

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°C to +70°C
- RoHS Compliant

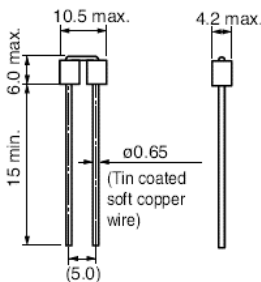
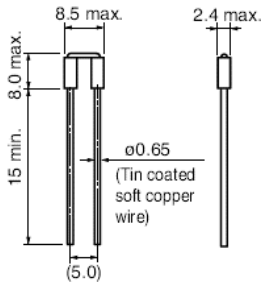
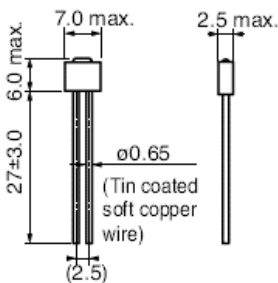
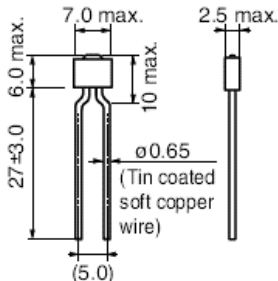


Part Number System

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

Part Number	Dimensions - Millimeters
B-01-R	Technical drawing of part B-01-R. The side view shows a component with a total length of 13 max. and a minimum length of 20 min. for the main body. The main body has a diameter of $\phi 0.65$ and is labeled "(Tin coated soft copper wire)". The end view shows a diameter of $\phi 3.4 \pm 0.2$ and a thickness of 4.4 ± 0.2. The main body has a diameter of $\phi 0.65$ and a length of 10 ± 2.0. The base has a diameter of $\phi 0.65$ and a length of 5.0.
B-01-RS	Technical drawing of part B-01-RS. The side view shows a component with a total length of 7.5 max. and a minimum length of 20 min. for the main body. The main body has a diameter of $\phi 0.65$ and is labeled "(Tin coated soft copper wire)". The end view shows a diameter of $\phi 3.4 \pm 0.2$ and a thickness of 4.4 ± 0.2. The main body has a diameter of $\phi 0.65$ and a length of 10 ± 2.0. The base has a diameter of $\phi 0.65$ and a length of 5.0.
B-01-A	Technical drawing of part B-01-A. The side view shows a component with a total length of 67 ± 2.0. The main body has a diameter of $\phi 0.65$ and is labeled "(Tin coated soft copper wire)". The end view shows a diameter of $\phi 3.4 \pm 0.2$ and a thickness of 4.4 ± 0.2. The main body has a diameter of $\phi 0.65$ and a length of 10 ± 2.0. The base has a diameter of $\phi 0.65$ and a length of 5.0.
B-01-A1	Technical drawing of part B-01-A1. The side view shows a component with a total length of 12.5 ± 0.8. The main body has a diameter of $\phi 0.65$ and is labeled "(Tin coated soft copper wire)". The end view shows a diameter of $\phi 3.4 \pm 0.2$ and a thickness of 4.4 ± 0.2. The main body has a diameter of $\phi 0.65$ and a length of 10 ± 2.0. The base has a diameter of $\phi 0.65$ and a length of 5.0.
B-01-A2	Technical drawing of part B-01-A2. The side view shows a component with a total length of 10 ± 0.8. The main body has a diameter of $\phi 0.65$ and is labeled "(Tin coated soft copper wire)". The end view shows a diameter of $\phi 3.4 \pm 0.2$ and a thickness of 4.4 ± 0.2. The main body has a diameter of $\phi 0.65$ and a length of 10 ± 2.0. The base has a diameter of $\phi 0.65$ and a length of 5.0.

Dimensions – Millimeters cont.

Part Number	Dimensions - Millimeters
B-02-R	
B-03-R	
B-06-R-25	
B-06-R-50	

Environmental Compliance

All KEMET DC line filters are RoHS Compliant.



