

# Common Mode for Signal Line, Through-Hole Type, SBT-01W Series

## Overview

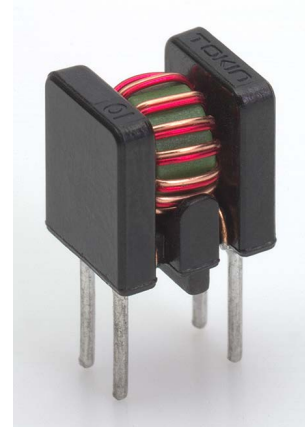
The KEMET SBT-01W coils are common mode chokes with a wide variety of characteristics. These through-hole toroidal coils are designed with our proprietary ferrite cores and are suitable for noise countermeasure in DC signal line circuits.

## Applications

- Audio-visual equipment
- Office automation equipment
- Digital appliances
- Home appliances
- Power supplies

## Benefits

- Proprietary Nickel-Zinc (Ni-Zn) ferrite core
- Withstanding voltage: 200 VDC (one minute, between lines)
- Insulation resistance: more than 10 MΩ (100 VDC, between lines)
- Operating temperature range from  $-25^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$
- RoHS Compliant



## Part Number System

SBT-01	40W
Series	Inductance Code ( $\mu\text{H}$ )
SBT-01	15W = 5 $\mu\text{H}$ 40W = 40 $\mu\text{H}$ 60W = 60 $\mu\text{H}$ 80W = 80 $\mu\text{H}$

Алматы (7273)495-231  
 Ангарск (3955)60-70-56  
 Архангельск (8182)63-90-72  
 Астрахань (8512)99-46-04  
 Барнаул (3852)73-04-60  
 Белгород (4722)40-23-64  
 Благовещенск (4162)22-76-07  
 Брянск (4832)59-03-52  
 Владивосток (423)249-28-31  
 Владикавказ (8672)28-90-48  
 Владимир (4922)49-43-18  
 Волгоград (844)278-03-48  
 Вологда (8172)26-41-59  
 Воронеж (473)204-51-73  
 Екатеринбург (343)384-55-89

Россия +7(495)268-04-70

Иваново (4932)77-34-06  
 Ижевск (3412)26-03-58  
 Иркутск (395)279-98-46  
 Казань (843)206-01-48  
 Калининград (4012)72-03-81  
 Калуга (4842)92-23-67  
 Кемерово (3842)65-04-62  
 Киров (8332)68-02-04  
 Коломна (4966)23-41-49  
 Кострома (4942)77-07-48  
 Краснодар (861)203-40-90  
 Красноярск (391)204-63-61  
 Курск (4712)77-13-04  
 Курган (3522)50-90-47  
 Липецк (4742)52-20-81

Казахстан +7(7172)727-132

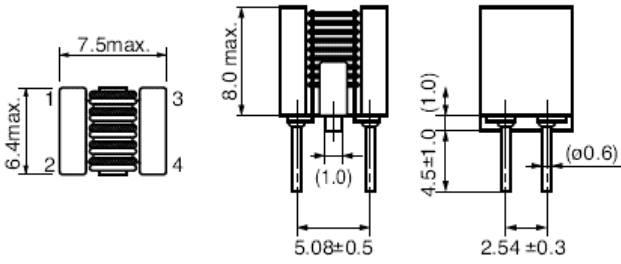
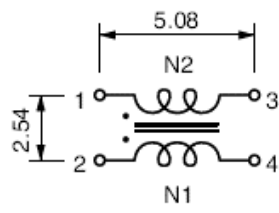
Магнитогорск (3519)55-03-13  
 Москва (495)268-04-70  
 Мурманск (8152)59-64-93  
 Набережные Челны (8552)20-53-41  
 Новокузнецк (3843)20-46-81  
 Ноябрьск (3496)41-32-12  
 Новосибирск (383)227-86-73  
 Омск (3812)21-46-40  
 Орел (4862)44-53-42  
 Оренбург (3532)37-68-04  
 Пенза (8412)22-31-16  
 Петрозаводск (8142)55-98-37  
 Псков (8112)59-10-37  
 Пермь (342)205-81-47

Киргизия +996(312)96-26-47

Ростов-на-Дону (863)308-18-15  
 Рязань (4912)46-61-64  
 Самара (846)206-03-16  
 Саранск (8342)22-96-24  
 Санкт-Петербург (812)309-46-40  
 Саратов (845)249-38-78  
 Севастополь (8692)22-31-93  
 Симферополь (3652)67-13-56  
 Смоленск (4812)29-41-54  
 Сочи (862)225-72-31  
 Ставрополь (8652)20-65-13  
 Сургут (3462)77-98-35  
 Сыктывкар (8212)25-95-17  
 Тамбов (4752)50-40-97  
 Тверь (4822)63-31-35

Тольятти (8482)63-91-07  
 Томск (3822)98-41-53  
 Тула (4872)33-79-87  
 Тюмень (3452)66-21-18  
 Ульяновск (8422)24-23-59  
 Улан-Удэ (3012)59-97-51  
 Уфа (347)229-48-12  
 Хабаровск (4212)92-98-04  
 Чебоксары (8352)28-53-07  
 Челябинск (351)202-03-61  
 Череповец (8202)49-02-64  
 Чита (3022)38-34-83  
 Якутск (4112)23-90-97  
 Ярославль (4852)69-52-93

## Dimensions – Millimeters

Part Number	Dimensions - Millimeters	Circuit Diagram - Millimeters
SBT-01W		

## Environmental Compliance

All KEMET DC line filters are RoHS Compliant.



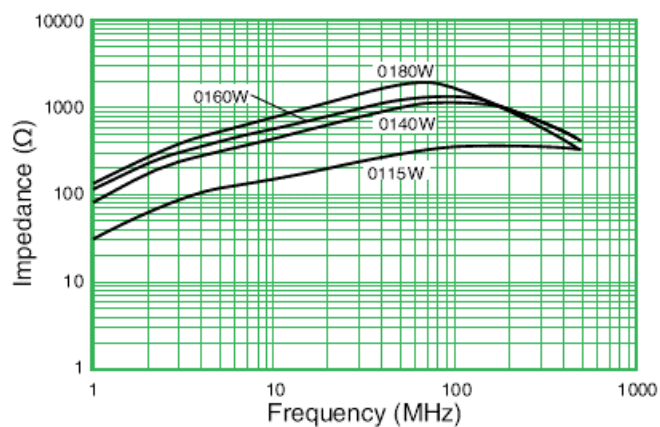
## Performance Characteristics

Item	Performance Characteristics
Rated Voltage	50 VDC
Withstanding Voltage	200 VDC (1 minute, between lines)
Insulation Resistance	> 10 MΩ at 100 VDC (between lines)
Rated Current Range	500 mA
Rated Inductance Range	5 – 80 μH
Inductance Tolerance	±35% (except 5 μH: minimum)
Inductance Measurement Condition	1 kHz, 70 mA
Rated DC Resistance Range	30 – 55 mΩ maximum
Operating Temperature Range	-25°C to +70°C (not including self-temperature rise)

**Table 1 – Ratings & Part Number Reference**

Part Number	Rated Voltage DC (V)	Rated Current (mA)	Inductance (μH)	DC Resistance (mΩ) Maximum	Weight (g)
SBT-0115W	50	500	≥ 5 Minimum	30	0.5
SBT-0140W	50	500	40 ±35%	40	0.5
SBT-0160W	50	500	60 ±35%	45	0.5
SBT-0180W	50	500	80 ±35%	55	0.5

## Frequency Characteristics



## Packaging

Part Type	Packaging Type	Pieces per Box
SBT-01W	Bulk	100

# Common Mode for Power Line, Through-Hole Type, SH Series

## Overview

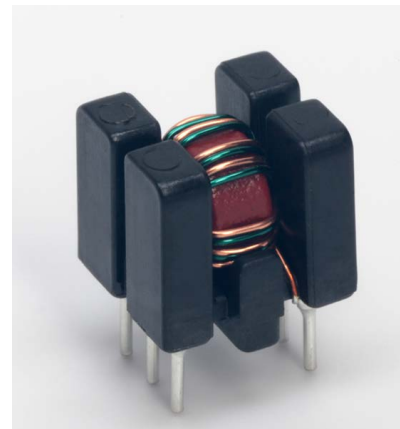
The KEMET SH coils are common mode chokes with a wide variety of characteristics. These through-hole toroidal coils are suitable for noise countermeasure in DC power line circuits.

## Applications

- Audio-visual equipment
- Office automation equipment
- Digital appliances
- Home appliances
- Power supplies

## Benefits

- Nickel-Zinc (Ni-Zn) ferrite core
- Operating temperature range from  $-25^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$  (except SH-132 and SH-432:  $-25^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$ )
- UL94 V-0 flame retardant rated terminal base
- RoHS Compliant



## Part Number System

SH-	S	1	3	2
Series	Number of Lines	Core Size	Terminal Shape Type	Internal Management Code
SH-	Blank = For 2 lines S = For 3 lines	1 = 7.6 mm 2 = 7.6 mm 3 = 7.6 mm 4 = 5.4 mm	0 1 2 3	1 2 3

## Dimensions – Millimeters

Part Number	Dimensions - Millimeters
SH-101 SH-102 SH-201 SH-202 SH-301 SH-302	
SH-211 SH-212 SH-311 SH-312	
SH-121 SH-122 SH-321 SH-322	
SH-132 SH-432	
SH-S132	

## Environmental Compliance

All KEMET DC line filters are RoHS Compliant.



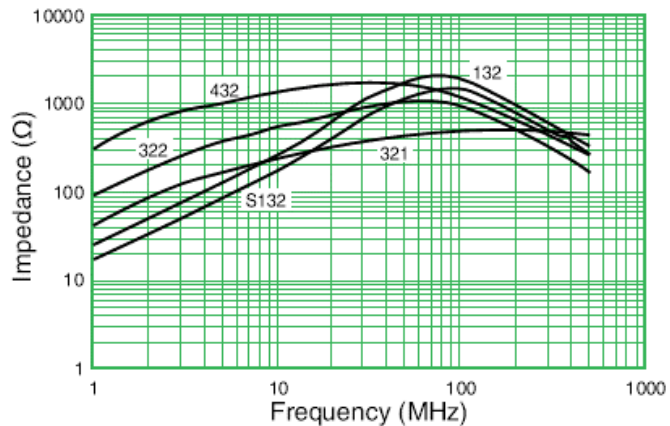
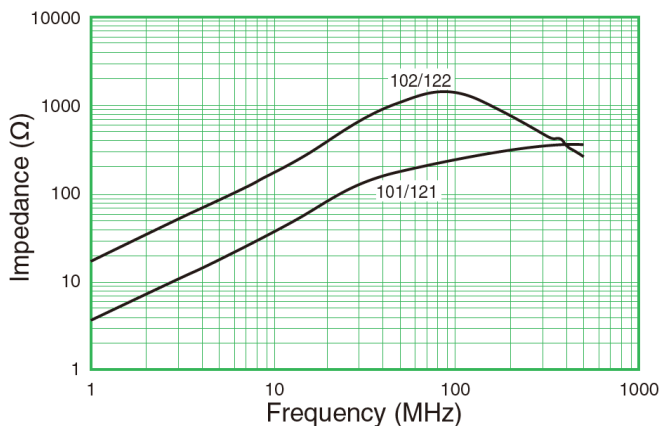
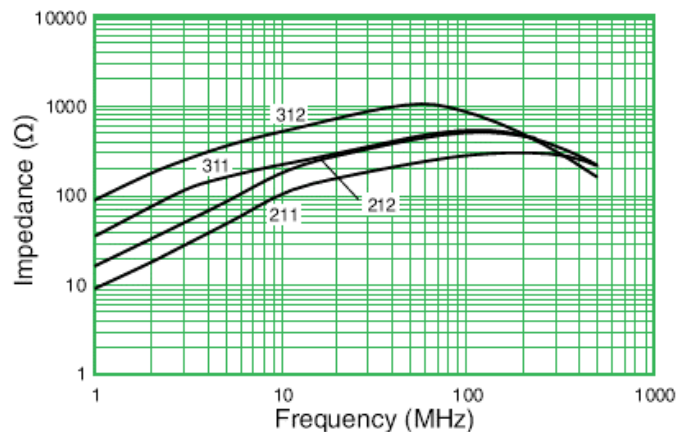
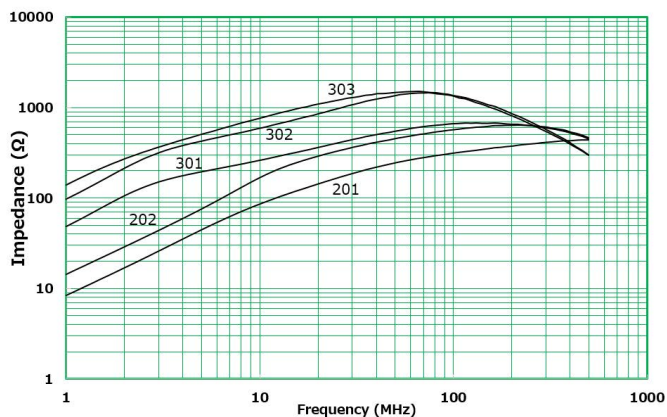
## Performance Characteristics

