES



### FEATURES:

Low profile and very small size SMD Design, Wound chip constructure with standard 201212 size, with best EMI suppression effect but least impact to data signal wave form.

### APPLICATIONS:

HDMI

### GENERAL SPECIFICATIONS:

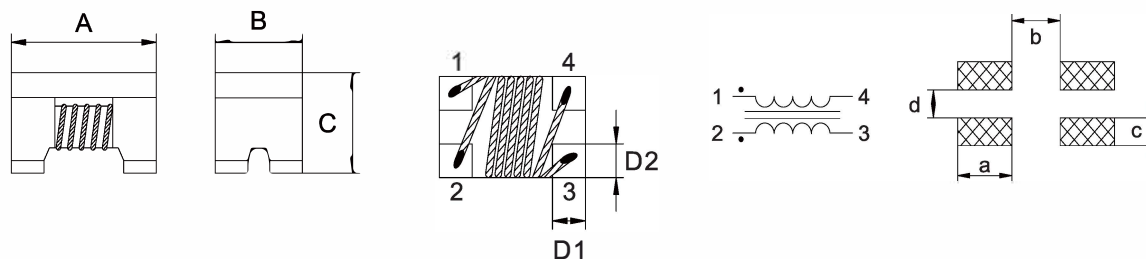
Impedance tolerance: Min at 20°C.  
 Operating temperature: -20°C to +105°C  
 Storage Temp: -0°C to +40°C  
 Resistance to Soldering Heat: 260°C for 10 sec.  
 Temperature Rise: 40°C Typ. at Rated Current.  
 All parts meet ROHS compliance.

### ELECTRICAL CHARACTERISTICS

Part Number	Impedance [Ω]	Tolerance	Test Frequency	D.C. Resistor [Ω] Max at 20°C	Rated current (mA)Max
FASF2012HDMI-400	40	± 25%	100MHz	0.25	400
FASF2012HDMI-670	67	± 25%	100MHz	0.25	400
FASF2012HDMI-900	90	± 25%	100MHz	0.30	400
FASF2012HDMI-121	120	± 25%	100MHz	0.30	370

### TECHNICAL INFORMATION

### ELECTRICAL SCHEMATIC & PAD LAYOUT



### DIMENSIONS:MM

Part number	A	B	C	D1	D2	a	b	c	d
FASF2012HDMI	2.00 ± 0.2	1.20 ± 0.2	1.20 ± 0.2	0.45 REF	0.40 REF	0.90 REF	0.80 REF	0.40 REF	0.40 REF



# COMMON MODE CHOKES FASF4532A SERIES



## FEATURES:

For Automotive wire wound common mode choke coil, Effective for EMI suppression of common mode noise emission. Compatible with RoHS Directive and AEC-Q200. Compatible with Automotive required operating temperature.

## APPLICATIONS:

Preventive measure against high speed signal radiation emission such as CAN-BusFax, Modem, ISDNs... etc.

## GENERAL SPECIFICATIONS:

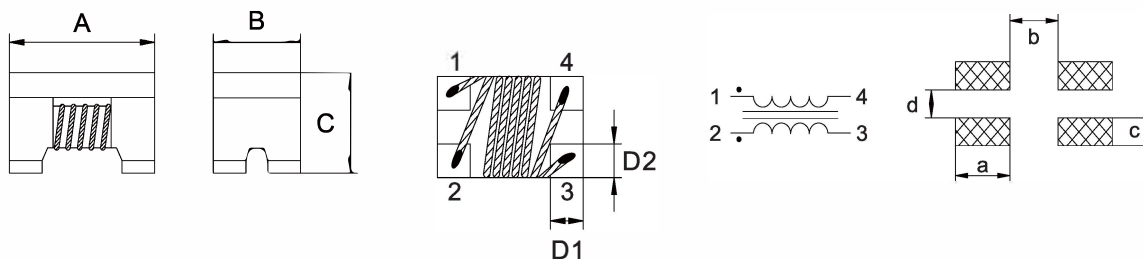
Impedance tolerance: Min at 20°C.  
Operating temperature: -40°C to +125°C  
Storage Temp: -0°C to +40°C  
Resistance to Soldering Heat: 260 for 10 sec.  
Temperature Rise: 40°C Typ. at Rated Current.  
All parts meet ROHS compliance.