Performance Characteristics

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

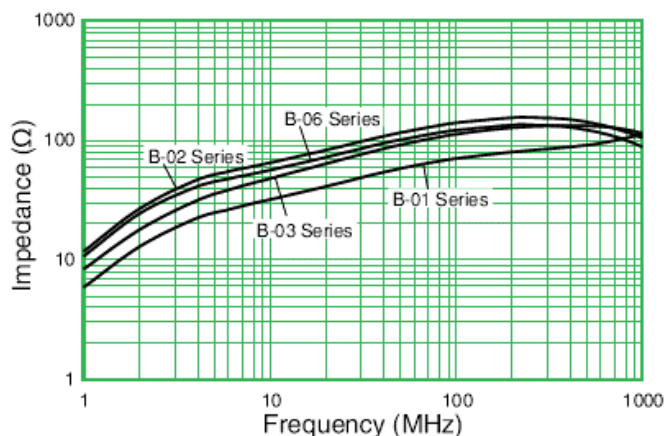
Table 1 – Ratings & Part Number Reference

Part Number	Rated Current DC ¹ (A)	Impedance (Ω)	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-01-AT*	5	2 at 1 MHz	Single-bead	Axial	0.40
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

¹ 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

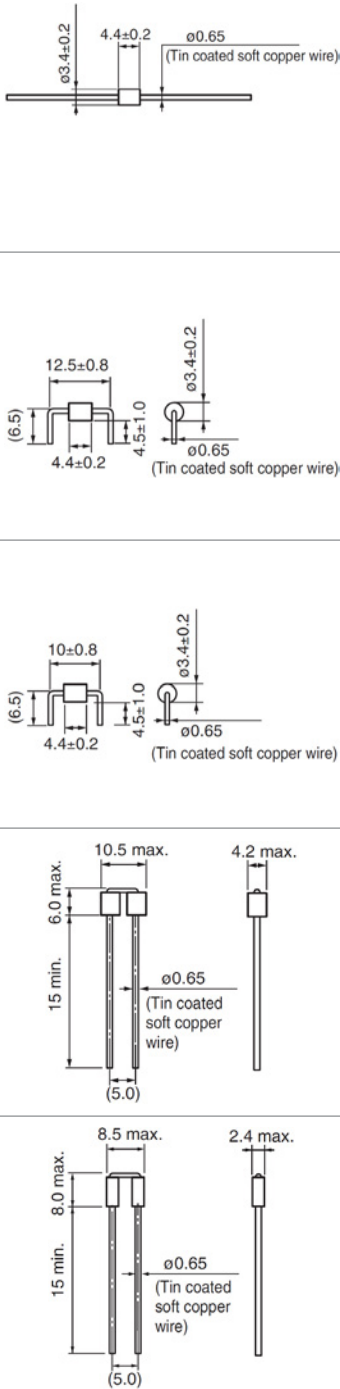
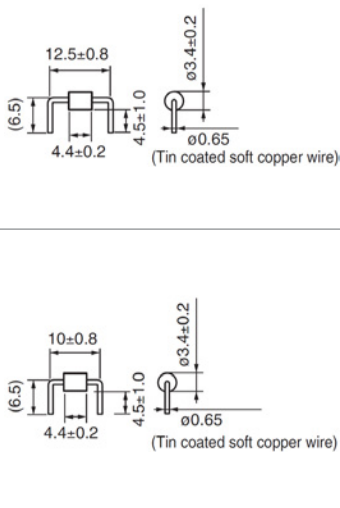
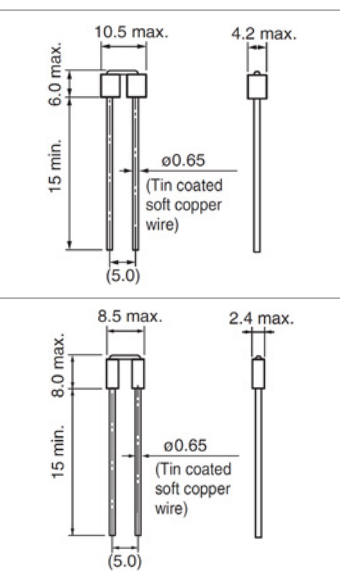
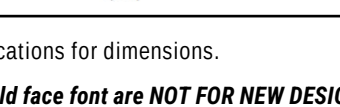