Item	Performance Characteristics
Rated Voltage Range	50 – 150 VDC
Rated Current Range	1 – 3 A
Rated Inductance Range	0.35 – 30.00 $\mu$ H minimum
Inductance Measurement Condition	100 kHz, 1 mA
Rated DC Resistance Range	10 – 81 m $\Omega$ maximum
Operating Temperature Range	-25°C to +80°C (not including self temperature rise) Except SH-132 and SH-432: -25°C to +60°C (not including self temperature rise)

**Table 1 – Ratings & Part Number Reference**

Part Number	Rated Voltage DC (V)	Rated Current (A)	Inductance ( $\mu$ H) Minimum	DC Resistance/ Line (m $\Omega$ ) Maximum	Number of Lines	Weight (g)
SH-101	150	3.0	0.35	16	For 2 lines	1.63
SH-102	150	3.0	1.50	26	For 2 lines	1.67
SH-201	150	3.0	0.50	16	For 2 lines	1.63
SH-202	150	3.0	1.50	20	For 2 lines	1.65
SH-301	150	3.0	3.20	22	For 2 lines	1.71
SH-302	150	3.0	7.50	26	For 2 lines	1.74
SH-303	50	2.0	15.00	40	For 2 lines	1.70
SH-211	150	3.0	0.50	18	For 2 lines	1.74
SH-212	150	3.0	1.50	23	For 2 lines	1.78
SH-311	150	3.0	3.20	25	For 2 lines	1.74
SH-312	150	3.0	7.50	30	For 2 lines	1.78
SH-121	50	3.0	0.35	11	For 2 lines	1.53
SH-122	50	3.0	1.50	20	For 2 lines	1.63
SH-321	50	3.0	3.50	14	For 2 lines	1.53
SH-322	50	3.0	7.50	20	For 2 lines	1.58
SH-132	50	2.4	2.60	51	For 2 lines	1.10
SH-432	50	2.4	30.00	51	For 2 lines	1.12
SH-S132	50	1.0	1.70	81	For 3 lines	1.00

## Frequency Characteristics



## Packaging

Part Type	Packaging Type	Pieces per Box
SH-*0* Terminal Shape 0	Bulk	3,000
SH-*1* Terminal Shape 1		
SH-*2* Terminal Shape 2	Tray	1,100
SH-*3* Terminal Shape 3	Bulk	3,000

# Common Mode for Power Line, Through-Hole Type, SHO Series

## Overview

The KEMET SHO coils are common mode chokes with a wide variety of characteristics. These through-hole toroidal coils are suitable for noise countermeasure in DC power line circuits.

## Applications

- Audio-visual equipment
- Office automation equipment
- Digital appliances
- Home appliances
- Power supplies

## Benefits

- Nickel-Zinc (Ni-Zn) ferrite core
- Operating temperature range from  $-25^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$  (except SHO-303:  $-25^{\circ}\text{C}$  to  $+75^{\circ}\text{C}$  and SHO-402 and SHO-501:  $-25^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$ )
- RoHS Compliant

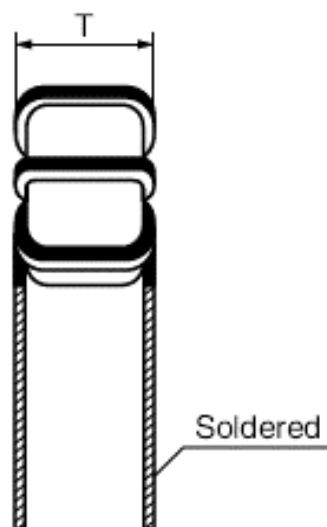
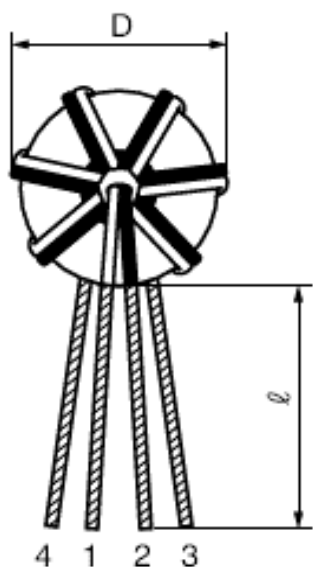


## Part Number System

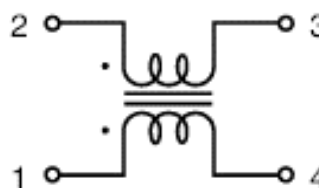
SHO-	10	1
Series	Core Size	Internal Management Code
SHO-	10 = 7.6 mm 20 = 7.6 mm 30 = 7.6 mm 40 = 5.4 mm 50 = 4.5 mm	1 2 3



## Dimensions – Millimeters



Circuit Diagram



Part Number	Dimensions - Millimeters		
	D Maximum	T Maximum	$l$
SHO-101	11.0	7.5	10 $\pm$ 3
SHO-102	11.0	7.5	10 $\pm$ 3
SHO-301	11.0	7.5	10 $\pm$ 3
SHO-302	11.0	7.5	10 $\pm$ 3
SHO-303	11.0	8.0	10 $\pm$ 3
SHO-402	7.5	5.0	4 $\pm$ 2
SHO-501	6.2	3.4	4 $\pm$ 2

## Environmental Compliance

All KEMET DC line filters are RoHS Compliant.



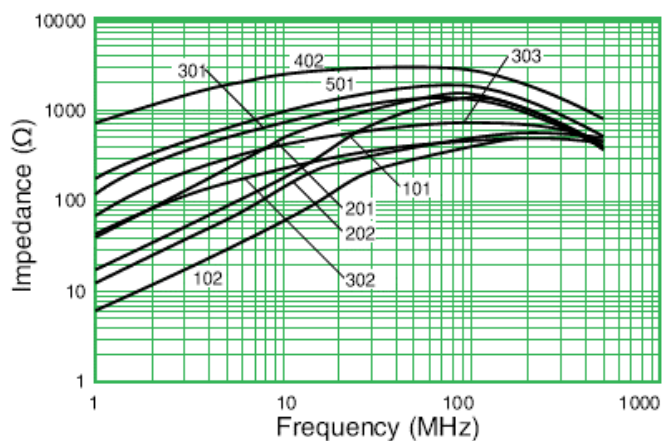
## Performance Characteristics

Item	Performance Characteristics
Rated Voltage	50 VDC
Rated Current Range	0.8 – 4.0 A
Rated Inductance Range	0.6 – 99.0 $\mu$ H minimum
Inductance Measurement Condition	100 kHz, 1 mA
Rated DC Resistance Range	8 – 120 m $\Omega$ maximum
Operating Temperature Range	SHO-101, SHO-102, SHO-301 and SHO-302: -25°C to +70°C (not including self-temperature rise) SHO-303: -25°C to +75°C (not including self-temperature rise) SHO-402 and SHO-501: -25°C to +80°C (not including self-temperature rise)

**Table 1 – Ratings & Part Number Reference**

Part Number	Rated Voltage DC (V)	Rated Current (A)	Inductance ( $\mu$ H) Minimum	DC Resistance/Line (m $\Omega$ ) Maximum	Core Color	Weight (g)
SHO-101	50	4.0	2.0	15.5	Blue	1.16
SHO-102	50	4.0	0.6	10.0	Blue	1.05
SHO-301	50	4.0	12.0	15.5	Green	1.16
SHO-302	50	4.0	3.9	10.0	Green	1.05
SHO-303	50	5.0	6.0	8.0	Green	1.24
SHO-402	50	0.8	99.0	120.0	Gray	0.37
SHO-501	50	0.8	17.5	105.0	Green	0.20

## Frequency Characteristics



## Packaging

Part Type	Packaging Type	Pieces per Box
SHO-***	Bulk	6,000

## Handling Precautions

### Precautions for product storage

DC Line Filters should be stored in normal working environments. While the chokes themselves are quite robust in other environments, solderability will be degraded by exposure to high temperatures, high humidity, corrosive atmospheres, and long term storage.

KEMET recommends that maximum storage temperature not exceed 40°C and maximum storage humidity not exceed 70% relative humidity. Atmospheres should be free of chlorine and sulfur bearing compounds. Temperature fluctuations should be minimized to avoid condensation on the parts. Do not store near strong magnetic fields, as this might magnetize the product.

For optimized solderability, DC line filter stock should be used promptly, preferably within six months of receipt.

### Product temperature rise values

The values listed for temperature rise are the result of self-heating in wires when the rated current (commercial frequency) is applied. When using, check and evaluate the value of the core temperature rise under actual operating conditions.

# Common Mode for Signal Line, Telephone Sets, Through-Hole Type, ST Series

## Overview

The KEMET ST coils are common mode chokes with a wide variety of characteristics. These through-hole toroidal coils are designed with our proprietary ferrite cores and are suitable for noise countermeasure in DC signal line circuits.

## Applications

- Audio-visual equipment
- Office automation equipment
- Digital appliances
- Home appliances
- Power supplies
- Telephone Sets

## Benefits

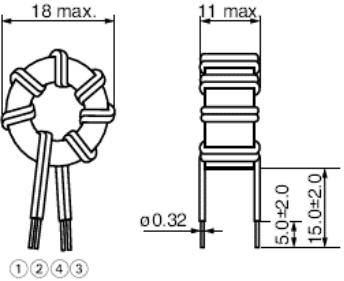
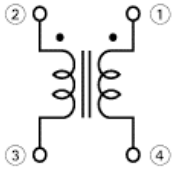
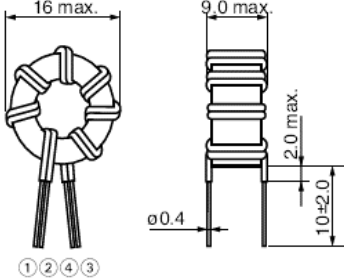
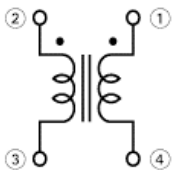
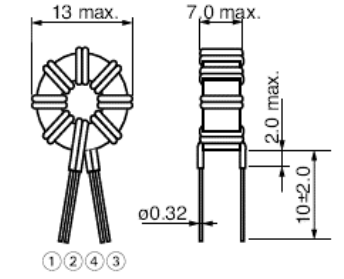
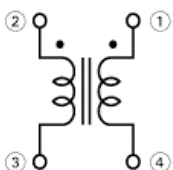
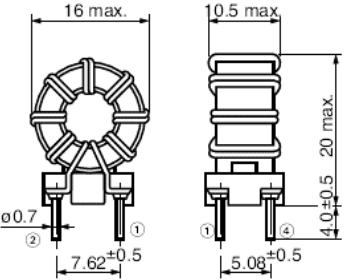
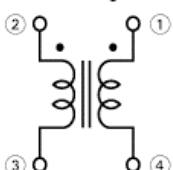
- Proprietary Manganese-Zinc (Mn-Zn) and Nickel-Zinc (Ni-Zn) ferrite materials
- Withstanding voltage: 500 VDC (one minute, between lines)
- Insulation resistance: more than 10 M $\Omega$  (250 VDC, between lines, except ST-\*\*\*A type 100 VDC)
- Operating temperature range from -20°C to +75°C (except ST-\*\*\*A type to +65°C)
- UL94 V-0 flame retardant rated terminal base
- UL94 V-2 flame retardant rated cap
- RoHS Compliant



