

# 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 M $\Omega$  (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

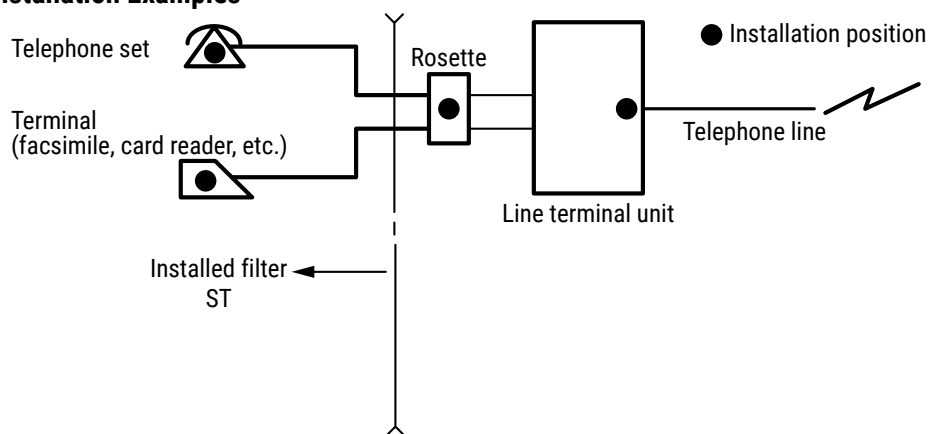
Item	Performance Characteristics
Rated Voltage	50 VDC
Withstanding Voltage	500 VDC (1 minute, between lines)
Insulation Resistance	> 10 MΩ at 250 VDC (between lines)
Rated Current Range	150 – 300 mA
Frequency Range	0.5 ~ 7.0 MHz
Impedance Range	27 – 150 kΩ minimum
Rated DC Resistance Range	3.0 – 7.5 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 (kΩ) Minimum	Rated Voltage DC (V)	Rated Current (mA)	DC Resistance/Line (Ω) 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

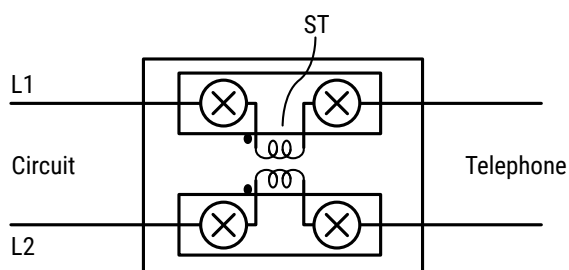
## Installation & Design Examples

### Installation Examples

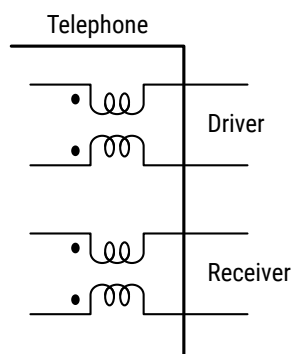


### Design Examples

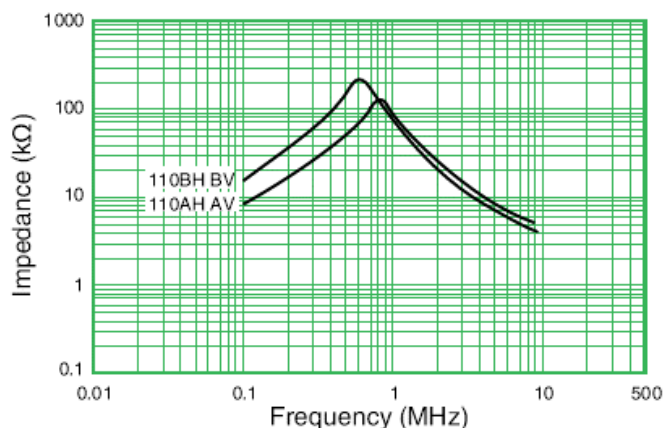
① Installation at rosette or circuit input/output



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.

## Handling Precautions cont.

### 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.

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## Export Control

### For customers in Japan

For products that are controlled items subject to the “Foreign Exchange and Foreign Trade Law” of Japan, the export license specified by the law is required for export.

### For customers outside Japan

DC Line Filters should not be used or sold for use in the development, production, stockpiling or utilization of any conventional weapons or mass-destructive weapons (nuclear weapons, chemical or biological weapons, or missiles) or any other weapons.

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