Packaging

Part Type	Images	Packaging Type	Pieces per Package	Inner Package	Pieces per Package	Outer Box	Pieces per Box
B-01-R	13 max. 20 min. 10±2.0 5.0 3.4±0.2 4.4±0.2 0.65 (Tin coated soft copper wire)	Bulk Plastic Bags	100	Box	3,000	L 230mm W 280mm H 230mm	18,000
B-01-RT		Taping ¹	-	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	7.5 max. 20 min. 10±2.0 5.0 3.4±0.2 4.4±0.2 0.65 (Tin coated soft copper wire)	Bulk Plastic Bags	100	Box	3,000	L 230mm W 280mm H 230mm	18,000
B-01-RTS		Taping ¹	-	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

¹ 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-01-AT*		Taping¹ (Long Pin)	–	Reel	5,000	L 380mm W 380mm H 350mm	20,000
B-01-ATF		Taping ¹ (Long Pin)	–	Ammo	1,500	L 230mm W 280mm H 230mm	15,000
B-01-AT1F		Taping ¹ (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 ¹	–	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 ¹	–	Reel	2,000	L 380mm W 380mm H 350mm	12,000

¹ See Reel Specifications for dimensions.

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

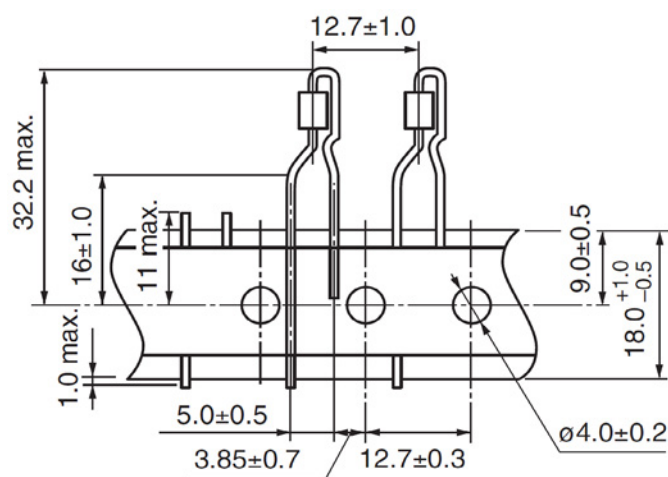
Packaging cont.

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 ¹	-	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 ¹	-	Ammo	1,500	L 280mm W 410mm H 360mm	15,000

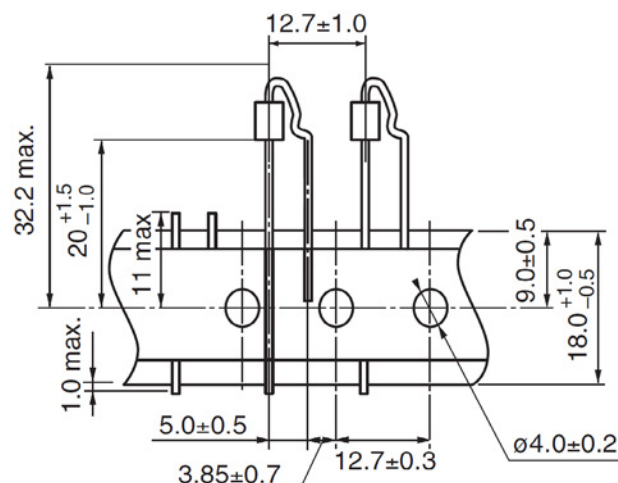
¹ See Reel Specifications for dimensions.