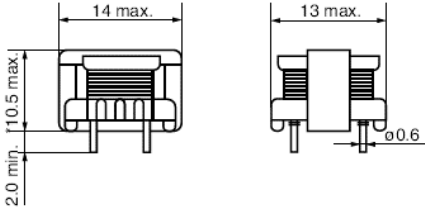
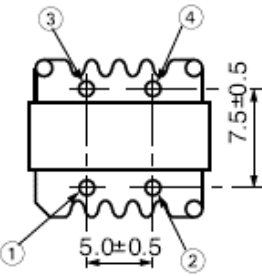
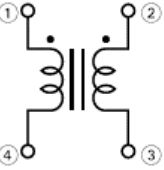
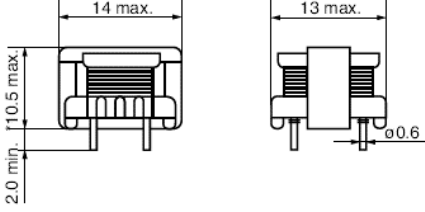
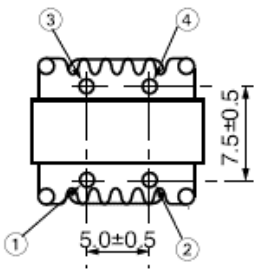
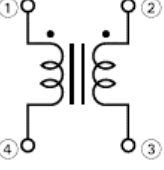
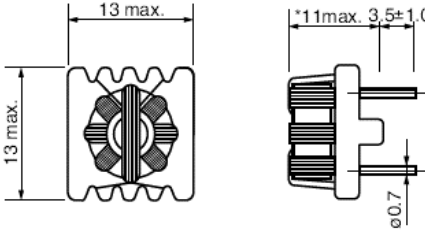
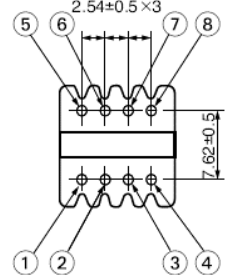
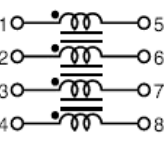
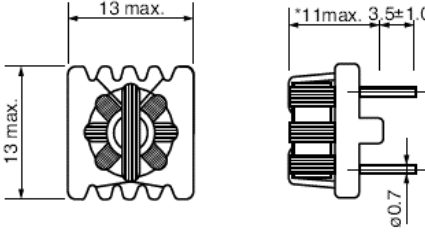
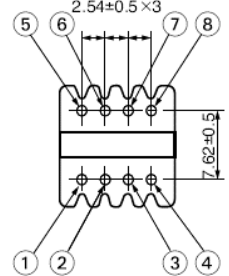
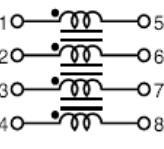
## Part Number System

ST-	1	01	F
Series	Core Material	Core Size	Core Orientation
ST-	1 = Mn-Zn 2 = Ni-Zn	01 = 12 mm 02 = 10 mm 04 = 10 mm	Blank = Horizontal, bare winding A = Vertical A-4 = Vertical F2 = Horizontal F4 = Horizontal A1 = Horizontal A3 = Horizontal A4 = Horizontal

## Dimensions – Millimeters

Part Number	Dimensions - Millimeters	Circuit Diagram
<p>ST-101 ST-201</p>		
<p>ST-202</p>		
<p>ST-202S</p>		
<p>ST-101A ST-201A ST-202A</p>		

**Dimensions – Millimeters cont.**

Part Number	Dimensions - Millimeters	Bottom View	Circuit Diagram
ST-101F2			
ST-101F4			
ST-104A4			
ST-204A1 ST-204A3 ST-204A4			

## Environmental Compliance

All KEMET DC line filters are RoHS Compliant.



## Performance Characteristics

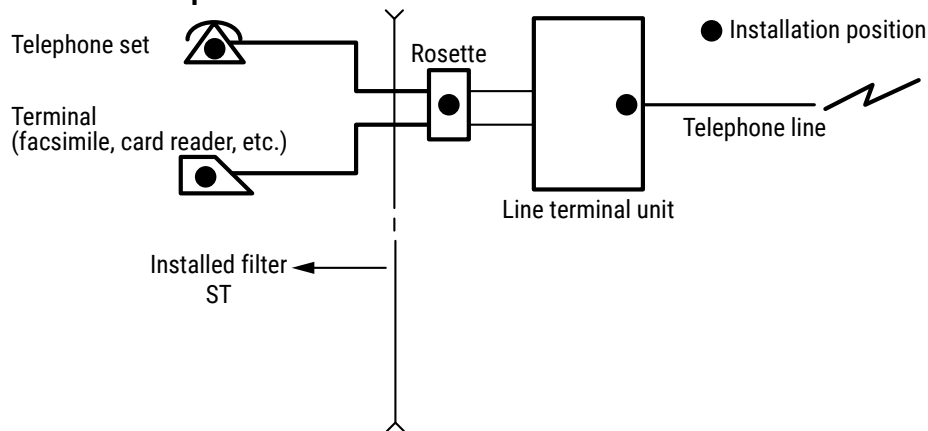
Item	Performance Characteristics
Rated Voltage	50 VDC
Withstanding Voltage	500 VDC (1 minute, between lines)
Insulation Resistance	> 10 MΩ t 250 VDC (between lines) except ST-***A: > 10 MΩ at 100 VDC (between lines)"
Rated Current Range	200 – 1,000 mA
Frequency Range	0.5 ~ 7.0 – 7.0 ~ 100.0 MHz
Impedance Range	0.25 – 60.00 kΩ minimum
Rated DC Resistance Range	0.04 – 3.5 Ω maximum
Operating Temperature Range	-20°C to +75°C (not including self-temperature rise) except ST-***A: -20°C to +65°C (not including self-temperature rise)
Operating Temperature Range	-25°C to +70°C (not including self-temperature rise)

**Table 1 – Ratings & Part Number Reference**

Part Number	Frequency Range (MHz)	Impedance (k $\Omega$ ) Minimum	Rated Voltage DC (V)	Rated Current (mA)	DC Resistance/Line ( $\Omega$ ) Maximum	Frequency Range	Weight (g)
ST-101	0.5 ~ 7.0	3.00 at 0.5 MHz	50	200	0.18	AM band	3.73
ST-201	7.0 ~ 40.0	1.50 at 7.0 MHz	50	200	0.10	FM band	2.66
ST-202	7.0 ~ 100.0	0.60 at 100.0 MHz	50	1,000	0.04	FM band	1.27
ST-202S	7.0. ~ 100.0	0.60 at 100.0 MHz	50	1,000	0.04	FM band	1.27
ST-101A	0.5 ~ 7.0	3.00 at 0.5 MHz	50	200	0.25	AM band	4.53
ST-201A	7.0 ~ 40.0	1.50 at 7.0 MHz	50	200	0.15	FM band	3.63
ST-202A	7.0 ~ 100.0	0.60 at 100.0 MHz	50	1,000	0.05	FM band	3.37
ST-101F2	0.5 ~ 7.0	40.00 at 600.0 kHz	50	200	2.70	AM band	2.90
ST-101F4	0.5 ~ 7.0	60.00 at 600.0 kHz	50	200	3.50	AM band	3.33
ST-104A4	0.5 ~ 7.0	3.00 at 0.5 MHz	50	500	0.36	AM band	2.70
ST-204A1	7.0 ~ 40.0	0.25 at 100.0 MHz	50	500	0.10	FM band	2.13
ST-204A3	7.0 ~ 40.0	1.00 at 7.0 MHz	50	500	0.17	FM band	2.31
ST-204A4	7.0 ~ 40.0	0.60 at 7.0 MHz REF	50	500	0.12	FM band	2.11

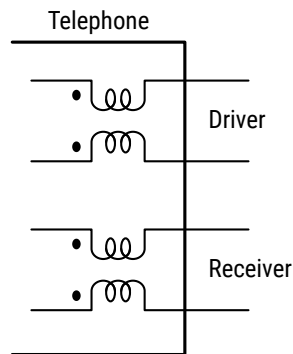
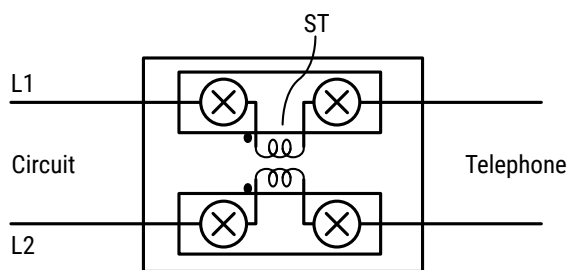
## Installation & Design Examples

### Installation Examples



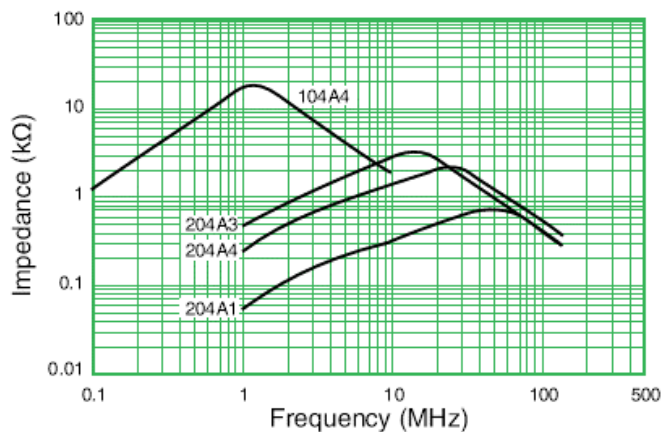
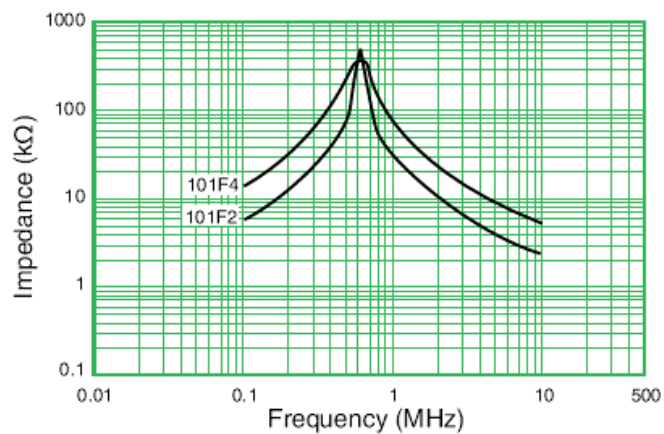
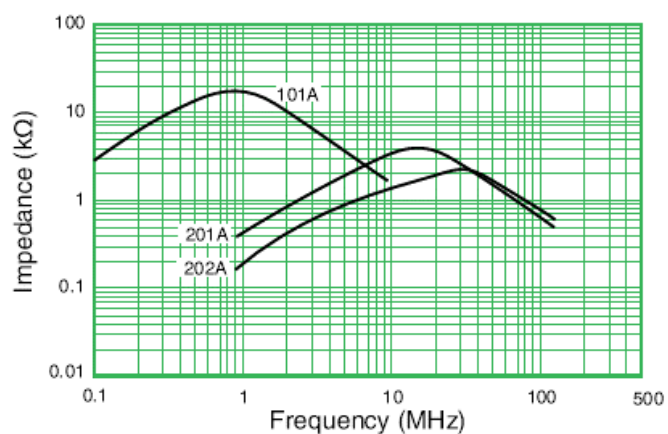
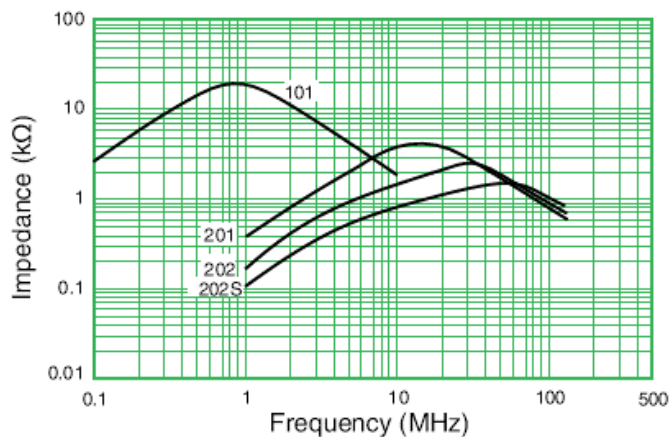
### Design Examples

