

# Common Mode Filters

For general signal line/power line

ZJY series

Type: ZJY51R5

Issue date: September 2011

- All specifications are subject to change without notice.
  - 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.
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# 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

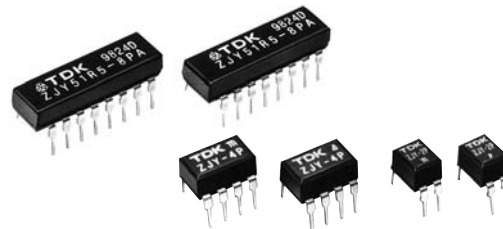
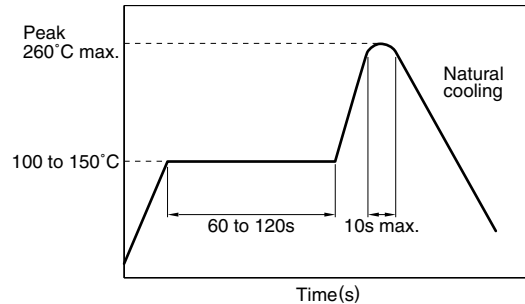
Personal computers, telephones, LANs, ISDNs, digital PBXs, electronic games, CTVs, CD-ROM drives, 8mm video equipment, and other electronic devices

#### 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

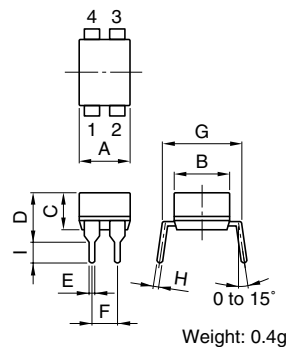
#### RECOMMENDED FLOW TEMPERATURE PROFILE FOR LEAD-FREE SOLDER



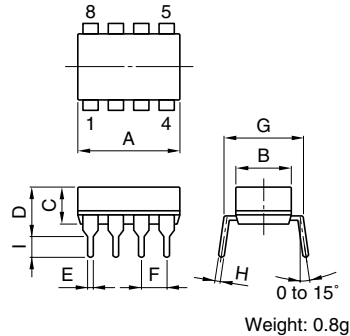
#### SHAPES AND DIMENSIONS

##### TRANSFER MOLD

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

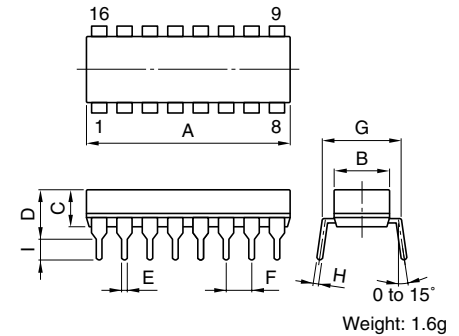


##### ZJY51R5-4P-01, -M4PA-01



##### PLASTIC CASE

##### ZJY51R5-8PA-01

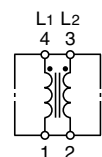


| Part No.                         | Dimensions in mm |        |        |        |     |        |      |      |      |  |
|----------------------------------|------------------|--------|--------|--------|-----|--------|------|------|------|--|
|                                  | A max.           | B max. | C max. | D max. | E   | F±0.25 | G    | H    | I    |  |
| 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 |  |

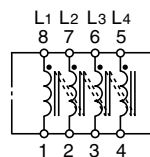
\* The ".01" designation at the end of the product code indicates Lead-free compatible product.

#### CIRCUIT DIAGRAMS

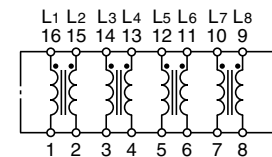
##### ZJY51R5-2P-01, -2PB-01, -2PL-01



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



##### ZJY51R5-8PA-01



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### 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)<br>[Between terminals for 5s]                    | 125                      | 125              | 250              | 125             | 250            |
| Insulation resistance (MΩ)<br>[Between terminals at DC.50V for 1min] | 100 min.                 | 100 min.         | 100 min.         | 100 min.        | 100 min.       |
| 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     |
| Impedance (Ω) [+5 to +35°C]  | [20 to 300MHz]           | [6 to 20MHz]     | [20 to 100MHz]   | [20 to 300MHz]  | [20 to 300MHz] |

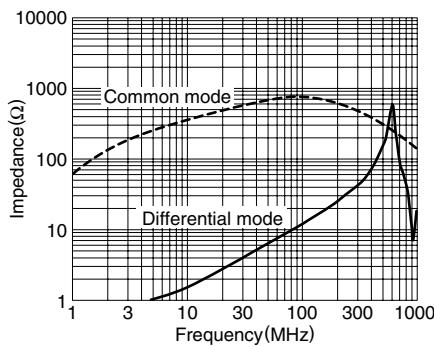
\*1 This type has improved low-range characteristics.

\*2 This type is wrapped separately (for communication lines).

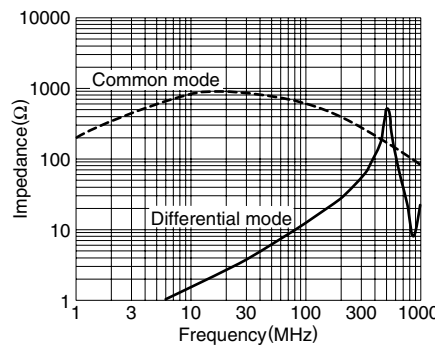
### TYPICAL ELECTRICAL CHARACTERISTICS

#### IMPEDANCE CHARACTERISTICS (for 1 element)

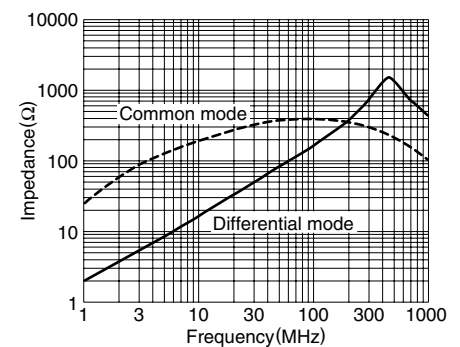
ZJY51R5-2P-01, -4P-01, -8PA-01



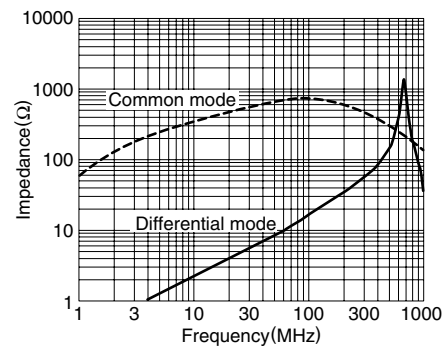
ZJY51R5-2PB-01



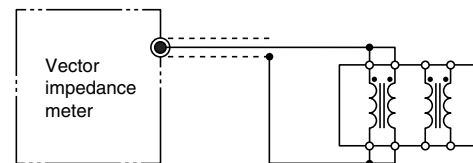
ZJY51R5-2PL-01



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.

