

# **Common Mode Filters For General Signal Line / Power Line**

**Conformity to RoHS Directive** 

#### ZJY Series ZJY51R5

#### **FEATURES**

- A common mode filter for distortion-free removal of noise from transmitted signals. Best common mode filter for transmission of high quality signals.
- Best filter for countering the common mode noise resulting from data signal processing by PCs, phone equipment, etc.
- Highly appropriate for IC board mounting due to DIP type structure.
- Due to a maximum current tolerance of 2A, can also be used to counter power line noise.

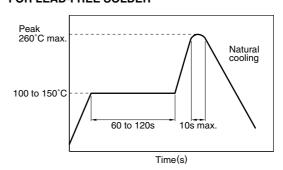
#### **APPLICATIONS**

Personal computers, telephones, LANs, ISDNs, digital PBXs, electronic games, CTVs, CD-ROM drives, 8mm video equipment, and other electronic devices

#### PACKAGING STYLE AND QUANTITIES(Tube style)

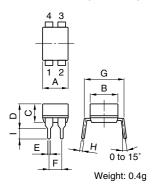
| Part No.        | Quantity  |
|-----------------|-----------|
| ZJY51R5-2P-01   | 80 pieces |
| ZJY51R5-2PB-01  | 80 pieces |
| ZJY51R5-2PL-01  | 80 pieces |
| ZJY51R5-4P-01   | 40 pieces |
| ZJY51R5-M4PA-01 | 40 pieces |
| ZJY51R5-8PA-01  | 20 pieces |
|                 |           |

## RECOMMENDED SOLDERING CONDITION RECOMMENDED FLOW TEMPERATURE PROFILE FOR LEAD-FREE SOLDER

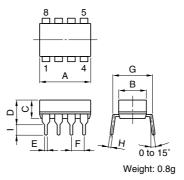




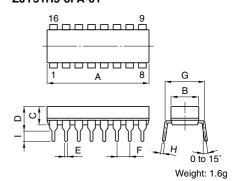
#### SHAPES AND DIMENSIONS TRANSFER MOLD ZJY51R5-2P-01, -2PB-01, -2PL-01



#### ZJY51R5-4P-01, -M4PA-01



PLASTIC CASE ZJY51R5-8PA-01



Dimensions in mm

| Part No.                         | A max. | B max. | C max. | D max. | Е   | F±0.25 | G    | Н    | ı    |
|----------------------------------|--------|--------|--------|--------|-----|--------|------|------|------|
| ZJY51R5-2P-01, -2PB-01, -2PL-01* | 5.5    | 6.86   | 4.57   | 5.84   | 0.5 | 2.54   | 7.62 | 0.25 | 2.54 |
| ZJY51R5-4P-01, -M4PA-01          | 10.5   | 6.86   | 4.57   | 5.84   | 0.5 | 2.54   | 7.62 | 0.25 | 2.54 |
| ZJY51R5-8PA-01                   | 23.5   | 7      | 4.6    | 6.3    | 0.5 | 2.54   | 7.62 | 0.25 | 2.54 |
|                                  |        |        |        |        |     |        |      |      |      |

<sup>\*</sup> The "-01" designation at the end of the product code indicates Lead-free compatible product.

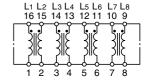
### CIRCUIT DIAGRAMS ZJY51R5-2P-01, -2PB-01, -2PL-01



#### ZJY51R5-4P-01, -M4PA-01



ZJY51R5-8PA-01



• Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

<sup>•</sup> All specifications are subject to change without notice.



#### **ELECTRICAL CHARACTERISTICS**

| Part No.                                   | ZJY51R5-2P-01,<br>-4P-01 | ZJY51R5-2PB-01*1 | ZJY51R5-2PL-01*2 | ZJY51R5-M4PA-01 | ZJY51R5-8PA-01 |  |
|--|--------------------------|------------------|------------------|-----------------|----------------|--|
| Rated voltage Edc(V)                       | 50                       | 50               | 50               | 50              | 50             |  |
| Rated current (A)                          | 2                        | 2                | 2                | 0.5             | 0.5            |  |
| Test voltage Edc(V)                        | 125                      | 125              | 250              | 125             | 250            |  |
| [Between terminals for 5s]                 | 123                      | 123              | 230              | 125             | 200            |  |
| Insulation resistance (MΩ)                 | 100 min.                 | 100 min.         | 100 min.         | 100 min.        | 100 min.       |  |
| [Between terminals at DC.50V for 1min]     | 100 111111.              | 100 111111.      | 100 11111.       |                 |                |  |
| DC resistance (Ω) [Each line]              | 0.12 max.                | 0.12 max.        | 0.10 max.        | 0.25 max.       | 0.07 max.      |  |
| Operating temperature range (°C)           | -25 to +85               | -25 to +85       | -25 to +85       | -25 to +85      | -25 to +85     |  |
| Storage temperature range(After mount)(°C) | -25 to +85               | -25 to +85       | -25 to +85       | -25 to +85      | -25 to +85     |  |
| Immediance (O) [. F.to. : 05°C]            | 200 min.                 | 300 min.         | 100 min.         | 200 min.        | 200 min.       |  |
| Impedance (Ω) [+5 to +35°C]                | [20 to 300MHz]           | [6 to 20MHz]     | [20 to 100MHz]   | [20 to 300MHz]  | [20 to 300MHz] |  |

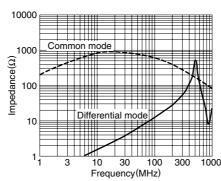
<sup>\*1</sup> This type has improved low-range characteristics.

## TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE CHARACTERISTICS (for 1 element)

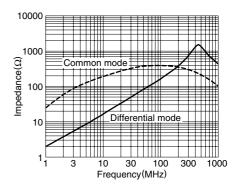
#### ZJY51R5-2P-01, -4P-01, -8PA-01

# 10000 Common mode 1000 Common mode 1000

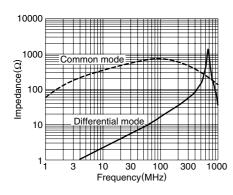
#### ZJY51R5-2PB-01



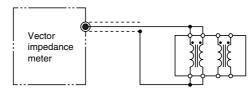
#### ZJY51R5-2PL-01



#### ZJY51R5-M4PA-01



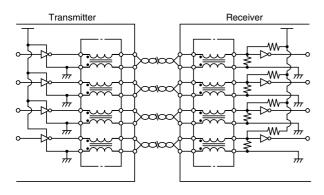
#### **MEASURING CIRCUIT**



Vector impedance meter(YHP 4191A equivalent) Measuring at each Common mode choke coil

#### **TYPICAL APPLICATION**

An application example showing how radiation noise is prevented when transmitter and receiver are connected via twisted pair cables.



<sup>•</sup> All specifications are subject to change without notice.

<sup>\*2</sup> This type is wrapped separately (for communication lines).