- ① Installation at rosette or circuit input/output
- ② Insertion in Driver/Receiver circuit in telephone





## Frequency Characteristics



## Packaging

Part Type	Packaging Type	Pieces per Box
ST-101	Tray	1,200
ST-201		
ST-202		
ST-202S	Bulk	6,000
ST-101A	Tray	480
ST-201A		
ST-202A		
ST-101F2		
ST-101F4		
ST-104A4		
ST-204A1		
ST-204A3	4,800	
ST-204A4		

# Common Mode for Signal Line, Telephone Sets, Through-Hole Type, ST-110 Series

## Overview

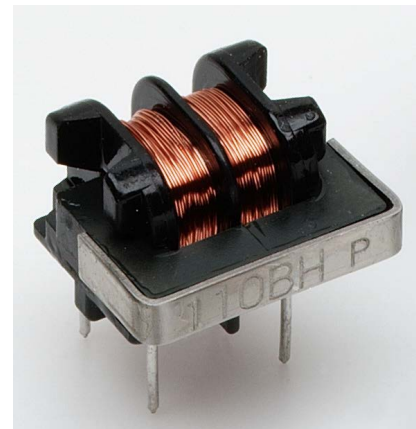
The KEMET ST-110 coils are common mode chokes with a wide variety of characteristics. These through-hole toroidal coils are designed with our proprietary ferrite cores and are suitable for noise countermeasure in DC signal line circuits.

## Applications

- Audio-visual equipment
- Office automation equipment
- Digital appliances
- Home appliances
- Power supplies
- Telephone Sets

## Benefits

- Proprietary Manganese-Zinc (Mn-Zn) ferrite material
- Withstanding voltage: 500 VDC (one minute, between lines)
- Insulation resistance: more than 10 MΩ (250 VDC, between lines)
- Operating temperature range from -20°C to +75°C
- RoHS Compliant



## Part Number System

ST-110	A	V
Series	Rated Current (mA)	Core Orientation
ST110-	A = 300 mA B = 150 mA	H = Horizontal V = Vertical

## Dimensions – Millimeters

Part Number	Dimensions - Millimeters	Circuit Diagram - Millimeters
ST-110AV ST-110BV		
ST-110AH ST-110BH		

## Environmental Compliance

All KEMET DC line filters are RoHS Compliant.



## Performance Characteristics

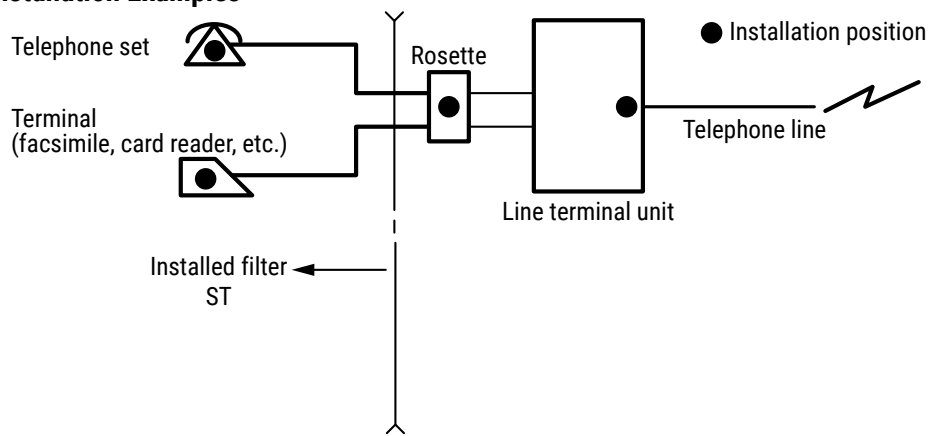
Item	Performance Characteristics
Rated Voltage	50 VDC
Withstanding Voltage	500 VDC (1 minute, between lines)
Insulation Resistance	> 10 MΩ at 250 VDC (between lines)
Rated Current Range	150 – 300 mA
Frequency Range	0.5 ~ 7.0 MHz
Impedance Range	27 – 150 kΩ minimum
Rated DC Resistance Range	3.0 – 7.5 mΩ maximum
Operating Temperature Range	-20°C to +75°C (not including self-temperature rise)

**Table 1 – Ratings & Part Number Reference**

Part Number	Frequency Range (MHz)	Impedance (k $\Omega$ ) Minimum	Rated Voltage DC (V)	Rated Current (mA)	DC Resistance/Line ( $\Omega$ ) Maximum	Frequency Range	Weight (g)
ST-110AV	0.5 ~ 7.0	27 at 0.5 MHz	50	300	3.0	AM band	3.25
ST-110AH	0.5 ~ 7.0	27 at 0.5 MHz	50	300	3.0	AM band	3.30
ST-110BV	0.5 ~ 7.0	150 (Resonant)	50	150	7.5	AM band	3.30
ST-110BH	0.5 ~ 7.0	150 (Resonant)	50	150	7.5	AM band	3.25

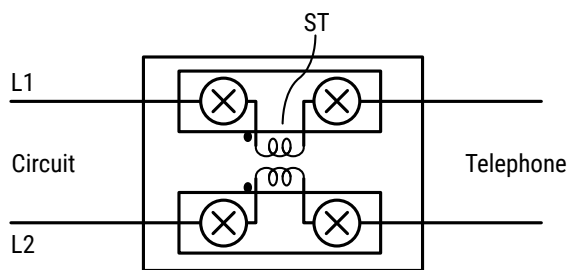
## Installation & Design Examples

### Installation Examples

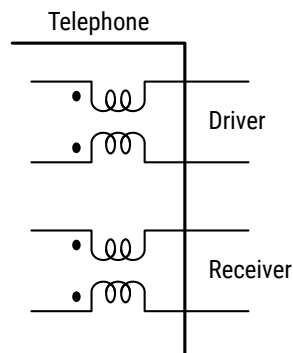


### Design Examples

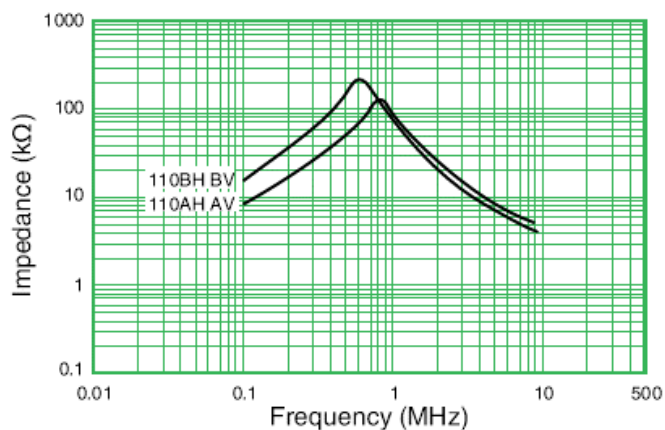
① Installation at rosette or circuit input/output



② Insertion in Driver/Receiver circuit in telephone



## Frequency Characteristics



## Packaging

Part Type	Packaging Type	Pieces per Box
ST-110**	Tray	1,000

## Handling Precautions

DC Line Filters should be stored in normal working environments. While the chokes themselves are quite robust in other environments, solderability will be degraded by exposure to high temperatures, high humidity, corrosive atmospheres, and long term storage.

KEMET recommends that maximum storage temperature not exceed 40°C and maximum storage humidity not exceed 70% relative humidity. Atmospheres should be free of chlorine and sulfur bearing compounds. Temperature fluctuations should be minimized to avoid condensation on the parts. Do not store near strong magnetic fields, as this might magnetize the product.

For optimized solderability, DC line filter stock should be used promptly, preferably within six months of receipt.

# Normal Mode for Signal Line, Through-Hole Type, SBT Series

## Overview

The KEMET SBT coils are normal mode chokes with a wide variety of characteristics. These through-hole toroidal coils are designed with our proprietary ferrite cores and are suitable for noise countermeasure in DC signal line circuits.

## Applications

- Audio-visual equipment
- Office automation equipment
- Digital appliances
- Home appliances
- Power supplies

## Benefits

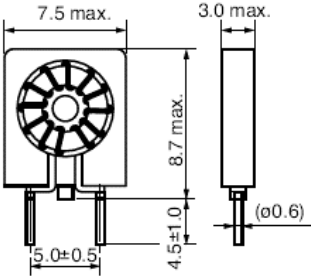
- Proprietary Nickel-Zinc (Ni-Zn) ferrite core
- Operating temperature range from -25°C to +75°C
- RoHS Compliant



## Part Number System

SBT-02	08	T
Series	Inductance Code ( $\mu\text{H}$ )	Packaging Type
SBT-02	08 = 8 $\mu\text{H}$ 10 = 10 $\mu\text{H}$ 40 = 40 $\mu\text{H}$ 60 = 60 $\mu\text{H}$	Blank = Bulk T = Tape & Reel TF = Flat taping

## Dimensions – Millimeters

Part Number	Dimensions - Millimeters
SBT-02**	

## Environmental Compliance

All KEMET DC line filters are RoHS Compliant.



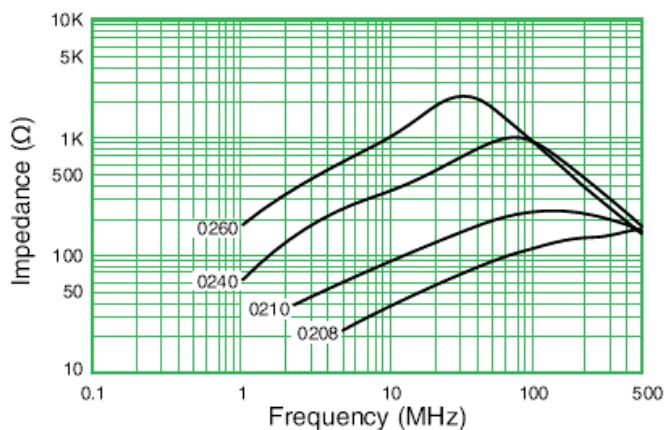
## Performance Characteristics

Item	Performance Characteristics
Rated Voltage	50 VDC
Rated Current	500 mA
Rated Inductance Range	8 – 60 $\mu$ H
Inductance Measurement Condition	1 kHz, 70 mA
Inductance Tolerance	$\pm$ 35% & $\pm$ 50%
Rated DC Resistance Range	20 – 50 m $\Omega$ maximum
Operating Temperature	-25°C to +70°C (not including self-temperature rise)

**Table 1 – Ratings & Part Number Reference**

Part Number	Rated Voltage DC (V)	Rated Current (mA)	Inductance ( $\mu\text{H}$ )	DC Resistance/Line (m $\Omega$ ) Maximum	Weight (g)
SBT-0208	50	500	8 $\pm$ 50%	20	0.24
SBT-0208T	50	500	8 $\pm$ 50%	20	0.24
SBT-0208TF	50	500	8 $\pm$ 50%	20	0.24
SBT-0210	50	500	10 $\pm$ 50%	20	0.24
SBT-0210T	50	500	10 $\pm$ 50%	20	0.24
SBT-0210TF	50	500	10 $\pm$ 50%	20	0.24
SBT-0240	50	500	40 $\pm$ 35%	34	0.24
SBT-0240T	50	500	40 $\pm$ 35%	34	0.24
SBT-0240TF	50	500	40 $\pm$ 35%	34	0.24
SBT-0260	50	500	60 $\pm$ 35%	50	0.26
SBT-0260T	50	500	60 $\pm$ 35%	50	0.26
SBT-0260TF	50	500	60 $\pm$ 35%	50	0.26

## Frequency Characteristics

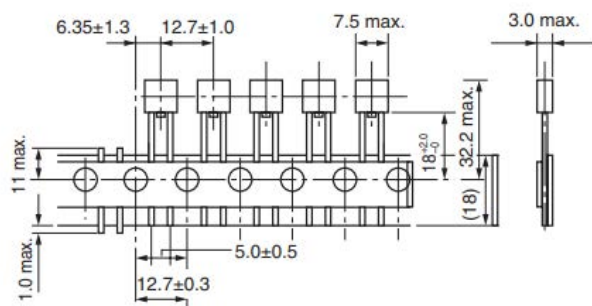


## Packaging

Part Type	Packaging Type	Pieces per Package	Pieces per Box
SBT-02**	Bulk	100	18,000
SBT-02**T	Tape & Reel	2,000	12,000
SBT-02**TF	Flat taping	1,000	10,000

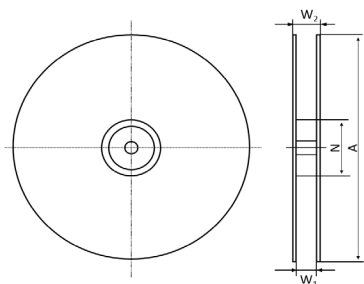


## Taping Specifications



## Reel Specifications

### Reel Dimensions - Millimeters



A	N	$W_1$ +1.0, -0.0	$W_2$ Maximum
360.0	140.0	44.0	50.2

# Normal Mode for Signal Line, Through-Hole Type, SNT Series

## Overview

The KEMET SNT coils are normal mode chokes with a wide variety of characteristics. These through-hole toroidal coils are designed with our proprietary dust cores and are suitable for noise countermeasure in DC signal line circuits.

