

Common Mode Filters

For general signal line

ZJYS series

Type: ZJYS51

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

Conformity to RoHS Directive

ZJYS Series ZJYS51

FEATURES

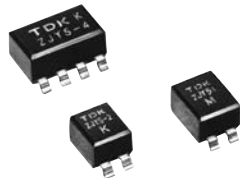
- A common mode filter for distortion-free noise removal from transmission signals. Optimized for transmission of high quality signals.
- Best filter for countering the common mode noise resulting from data signal processing by PCs, phone equipment, etc.
- SMD-type designed for surface mounting.
- Due to a maximum current tolerance of 2A, can also be used to counter power line noise.

APPLICATIONS

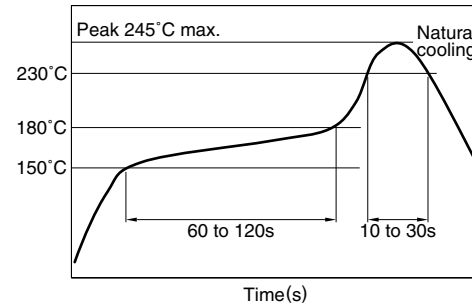
Personal computers, telephones, LANs, ISDNs, digital PBXs, electronic games, CTVs, CD-ROM drives, 8mm video equipment, and other electronic devices.

PACKAGING STYLE AND QUANTITIES

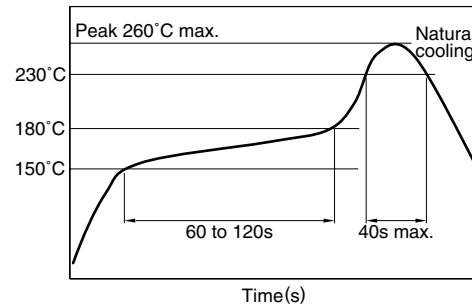
| Part No. | Taping (reel) | Bulk |
|---------------------|---------------|------------|
| ZJYS51R5-2P(T)-01 | 1500 pieces | 200 pieces |
| ZJYS51R5-2PB(T)-01 | 1500 pieces | 200 pieces |
| ZJYS51R5-2PL(T)-01 | 1500 pieces | 200 pieces |
| ZJYS51R5-4P(T)-01 | 1000 pieces | 100 pieces |
| ZJYS51R5-M4PA(T)-01 | 1000 pieces | 100 pieces |



RECOMMENDED SOLDERING CONDITIONS RECOMMENDED TEMPERATURE PROFILE FOR LEAD-FREE SOLDER



REFLOW PROFILE FOR SOLDER HEAT RESISTANCE



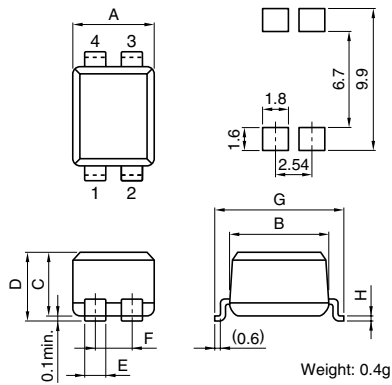
• Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

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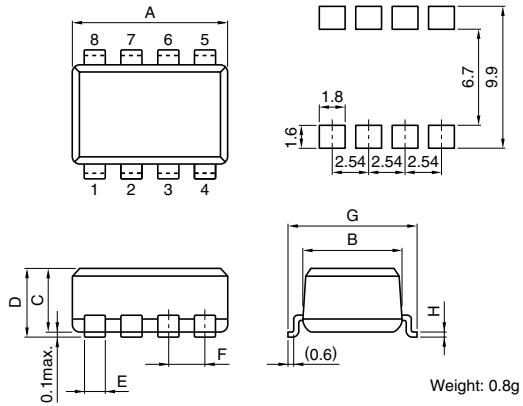
SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERNS

TRANSFER MOLD

ZJYS51R5-2P(T)-01, -2PB(T)-01, -2PL(T)-01



ZJYS51R5-4P(T)-01, -M4PA(T)-01



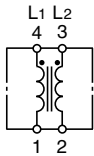
| Part No. | Dimensions in mm | | | | | | | |
|---|------------------|--------|--------|--------|-----|-----------|--------|------|
| | A max. | B max. | C max. | D max. | E | F | G max. | H |
| ZJYS51R5-2P(T)-01, -2PB(T)-01, -2PL(T)*1-01*2 | 5.5 | 6.86 | 4.57 | 5.08 | 1.3 | 2.54±0.25 | 9±0.5 | 0.25 |
| ZJYS51R5-4P(T)-01, -M4PA(T)-01 | 10.5 | 6.86 | 4.57 | 5.08 | 1.3 | 2.54±0.25 | 9±0.5 | 0.25 |

*1 T means the taping product.

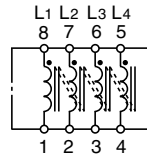
*2 The "-01" designation at the end of the product code indicates lead-free compatible product.

CIRCUIT DIAGRAMS

ZJYS51R5-2P(T)-01, -2PB(T)-01, -2PL(T)-01



ZJYS51R5-4P(T)-01, -M4PA(T)-01



ELECTRICAL CHARACTERISTICS

| Part No. | ZJYS51R5-2P(T)-01, 4P(T)-01 | ZJYS51R5-2PB(T)-01*1 | ZJYS51R5-2PL(T)-01*2 | ZJYS51R5-M4PA(T)-01 |
|--|--------------------------------|----------------------|------------------------|------------------------|
| Rated voltage E _{dc} (V) | 50 | 50 | 50 | 50 |
| Rated current (A) | 2 | 2 | 2 | 0.5 |
| Test voltage E _{dc} (V) [Between terminals for 5s] | 125 | 125 | 250 | 125 |
| Insulation resistance (MΩ) [Between terminals at DC.50V for 1min] | 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. |
| Operating temperature range (°C) | -25 to +85 | -25 to +85 | -25 to +85 | -25 to +85 |
| Impedance (Ω) [+5 to +35°C] | 200 min.[20 to 300MHz] | 300 min.[6 to 20MHz] | 100 min.[20 to 100MHz] | 200 min.[20 to 300MHz] |

*1 The improvement type on low area characteristics.