## ELECTRICAL CHARACTERISTICS

Part Number	Inductance [uH] 100KHz/100mV	Tolerance	Impedance [Ω] Typ 10MHz	D.C. Resistor [Ω] Max at 20°C	Rated current [mA]Max
FASF4532A-110	11	+50(-30)%	600MHz	0.60	250
FASF4532A-220	22	+50(-30)%	1200MHz	1.00	200
FASF4532A-510	51	+50(-30)%	2800MHz	1.00	200
FASF4532A-101	100	+50(-30)%	5800MHz	2.00	150

## TECHNICAL INFORMATION

## ELECTRICAL SCHEMATIC & PAD LAYOUT

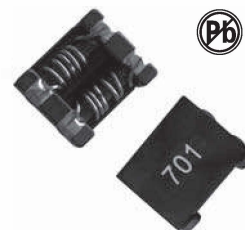


### DIMENSIONS:MM

Part number	A	B	C	D1	D2	a	b	c	d
FASF4532A	4.50 ± 0.2	3.20 ± 0.2	2.80 ± 0.2	1.00 REF	1.00 REF	1.40 REF	2.10 REF	1.60 REF	0.40 REF



# COMMON MODE CHOKES FASF7060,9070 SERIES



## FEATURES:

From big to small size  
SMD Design, Wire  
wound constructure  
common mode choke  
with best EMI suppression  
effect high impedance  
but very high rated  
current and low D.C.R.

## APPLICATIONS:

Preventive measure against  
common mode noise radiation  
emissions from power line or  
else Best for high current circuit  
such as car, wireless charging  
and power device design.

## GENERAL SPECIFICATIONS:

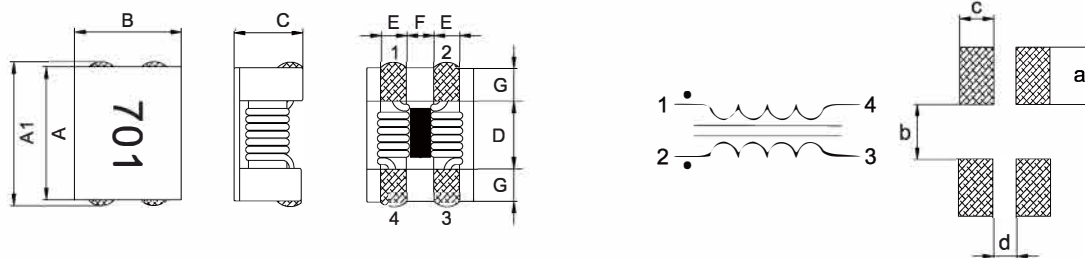
Impedance tolerance: Min at 20°C.  
Operating temperature: -40°C to +125°C  
Storage Temp: -0°C to +40°C  
Resistance to Soldering Heat: 260°C for 10 sec.  
Temperature Rise: 40°C Typ. at Rated Current.  
All parts meet ROHS compliance.

## ELECTRICAL CHARACTERISTICS

Part Number	Impedance (Ω) Min 100MHz	D.C.Resistor (mΩ) Max at 20°C	Rated current (A) Max	Part Number	Impedance (Ω) Min 100MHz	D.C.Resistor (mΩ) Max at 20°C	Rated current (A) Max
FASF7060-400	40	5	15	FASF9070-301	225	6	6.0
FASF7060-101	100	10	9	FASF9070-501	400	8	5.5
FASF7060-301	225	10	5	FASF9070-701	500	10	5.0
FASF7060-501	400	10	5	FASF9070-102	750	13	4.0
FASF7060-701	500	15	4	FASF9070-222	1700	60	2.5
FASF7060-102	750	17	3	FASF9070-272	2000	86	2.0
FASF7060-132	910	21	2.5	FASF9070-302	2500	90	1.9
FASF7060-272	2000	63	1.0				
FASF7060-302	2500	75	0.9				

## TECHNICAL INFORMATION

## ELECTRICAL SCHEMATIC & PAD LAYOUT



### DIMENSIONS:MM

Part number	A	A1	B	C	D	E	F	G	a	b	c	d
FASF7060	7.00±0.5	7.50±0.6	6.0±0.5	4.0 Max	3.5 REF	1.5 REF	1.5 REF	1.7 REF	3.0 REF	2.9 REF	1.9 REF	1.3 REF
FASF9070	9.00±0.5	9.50±0.6	7.0±0.5	5.0 Max	5.7 REF	1.5 REF	2.0 REF	1.7 REF	3.0 REF	5.0 REF	2.0 REF	1.8 REF

# COMMON MODE CHOKES FASF1211,1513 SERIES



## FEATURES:

From big to small size SMD Design, Wire wound constructure common mode choke with best EMI suppression effect high impedance but very high rated current and low D.C.R.

## APPLICATIONS:

Preventive measure against common mode noise radiation emissions from power line or else Best for high current circuit such as car, wireless charging and power device design.

## GENERAL SPECIFICATIONS:

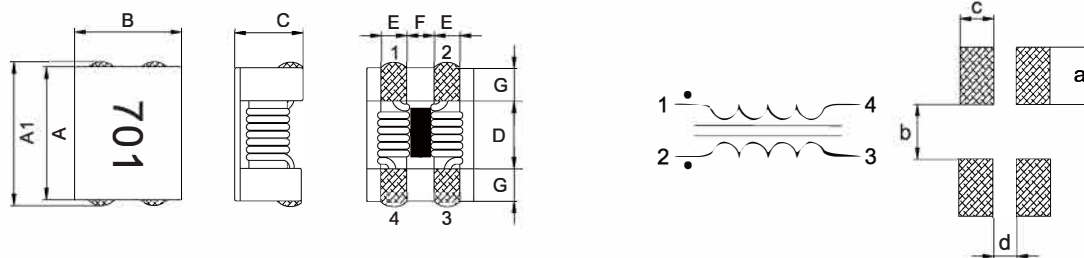
Impedance tolerance: Min at 20°C.  
Operating temperature: -40°C to +125°C  
Storage Temp: -0°C to +40°C  
Resistance to Soldering Heat: 260°C for 10 sec.  
Temperature Rise: 40°C Typ. at Rated Current.  
All parts meet ROHS compliance.