## Applications

- Audio-visual equipment
- Office automation equipment
- Digital appliances
- Home appliances
- Power supplies

## Benefits

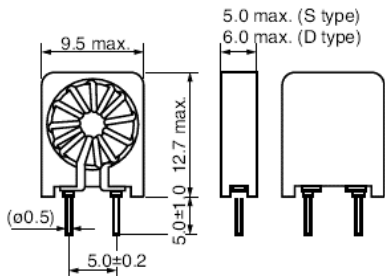
- Proprietary dust core
- Operating temperature range from  $-20^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$
- UL94 V-0 flame retardant rated cap
- RoHS Compliant



## Part Number System

SNT-	S	10	T
Series	Size	Rated Current (A)	Packaging Type
SNT-	S = 5.0 mm D = 6.0 mm	10 = 3.0 A 20 = 1.5 A 30 = 0.5 A	Blank = Bulk T = Tape & Reel TF = Flat taping

## Dimensions – Millimeters

Part Number	Dimensions - Millimeters
SNT-***	

## Environmental Compliance

All KEMET DC line filters are RoHS Compliant.



## Performance Characteristics

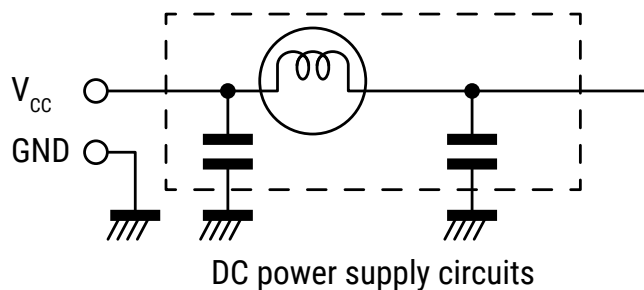
Item	Performance Characteristics
Rated Current Range	0.5 - 3.0 A
Rated Inductance Range	1.5 – 20.0 $\mu$ H minimum
Inductance Measurement Condition	100 kHz, 1 mA
Rated DC Resistance Range	25 – 98 m $\Omega$ maximum
Operating Temperature	-20°C to +60°C (not including self-temperature rise)

**Table 1 – Ratings & Part Number Reference**

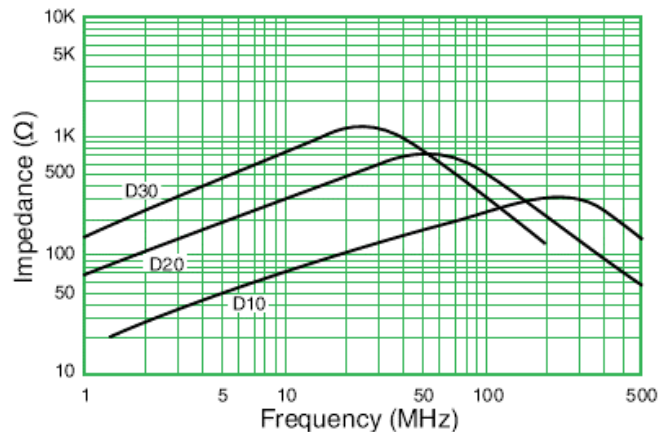
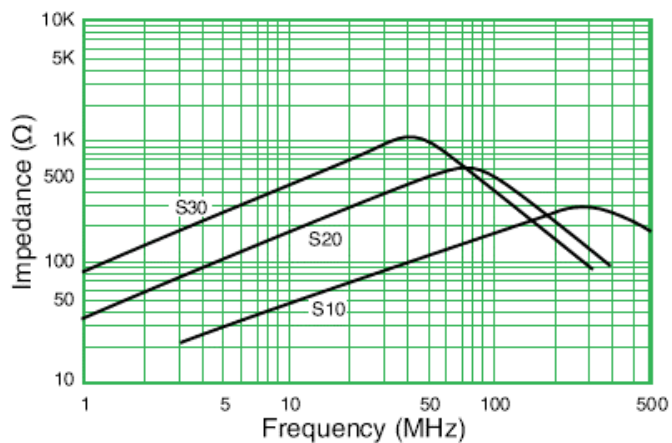
Part Number	Rated Current (A)	Inductance (μH) Minimum	DC Resistance/Line (mΩ) Maximum	Weight (g)
SNT-S10	3.0	1.5	25	0.79
SNT-S10T	3.0	1.5	25	0.89
SNT-S10TF	3.0	1.5	25	0.89
SNT-S20	1.5	6.0	35	0.85
SNT-S20T	1.5	6.0	35	0.95
SNT-S20TF	1.5	6.0	35	0.95
SNT-S30	0.5	13.0	95	0.87
SNT-S30T	0.5	13.0	95	0.97
SNT-S30TF	0.5	13.0	95	0.97
SNT-D10	3.0	2.5	25	1.08
SNT-D10T	3.0	2.5	25	1.18
SNT-D10TF	3.0	2.5	25	1.18
SNT-D20	1.5	10.0	45	1.20
SNT-D20T	1.5	10.0	45	1.30
SNT-D20TF	1.5	10.0	45	1.30
SNT-D30	0.5	20.0	98	1.12
SNT-D30T	0.5	20.0	98	1.22
SNT-D30TF	0.5	20.0	98	1.22

## Design Example

For noise suppression in the secondary low-voltage power supply circuit.



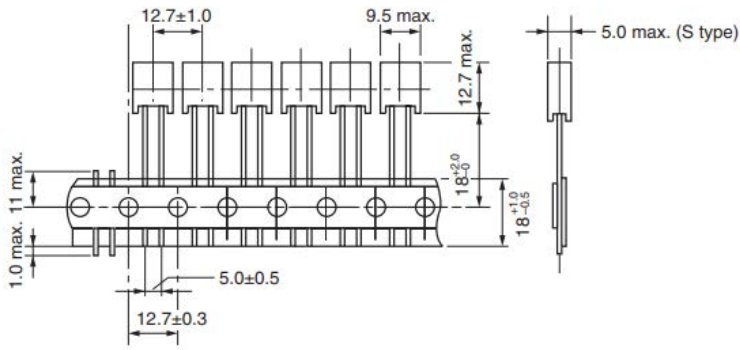
## Frequency Characteristics



## Packaging

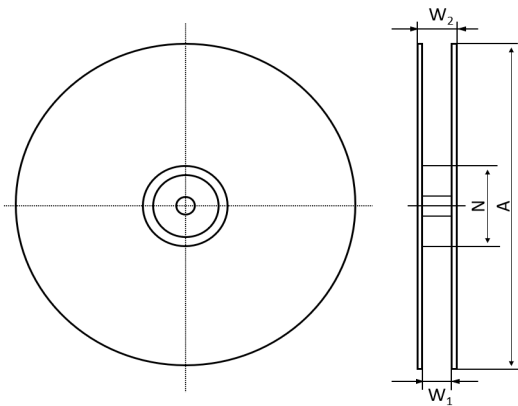
Part Type	Packaging Type	Pieces per Package	Pieces per Box
SNT-***	Bulk	100	6,000
SNT-***T	Tape & Reel	1,000	6,000
SNT-S**TF	Flat taping	1,000	10,000
SNT-D**TF	Flat taping	500	5,000

## Taping Specifications



## Reel Specifications

### Reel Dimensions - Millimeters



A	N	$W_1$ +1.0, -0.0	$W_2$ Maximum
360.0	140.0	44.0	50.2

## Normal Mode for Signal Line, Through-Hole Type, Bead Lead Type Series

### Overview

The KEMET lead type beads intended for normal mode noise suppression have a wide variety of characteristics. These through-hole beads are designed with our proprietary ferrite material and are suitable for noise countermeasure in DC signal line circuits.

### Applications

- Audio-visual equipment
- Office automation equipment
- Digital appliances
- Home appliances
- Power supplies

### Benefits

- Proprietary Nickel-Zinc (Ni-Zn) ferrite core
- High loss
- High reliability
- Operating temperature range from  $-20^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$
- RoHS Compliant



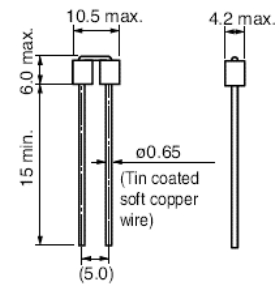
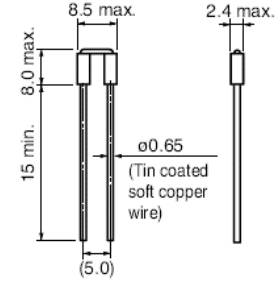
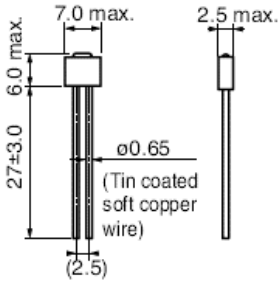
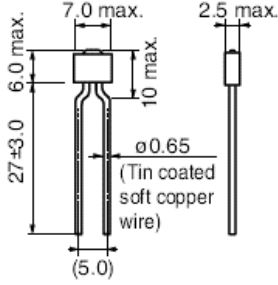
### Part Number System

B-	01-	R	T
Series	Impedance ( $\Omega$ )	Lead Type	Packaging Type
Bead	01 = 2 $\Omega$ 02 = 4 $\Omega$ 03 = 5 $\Omega$ 06 = 40 $\Omega$	A A1 A2 R R-25 R-50 RS	Blank = Bulk T = Tape & Reel TF = Flat taping





**Dimensions – Millimeters cont.**

Part Number	Dimensions - Millimeters
B-02-R	 <p>10.5 max. 6.0 max. 15 min. 4.2 max. 0.65 (Tin coated soft copper wire) (5.0)</p>
B-03-R	 <p>8.5 max. 8.0 max. 15 min. 2.4 max. 0.65 (Tin coated soft copper wire) (5.0)</p>
B-06-R-25	 <p>7.0 max. 6.0 max. 27±3.0 2.5 max. 0.65 (Tin coated soft copper wire) (2.5)</p>
B-06-R-50	 <p>7.0 max. 6.0 max. 10 max. 27±3.0 2.5 max. 0.65 (Tin coated soft copper wire) (5.0)</p>

## Environmental Compliance

All KEMET DC line filters are RoHS Compliant.