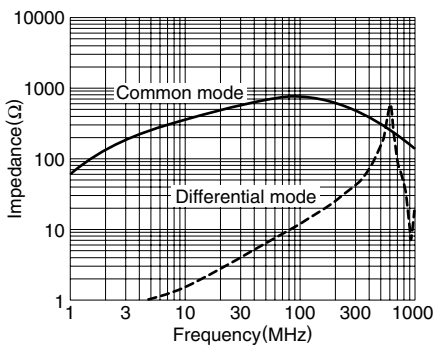
*2 Separate winding type (for communications).

• The "T" designation at the end of the product code indicates tape mounting.

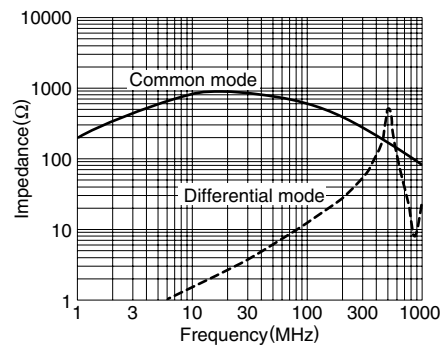
TYPICAL ELECTRICAL CHARACTERISTICS

IMPEDANCE vs. FREQUENCY CHARACTERISTICS (for 1 element)

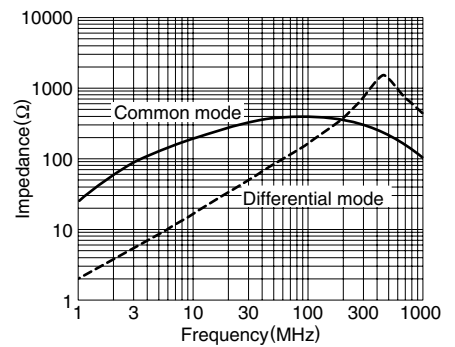
ZJYS51R5-2P-01, 4P(T)-01



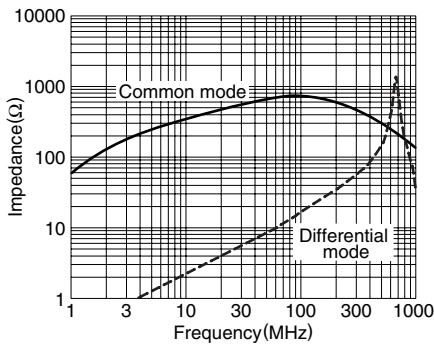
ZJYS51R5-2PB-01



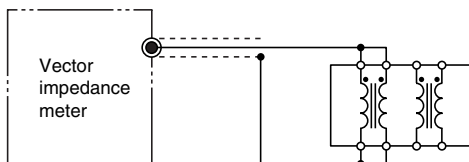
ZJYS51R5-2PL-01



ZJYS51R5-M4PA-01



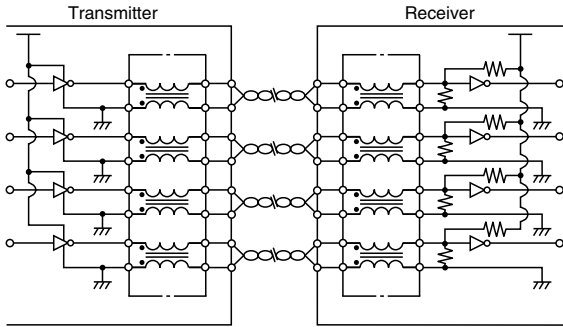
MEASURING CIRCUIT



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

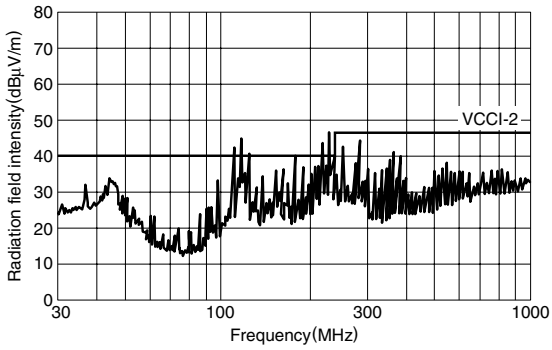
TYPICAL APPLICATION

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

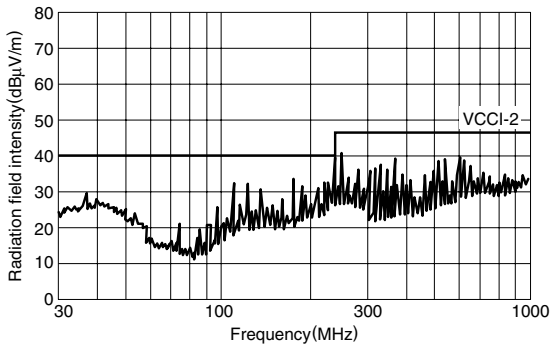


TYPICAL APPLICATION EFFECTS

(a) Without EMC filter



(b) With EMC filter
ZJYS51R5-2P(T)-01



Mouser Electronics

Authorized Distributor

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[ZJYS51R5-4P](#) [ZJYS51R5-M4PA](#)