

# 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

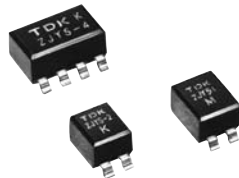
- A common mode filter for distortion-free noise removal from transmission signals. Optimized for transmission of high quality signals.
- Best filter for countering the common mode noise resulting from data signal processing by PCs, phone equipment, etc.
- SMD-type designed for surface mounting.
- Due 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.

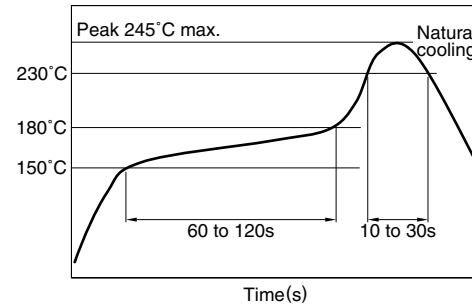
### PACKAGING STYLE AND QUANTITIES

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

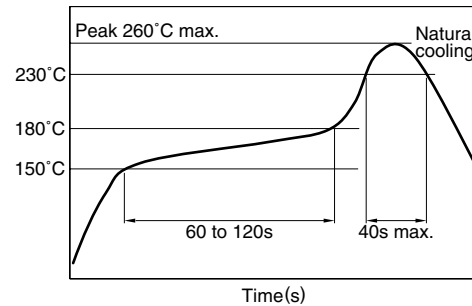


### RECOMMENDED SOLDERING CONDITIONS

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



#### REFLOW PROFILE FOR SOLDER HEAT RESISTANCE



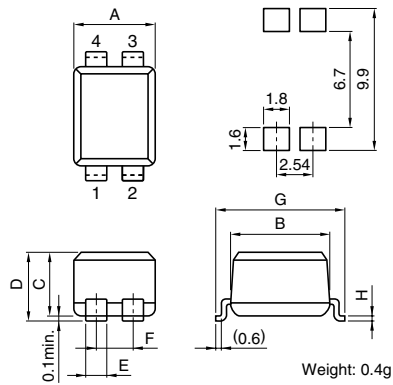
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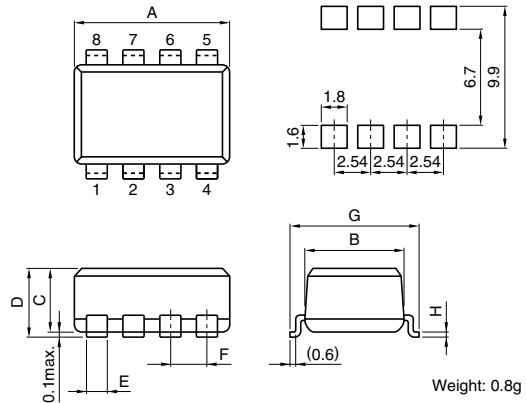
## SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERNS

### TRANSFER MOLD

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



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



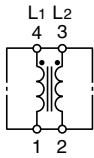
Dimensions in mm								
Part No.	A max.	B max.	C max.	D max.	E	F	G max.	H
ZJYS51R5-2P(T)-01, -2PB(T)-01, -2PL(T)*1-01*2	5.5	6.86	4.57	5.08	1.3	2.54±0.25	9±0.5	0.25
ZJYS51R5-4P(T)-01, -M4PA(T)-01	10.5	6.86	4.57	5.08	1.3	2.54±0.25	9±0.5	0.25

\*1 T means the taping product.

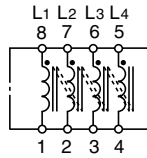
\*2 The "-01" designation at the end of the product code indicates lead-free compatible product.

### 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 <sub>dc</sub> (V)	50	50	50	50
Rated current (A)	2	2	2	0.5
Test voltage E <sub>dc</sub> (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.