## Performance Characteristics

Item	Performance Characteristics
Rated Current	5 A
Impedance Range	2 – 40 $\Omega$
Shape	Single-bead and double-bead
Lead Type	Axial and radial
Operating Temperature	-20°C to +70°C (not including self-temperature rise)

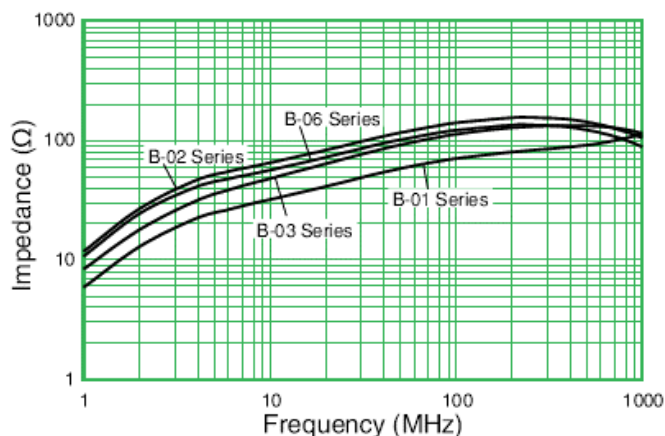
### Table 1 – Ratings & Part Number Reference

Part Number	Rated Current DC <sup>1</sup> (A)	Impedance ( $\Omega$ )	Shape	Lead Type	Weight (g)
B-01-R	5	2 at 1 MHz	Single-bead	Radial	0.40
B-01-RT	5	2 at 1 MHz	Single-bead	Radial	0.40
B-01-RTF	5	2 at 1 MHz	Single-bead	Radial	0.40
B-01-RS	5	2 at 1 MHz	Single-bead	Radial	0.40
B-01-RTS	5	2 at 1 MHz	Single-bead	Radial	0.40
B-01-RTSF	5	2 at 1 MHz	Single-bead	Radial	0.40
B-01-A	5	2 at 1 MHz	Single-bead	Axial	0.40
B-01-A1	5	2 at 1 MHz	Single-bead	Axial	0.30
B-01-A2	5	2 at 1 MHz	Single-bead	Axial	0.30
<b>B-01-AT*</b>	<b>5</b>	<b>2 at 1 MHz</b>	<b>Single-bead</b>	<b>Axial</b>	<b>0.40</b>
B-01-ATF	5	2 at 1 MHz	Single-bead	Axial	0.40
B-01-AT1F	5	2 at 1 MHz	Single-bead	Axial	0.30
B-02-R	5	4 at 1 MHz	Double-bead	Radial	0.60
B-02-RT	5	4 at 1 MHz	Double-bead	Radial	0.60
B-02-RTF	5	4 at 1 MHz	Double-bead	Radial	0.60
B-03-R	5	5 at 1 MHz	Double-bead	Radial	0.30
B-03-RT	5	5 at 1 MHz	Double-bead	Radial	0.30
B-06-R-25	5	40 at 10 MHz	Double-bead	Radial	0.50
B-06-RTF-25	5	40 at 10 MHz	Double-bead	Radial	0.50
B-06-R-50	5	40 at 10 MHz	Double-bead	Radial	0.50
B-06-RTF-50	5	40 at 10 MHz	Double-bead	Radial	0.52

<sup>1</sup> Rated current values are not guaranteed by impedance levels; these values are permissible levels when the lead wire temperature rise is 20°C.

\* Products with bold face font are NOT FOR NEW DESIGN.

## Frequency Characteristics

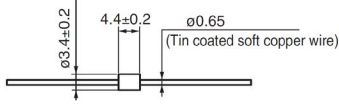
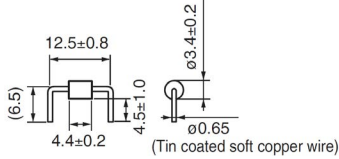
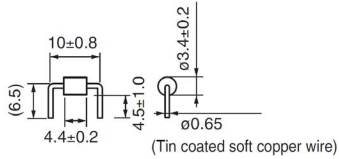
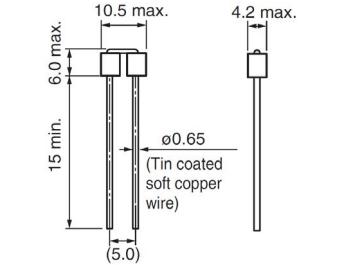
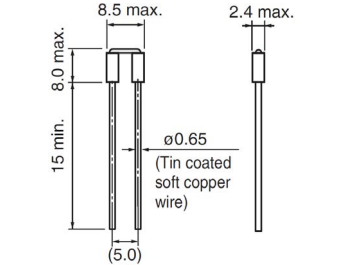


## Packaging

Part Type	Images	Packaging Type	Pieces per Package	Inner Package	Pieces per Package	Outer Box	Pieces per Box
B-01-R		Bulk Plastic Bags	100	Box	3,000	L 230mm W 280mm H 230mm	18,000
B-01-RT		Taping <sup>1</sup>	-	Reel	2,000	L 380mm W 380mm H 350mm	12,000
B-01-RTF			Ammo	2,000	L 280mm W 410mm H 360mm	20,000	
B-01-RS		Bulk Plastic Bags	100	Box	3,000	L 230mm W 280mm H 230mm	18,000
B-01-RTS		Taping <sup>1</sup>	-	Reel	2,000	L 380mm W 380mm H 350mm	12,000
B-01-RTSF			Ammo	2,000	L 280mm W 410mm H 360mm	20,000	

<sup>1</sup> See Reel Specifications for dimensions.

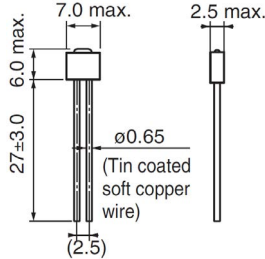
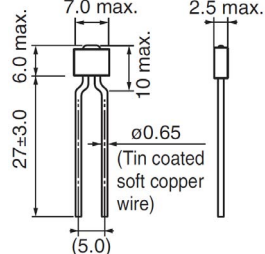
**Packaging cont.**

Part Type	Images	Packaging Type	Pieces per Package	Inner Package	Pieces per Package	Outer Box	Pieces per Box
B-01-A		Bulk Plastic Bags	100	Box	3,000	L 230mm W 280mm H 230mm	18,000
<b>B-01-AT*</b>		<b>Taping<sup>1</sup> (Long Pin)</b>	-	<b>Reel</b>	<b>5,000</b>	<b>L 380mm W 380mm H 350mm</b>	<b>20,000</b>
B-01-ATF		Taping <sup>1</sup> (Long Pin)	-	Ammo	1,500	L 230mm W 280mm H 230mm	15,000
B-01-AT1F		Taping <sup>1</sup> (Short Pin)	-	Ammo	2,000	L 230mm W 280mm H 230mm	32,000
B-01-A1		Bulk Plastic Bags	250	Box	5,000	L 230mm W 280mm H 230mm	30,000
B-01-A2		Bulk Plastic Bags	250	Box	5,000	L 230mm W 280mm H 230mm	30,000
B-02-R		Bulk Plastic Bags	100	Box	2,000	L 230mm W 280mm H 230mm	12,000
B-02-RT		Taping <sup>1</sup>	-	Reel	2,000	L 380mm W 380mm H 350mm	12,000
B-02-RTF			-	Ammo	1,500	L 280mm W 410mm H 360mm	15,000
B-03-R		Bulk Plastic Bags	100	Box	3,000	L 230mm W 280mm H 230mm	18,000
B-03-RT		Taping <sup>1</sup>	-	Reel	2,000	L 380mm W 380mm H 350mm	12,000

<sup>1</sup> See Reel Specifications for dimensions.

\* Products with bold face font are NOT FOR NEW DESIGN.

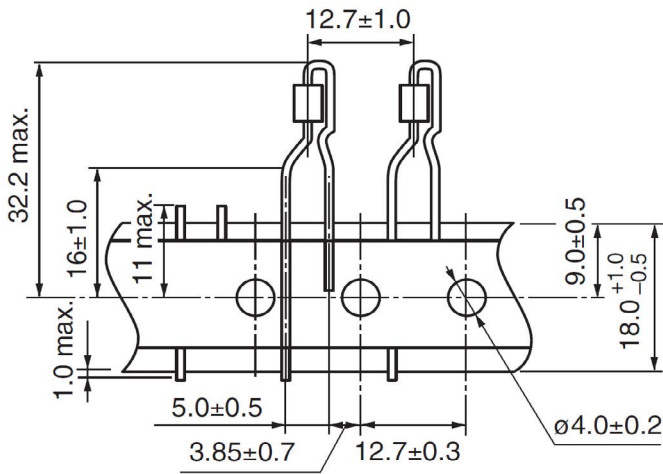
**Packaging cont.**

Part Type	Images	Packaging Type	Pieces per Package	Inner Package	Pieces per Package	Outer Box	Pieces per Box
B-06-R-25		Bulk Plastic bags	100	Box	2,000	L 230mm W 280mm H 230mm	12,000
B-06-RTF-25		Taping <sup>1</sup>	-	Ammo	1,500	L 280mm W 410mm H 360mm	15,000
B-06-R-50		Bulk Plastic bags	100	Box	2,000	L 230mm W 280mm H 230mm	12,000
B-06-RTF-50		Taping <sup>1</sup>	-	Ammo	1,500	L 280mm W 410mm H 360mm	15,000

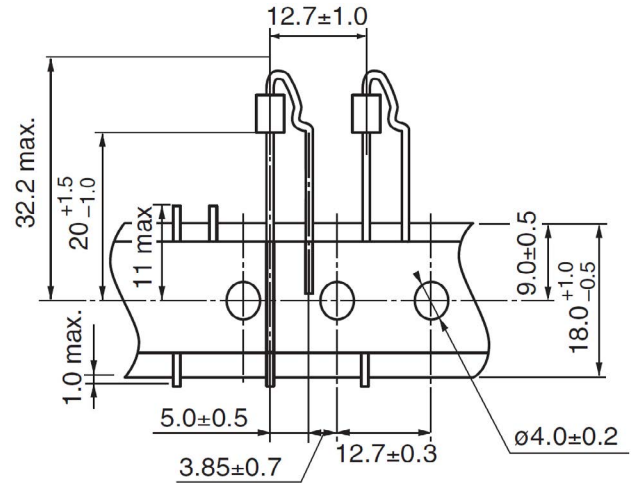
<sup>1</sup> See Reel Specifications for dimensions.