Taping Specifications

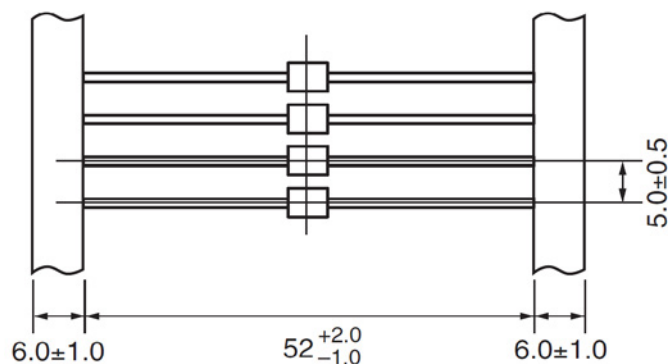
B-01-RT / B-01-RTF



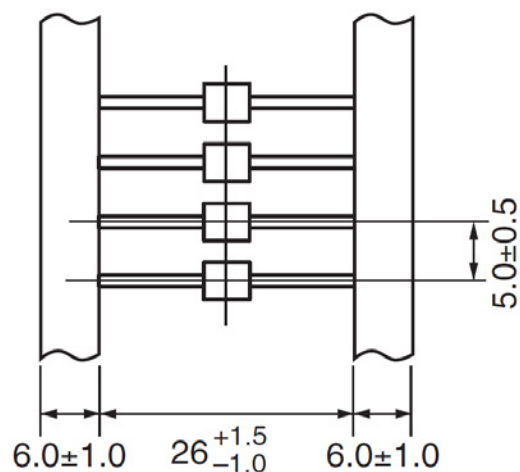
B-01-RTS / B-01-RTSF



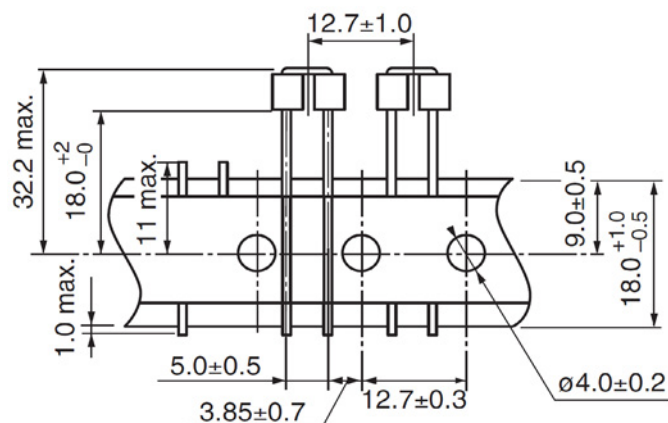
B-01-ATF



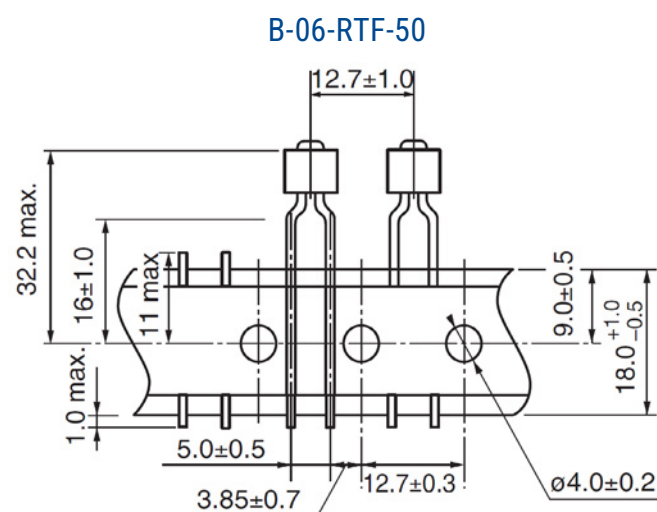
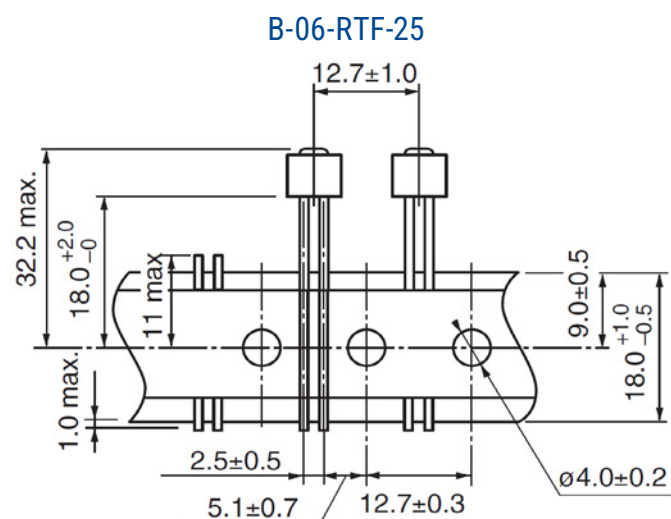
B-01-AT1F