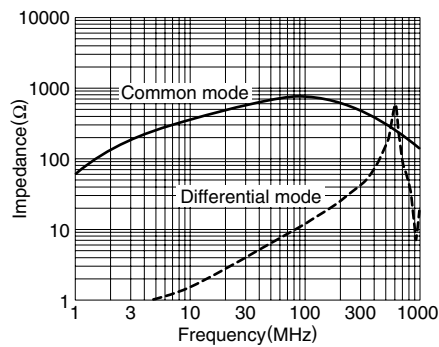
\*2 Separate winding type (for communications).

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

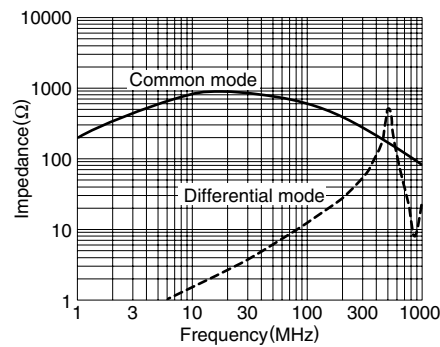
## TYPICAL ELECTRICAL CHARACTERISTICS

### IMPEDANCE vs. FREQUENCY CHARACTERISTICS (for 1 element)

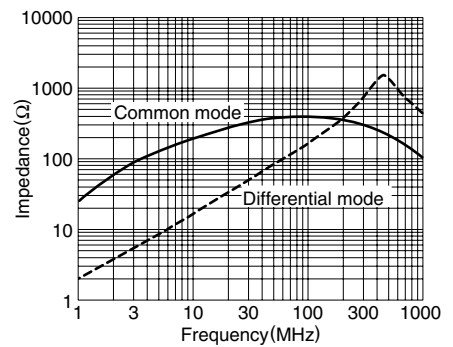
ZJYS51R5-2P-01, 4P(T)-01



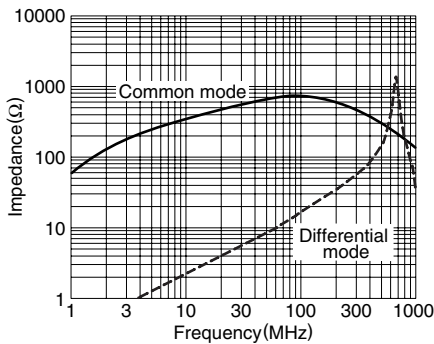
ZJYS51R5-2PB-01



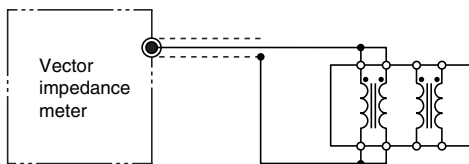
ZJYS51R5-2PL-01



ZJYS51R5-M4PA-01



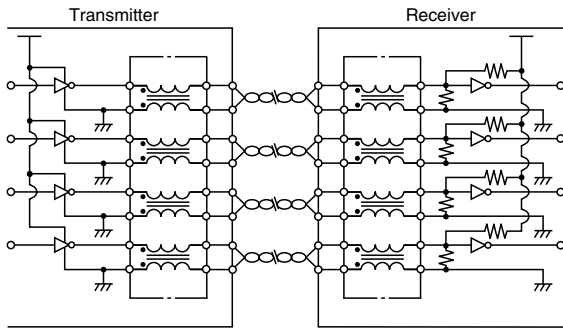
## MEASURING CIRCUIT



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

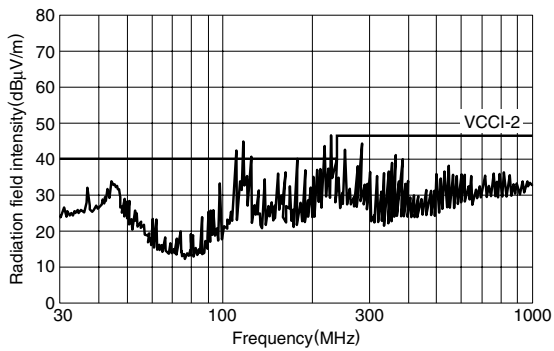
## TYPICAL APPLICATION

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