## ELECTRICAL CHARACTERISTICS

Part Number	Impedance [Ω]Min 100MHz	D.C. Resistor [mΩ] Max at 20°C	Rated current [A]Max	Part Number	Impedance [Ω]Min 100MHz	D.C. Resistor [mΩ] Max at 20°C	Rated current [A]Max
FASF1211-800	80	4.0	10	FASF1513-301	100	5.0	13
FASF1211-701	500	6.0	8.0	FASF1513-551	450	5.5	10
FASF1211-102	750	14.0	6.0	FASF1513-701	500	7.0	10
FASF1211-222	1700	35.0	1.8				
FASF1211-272	2000	50.0	1.5				

## TECHNICAL INFORMATION

## ELECTRICAL SCHEMATIC & PAD LAYOUT



## DIMENSIONS:MM

Part number	A	A1	B	C	D	E	F	G	a	b	c	d
FASF1211	12.0±0.5	12.5±0.6	10.8±0.5	6.6 Max	7.0 REF	2.7 REF	2.5 REF	2.5 REF	3.9 REF	6.1 REF	3.1 REF	2.3 REF
FASF1513	15.0±0.5	15.5±0.6	13.0±0.5	6.3 Max	9.0 REF	2.7 REF	3.8 REF	3.0 REF	4.2 REF	8.2 REF	3.1 REF	3.2 REF

# COMMON MODE CHOKES FASF4520 SERIES



## FEATURES:

Small size SMD Design, Wire wound constructure common mode choke with best EMI suppression effect high impedance but very high rated current and low DCR.

## APPLICATIONS:

Preventive measure against common mode noise radiation emissions from power line or else Best for high current circuit such as car, wireless charging and power device design.

## GENERAL SPECIFICATIONS:

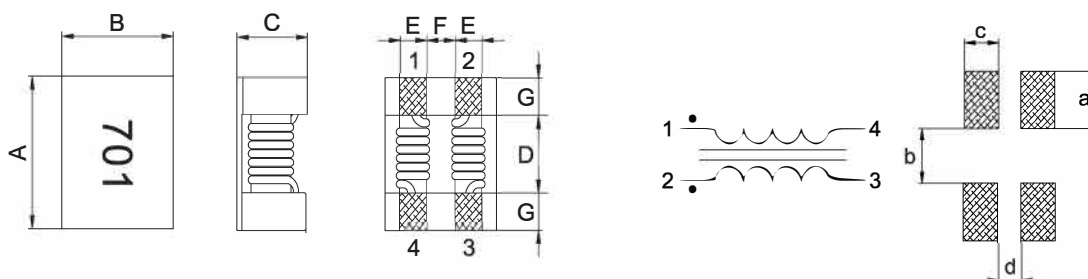
Impedance tolerance: Min at 20°C.  
 Operating temperature: -40°C to +125°C.  
 Storage Temp: -0°C to +40°C.  
 Resistance to Soldering Heat: 260°C for 10 sec.  
 Temperature Rise: 40°C Typ. at Rated Current.  
 All parts meet ROHS compliance.

## ELECTRICAL CHARACTERISTICS

Part Number	Impedance [Ω]Min 100MHz	D.C.Resistor [mΩ] Max at 20°C	Rated current [mA]	Rated Voltage [V]Max	Insulation Resistance [MΩ]Min
FASF4520-900	30	35	3.2	50	10
FASF4520-151	80	38	3.1	50	10
FASF4520-231	180	39	3.0	50	10
FASF4520-301	180	39	3.0	50	10
FASF4520-401	200	50	2.5	50	10
FASF4520-501	300	55	2.4	50	10
FASF4520-701	500	59	2.2	50	10
FASF4520-901	700	68	2.1	50	10
FASF4520-102	800	68	2.1	50	10
FASF4520-122	1000	74	2.0	50	10
FASF4520-142	1200	81	1.9	50	10

## TECHNICAL INFORMATION

## ELECTRICAL SCHEMATIC & PAD LAYOUT



## DIMENSIONS:MM

Part number	A	B	C	D	E	F	G	a	b	c	d
FASF4520	4.70±0.5	4.50±0.5	2.0 Max	2.7 REF	0.75 REF	1.25 REF	1.00 REF	1.75 REF	2.00 REF	1.75 REF	0.90 REF