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

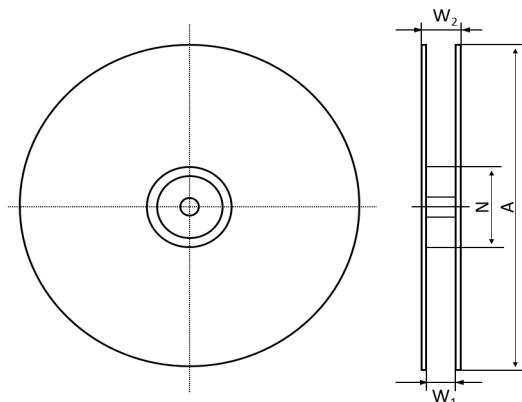


Taping Specifications cont.



Reel Specifications

Reel Dimensions - Millimeters



Part Number	A	N	W_1 +1.0, -0.0	W_2 Maximum
B-01-AT*	360.0	81.0	68.0	73.2
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.

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.

KEMET Electronics Corporation Sales Offices

For a complete list of our global sales offices, please visit www.kemet.com/sales.

Disclaimer

YAGEO Corporation and its affiliates do not recommend the use of commercial or automotive grade products for high reliability applications or manned space flight.

All product specifications, statements, information and data (collectively, the "Information") in this datasheet are subject to change. The customer is responsible for checking and verifying the extent to which the Information contained in this publication is applicable to an order at the time the order is placed. All Information given herein is believed to be accurate and reliable, but it is presented without guarantee, warranty, or responsibility of any kind, expressed or implied.

Statements of suitability for certain applications are based on KEMET Electronics Corporation's ("KEMET") knowledge of typical operating conditions for such applications, but are not intended to constitute – and KEMET specifically disclaims – any warranty concerning suitability for a specific customer application or use. The Information is intended for use only by customers who have the requisite experience and capability to determine the correct products for their application. Any technical advice inferred from this Information or otherwise provided by KEMET with reference to the use of KEMET's products is given gratis, and KEMET assumes no obligation or liability for the advice given or results obtained.

Although KEMET designs and manufactures its products to the most stringent quality and safety standards, given the current state of the art, isolated component failures may still occur. Accordingly, customer applications which require a high degree of reliability or safety should employ suitable designs or other safeguards (such as installation of protective circuitry or redundancies) in order to ensure that the failure of an electrical component does not result in a risk of personal injury or property damage.

Although all product-related warnings, cautions and notes must be observed, the customer should not assume that all safety measures are indicated or that other measures may not be required.

When providing KEMET products and technologies contained herein to other countries, the customer must abide by the procedures and provisions stipulated in all applicable export laws and regulations, including without limitation the International Traffic in Arms Regulations (ITAR), the US Export Administration Regulations (EAR) and the Japan Foreign Exchange and Foreign Trade Act.

KEMET is a registered trademark of KEMET Electronics Corporation.