## Taping Specifications

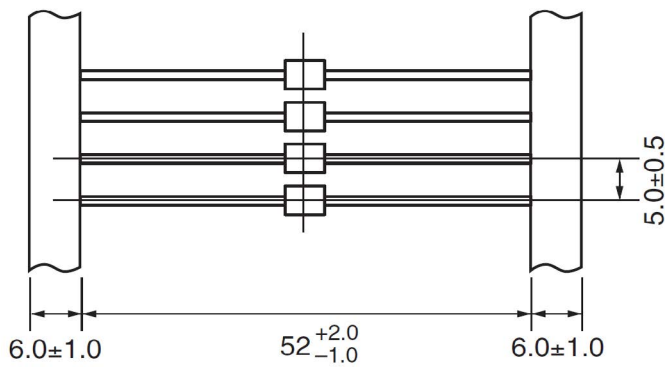
**B-01-RT / B-01-RTF**



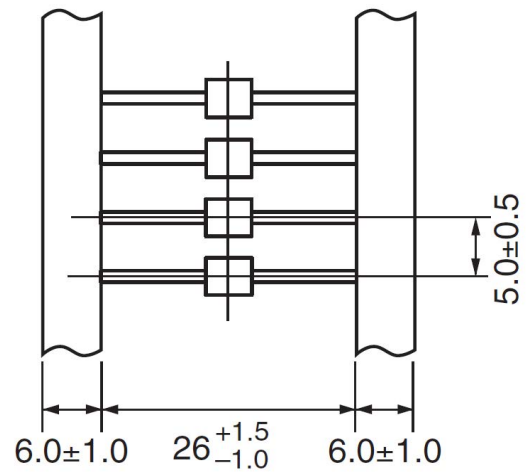
**B-01-RTS / B-01-RTSF**



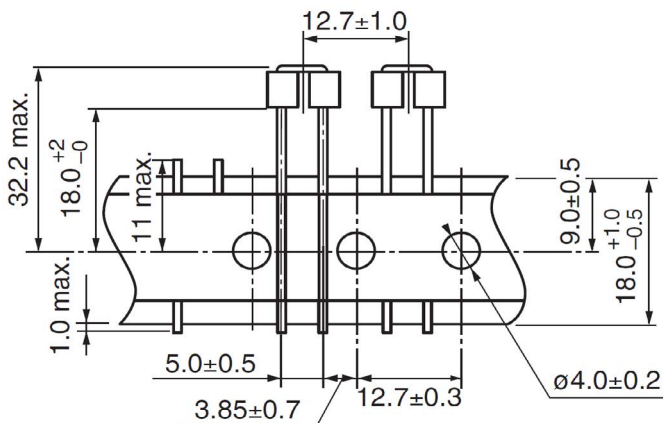
**B-01-ATF**



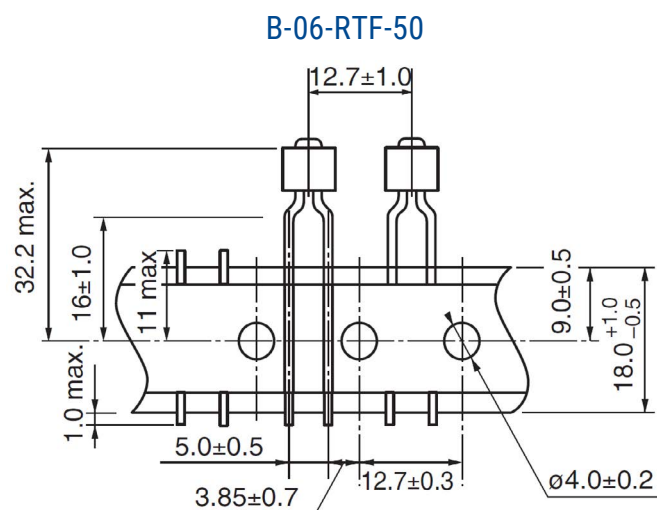
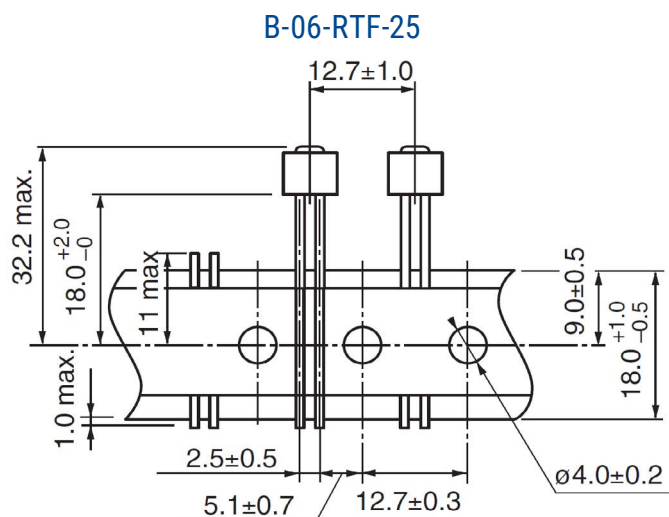
**B-01-AT1F**



**B-02-RT / B-02-RTF / B-03-RT**

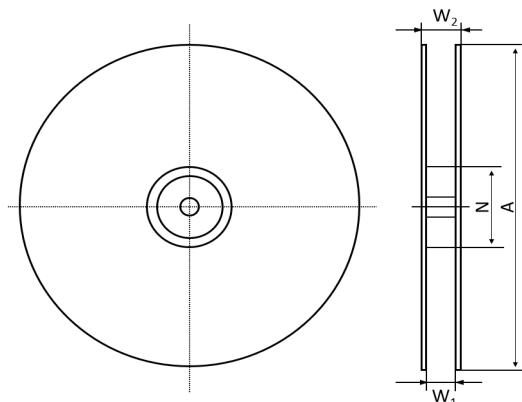


## Taping Specifications cont.



## Reel Specifications

### Reel Dimensions - Millimeters



Part Number	A	N	$W_1$ +1.0, -0.0	$W_2$ Maximum
<b>B-01-AT*</b>	<b>360.0</b>	<b>81.0</b>	<b>68.0</b>	<b>73.2</b>
B-01-RT	360.0	140.0	44.0	50.2
B-01-RTS	360.0	140.0	44.0	50.2
B-02-RT	360.0	140.0	44.0	50.2
B-03-RT	360.0	140.0	44.0	50.2

\* Products with bold face font are NOT FOR NEW DESIGN.

# Normal Mode for Signal Line, Through-Hole Type, Bead Winding Type Series

## Overview

The KEMET winding type beads intended for normal mode noise suppression have a wide variety of characteristics. These through-hole beads are designed with our proprietary ferrite material and are suitable for noise countermeasure in DC signal line circuits.

## Applications

- Audio-visual equipment
- Office automation equipment
- Digital appliances
- Home appliances
- Power supplies

## Benefits

- Proprietary Manganese-Zinc (Mn-Zn) and Nickel-Zinc (Ni-Zn) ferrite materials (except B-6-\*\*\*)
- Operating temperature range from  $-25^{\circ}\text{C}$  to  $+65^{\circ}\text{C}$  (except B-6-\*\*\*:  $-20^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$ )
- RoHS Compliant



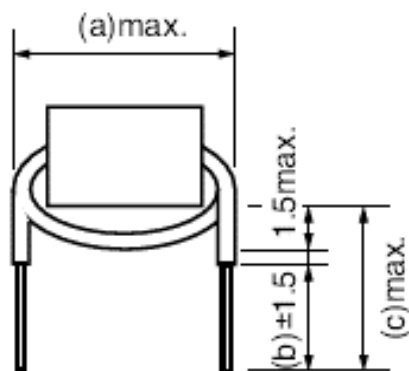
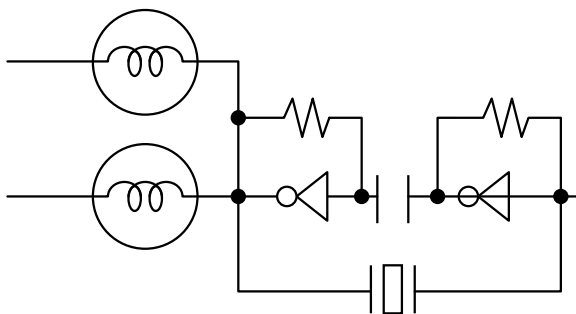
## Part Number System

B-	6-	1	
Series	Core Shape	Internal Management Code	
Bead	Blank = Toroidal 6 = Square 6 holes	1 3 4 5 6-22B	6-31B 7 8 9 10 13



## Dimensions – Millimeters

Clock pulse oscillating section



Part Number	Dimensions - Millimeters		
	a Maximum	b ±1.5	c Maximum
B-1	5.5	5.0	9.0
B-3	9.0	5.0	10.0
B-4	10.5	5.0	9.0
B-5	11.0	5.0	9.0
B-7	6.0	5.0	9.0

**Dimensions – Millimeters cont.**

Part Number	Dimensions - Millimeters
<p>B-8 B-9 B-10</p>	
<p>B-6-22B</p>	
<p>B-6-31B</p>	

**Environmental Compliance**

All KEMET DC line filters are RoHS Compliant.



## Performance Characteristics

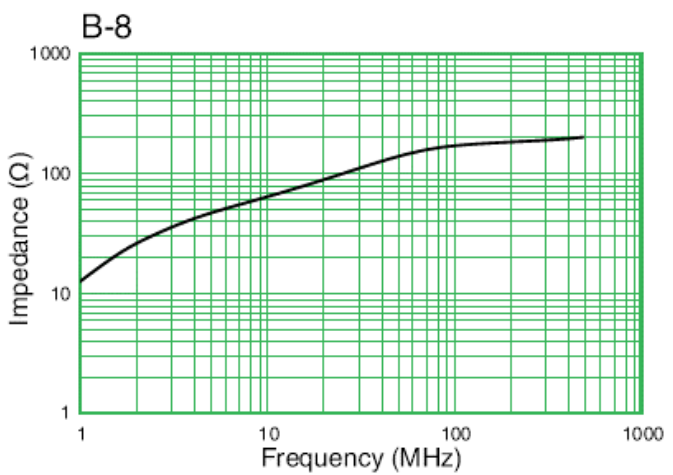
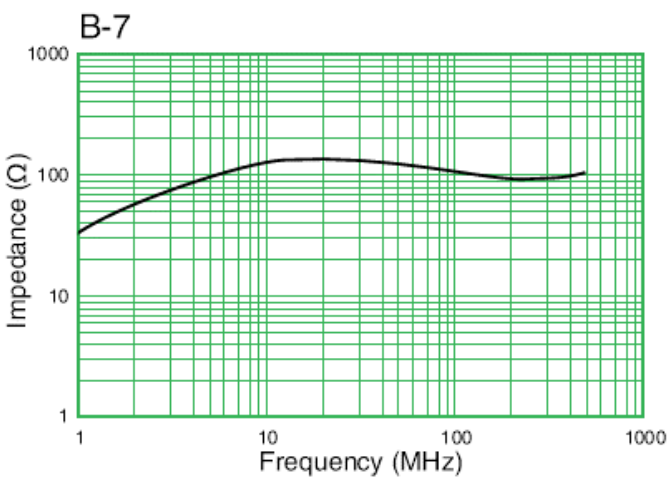
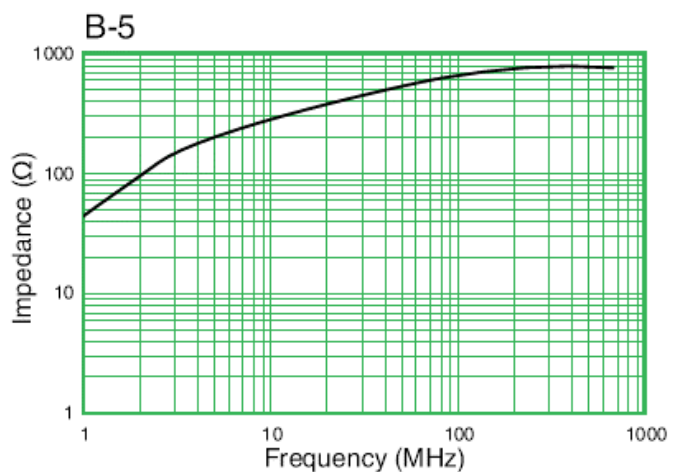
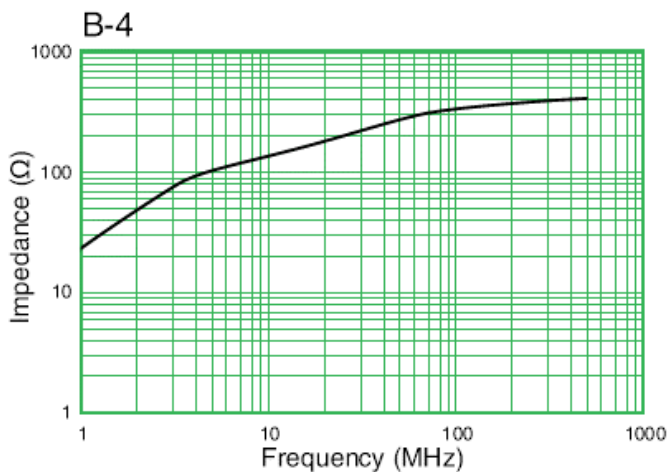
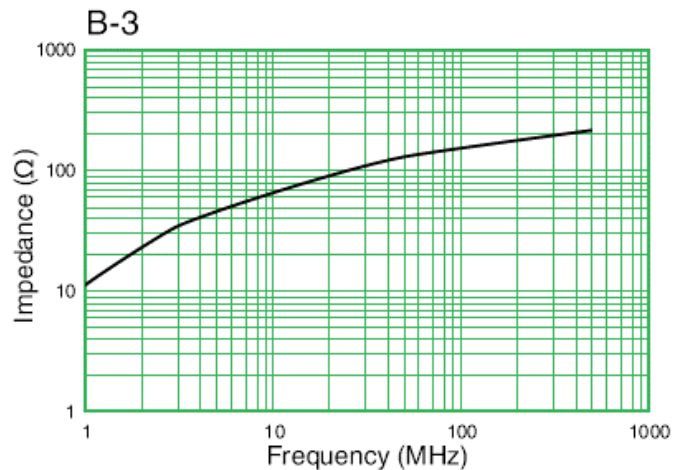
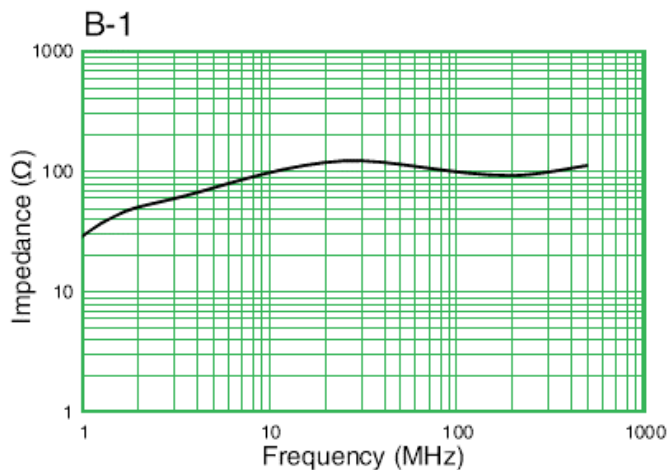
Item	Performance Characteristics
Rated Current Range	1.5 – 3.5 A
Wire	Teflon and soft copper
Number of Turns	2 – 5
Operating Temperature	-25°C to +65°C (not including self-temperature rise) except B-6-***: -20°C to +60°C (not including self-temperature rise)

### Table 1 – Ratings & Part Number Reference

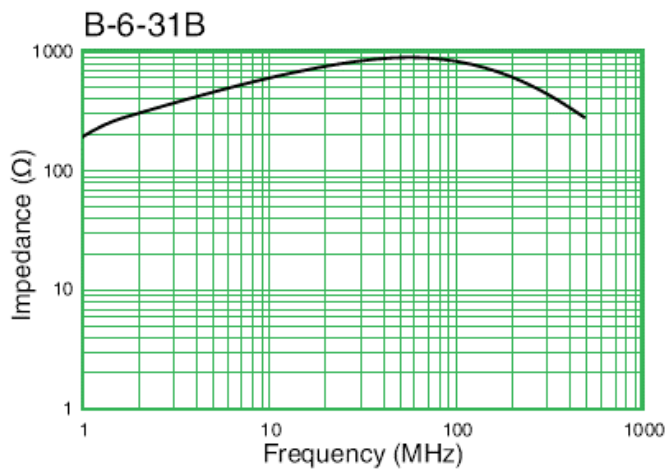
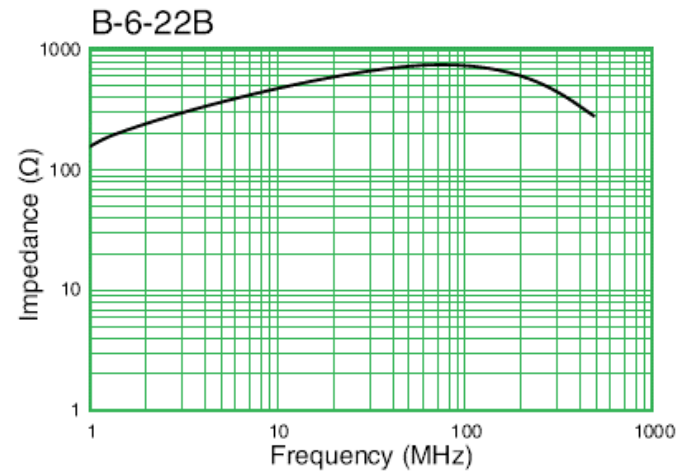
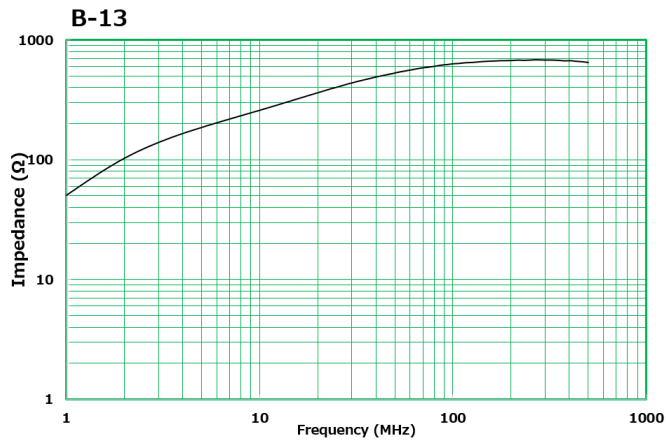
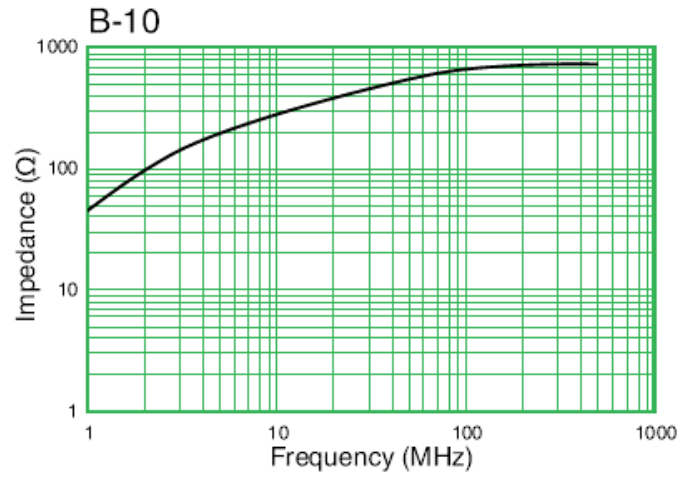
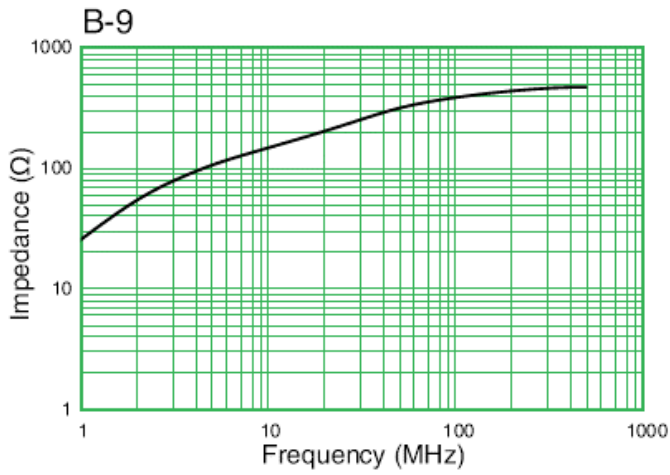
Part Number	Rated Current DC <sup>1</sup> (A)	Core	Wire	Number of Turns	Weight (g)
B-1	1.5	B-20F-28	Teflon Wire (φ 0.26: Single) Color: White	2T	0.09
B-3	3.5	B-20L-48B	Teflon Wire (φ 0.51: Single) Color: Red	2T	0.44
B-4	1.5	B-20L-44	Teflon Wire (φ 0.26: Single) Color: White	2T	0.48
B-5	1.5	B-20L-44	Teflon Wire (φ 0.26: Single) Color: White	3T	0.50
B-7	2.5	B-20F-28	Teflon Wire (φ 0.32: Single) Color: Green	2T	0.09
B-8	2.5	B-20L-48B	Teflon Wire (φ 0.40: Single) Color: Blue	2T	0.37
B-9	2.5	B-20L-48B	Teflon Wire (φ 0.40: Single) Color: Yellow	3T	0.41
B-10	2.5	B-20L-48B	Teflon Wire (φ 0.40: Single) Color: Black	4T	0.43
B-13	2.5	B-20L-48B	Teflon Wire (φ 0.40: Single) Color: White	5T	0.50
B-6-22B	2.0	-	Soft Copper Wire (φ 0.6)	-	2.18
B-6-31B	2.0	-	Soft Copper Wire (φ 0.6)	-	2.20

<sup>1</sup> Rated current values are not guaranteed by impedance levels; these values are permissible levels when the lead wire temperature rise is 20°C.

## Frequency Characteristics



**Frequency Characteristics cont.**



## Packaging

Part Type	Packaging Type	Pieces per Package	Pieces per Box
B-1	Tray	4,000	24,000
B-3			
B-4			
B-5			
B-7			
B-8			
B-9			
B-10			
B-13			
B-6-22B			
B-6-31B		500	3,000

## Handling Precautions

### Precautions for product storage

DC Line Filters should be stored in normal working environments. While the chokes themselves are quite robust in other environments, solderability will be degraded by exposure to high temperatures, high humidity, corrosive atmospheres, and long term storage.

KEMET recommends that maximum storage temperature not exceed 40°C and maximum storage humidity not exceed 70% relative humidity. Atmospheres should be free of chlorine and sulfur bearing compounds. Temperature fluctuations should be minimized to avoid condensation on the parts. Do not store near strong magnetic fields, as this might magnetize the product.

For optimized solderability, DC line filter stock should be used promptly, preferably within six months of receipt.

### Product temperature rise values

The values listed for temperature rise are the result of self-heating in wires when the rated current (commercial frequency) is applied. When using, check and evaluate the value of the core temperature rise under actual operating conditions.

Алматы (7273)495-231  
 Ангарск (3955)60-70-56  
 Архангельск (8182)63-90-72  
 Астрахань (8512)99-46-04  
 Барнаул (3852)73-04-60  
 Белгород (4722)40-23-64  
 Благовещенск (4162)22-76-07  
 Брянск (4832)59-03-52  
 Владивосток (423)249-28-31  
 Владикавказ (8672)28-90-48  
 Владимир (4922)49-43-18  
 Волгоград (844)278-03-48  
 Вологда (8172)26-41-59  
 Воронеж (473)204-51-73  
 Екатеринбург (343)384-55-89  
 Россия +7(495)268-04-70

Иваново (4932)77-34-06  
 Ижевск (3412)26-03-58  
 Иркутск (395)279-98-46  
 Казань (643)206-01-48  
 Калининград (4012)72-03-81  
 Калуга (4842)92-23-67  
 Кемерово (3842)65-04-62  
 Киров (8332)68-02-04  
 Коломна (4966)23-41-49  
 Кострома (4942)77-07-48  
 Краснодар (861)203-40-90  
 Красноярск (391)204-63-61  
 Курск (4712)77-13-04  
 Курган (3522)50-90-47  
 Липецк (4742)52-20-81  
 Казахстан +7(7172)727-132

Магнитогорск (3519)55-03-13  
 Москва (495)268-04-70  
 Мурманск (8152)59-64-93  
 Набережные Челны (8552)20-53-41  
 Нижний Новгород (831)429-08-12  
 Новокузнецк (3843)20-46-81  
 Ноябрьск (3496)41-32-12  
 Новосибирск (383)227-86-73  
 Омск (3812)21-46-40  
 Орел (4862)44-53-42  
 Оренбург (3532)37-68-04  
 Пенза (8412)22-31-16  
 Петрозаводск (8142)55-98-37  
 Псков (8112)59-10-37  
 Пермь (342)205-81-47  
 Киргизия +996(312)96-26-47

Ростов-на-Дону (863)308-18-15  
 Рязань (4912)46-61-64  
 Самара (846)206-03-16  
 Саранск (8342)22-96-24  
 Санкт-Петербург (812)309-46-40  
 Саратов (845)249-38-78  
 Севастополь (8692)22-31-93  
 Симферополь (3652)67-13-56  
 Смоленск (4812)29-41-54  
 Сочи (862)225-72-31  
 Ставрополь (8652)20-65-13  
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 Сыктывкар (8212)25-95-17  
 Тамбов (4752)50-40-97  
 Тверь (4822)63-31-35

Тольятти (8482)63-91-07  
 Томск (3822)98-41-53  
 Тула (4872)33-79-87  
 Тюмень (3452)66-21-18  
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 Улан-Удэ (3012)59-97-51  
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 Череповец (8202)49-02-64  
 Чита (3022)38-34-83  
 Якутск (4112)23-90-97  
 Ярославль (4852)69-52-93