

## Common Mode Filters(SMD)

For CAN-BUS/General signal line

### ZJYS series

**Type:**            **ZJYS81 (2 lines)**  
                      **ZJYS51 (2 and 4 lines)**

**Issue date:**     December 2010

- 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.

# Common Mode Filters(SMD) For CAN-BUS / General Signal Line

Conformity to RoHS Directive

## ZJYS Series ZJYS81 Type

### FEATURES

- Operating temperature range covers from  $-40$  to  $+125^{\circ}\text{C}$ .
- Non-dissolution of the abutment amounts in circuit board mounting.
- The products contain no lead and also support lead-free soldering.
- This product conforms to the standards that are slated to be introduced under the RoHS Directive.

### APPLICATIONS

CAN-BUS system, facsimiles, modems, ISDN

### PACKAGING STYLE AND QUANTITIES

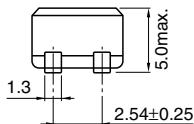
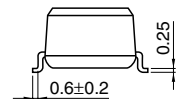
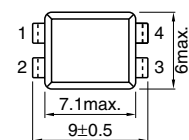
Packaging style	Quantity
Taping	1500 pieces/reel

### PRODUCT IDENTIFICATION

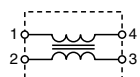
ZJYS81R5 - 2P L 25 (T) - G01  
(1) (2) (3) (4) (5) (6)

- Series name
- Number of line  
2P: 2-line
- Winding type  
L: Sector  
No mark: Bifilar
- Product identification number
- Packaging style  
T:  $\phi 330\text{mm}$  reel taping
- TDK internal code

### SHAPES AND DIMENSIONS

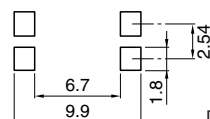


### CIRCUIT DIAGRAM



- No polarity

### RECOMMENDED PC BOARD PATTERN



Dimensions in mm

Weight: 0.4g

Dimensions in mm



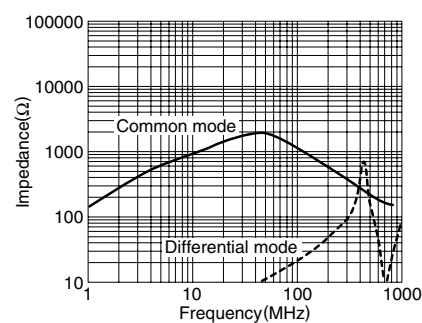
### ELECTRICAL CHARACTERISTICS

Part No.	Common mode impedance ( $\Omega$ )[10MHz]		DC resistance ( $\Omega$ )max.	Rated current (A)max.	Insulation resistance (M $\Omega$ )min.	Rated voltage (V)max.
	min.	typ.				
ZJYS81R5-2P24-G01	500	1000	0.15	0.5	100	80
ZJYS81R5-2P50-G01	1000	2000	0.25	0.5	100	80
ZJYS81R5-2PL25-G01	600	1000	0.25	0.5	100	80
ZJYS81R5-2PL51-G01	1000	2000	0.3	0.5	100	80

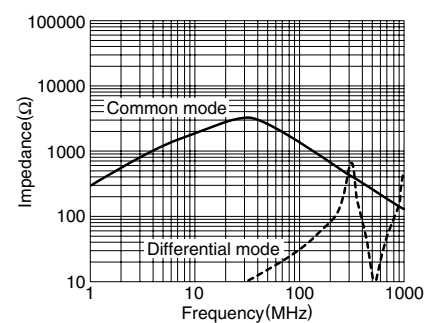
### TYPICAL ELECTRICAL CHARACTERISTICS

#### IMPEDANCE vs. FREQUENCY CHARACTERISTICS

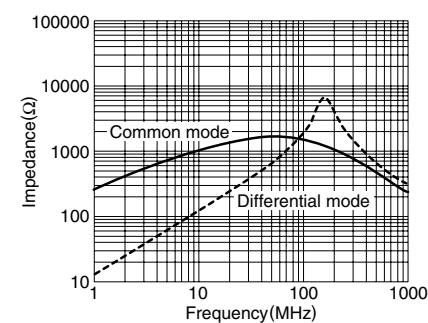
##### ZJYS81R5-2P24



##### ZJYS81R5-2P50



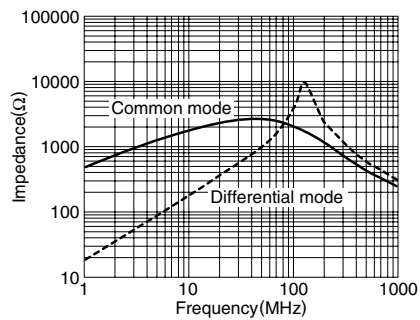
##### ZJYS81R5-2PL25



- 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.

- All specifications are subject to change without notice.

### TYPICAL ELECTRICAL CHARACTERISTICS IMPEDANCE vs. FREQUENCY CHARACTERISTICS



# Common Mode Filters(SMD) For General Signal Line

Conformity to RoHS Directive

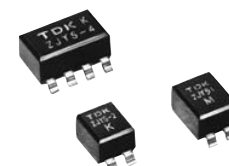
## ZJYS Series ZJYS51 Type

### FEATURES

- A common mode filter for distortion-free noise removal from transmitted 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

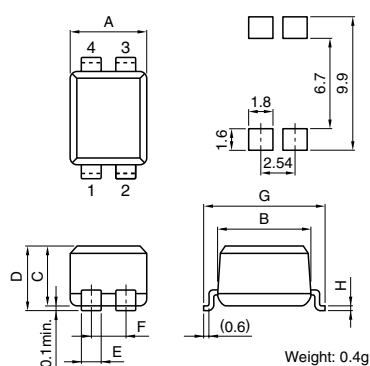
Personal computers, telephones, LANs, ISDNs, digital PBXs, electronic games, CTVs, CD-ROM drives, 8mm video equipment, and other electronic devices.



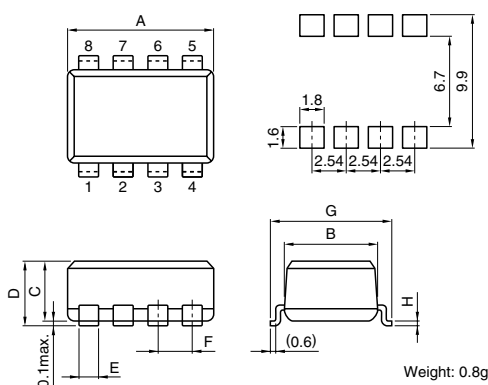
### SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERNS

#### TRANSFER MOLD

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



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



Dimensions in mm

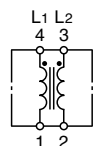
Part No.	A max.	B max.	C max.	D max.	E	F	G max.	H
ZJYS51R5-2P(T)-01, -2PB(T)-01, -2PL(T)*1-01*2	5.5	6.86	4.57	5.08	1.3	2.54±0.25	9±0.5	0.25
ZJYS51R5-4P(T)-01, -M4PA(T)-01	10.5	6.86	4.57	5.08	1.3	2.54±0.25	9±0.5	0.25

\*1 T means the taping product.

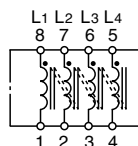
\*2 The "-01" designation at the end of the product code indicates conformity to RoHS directive.

### CIRCUIT DIAGRAMS

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



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

- All specifications are subject to change without notice.

## 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 Edc(V)	50	50	50	50
Rated current (A)	2	2	2	0.5
Test voltage Edc(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 characteristics of low area reform type.

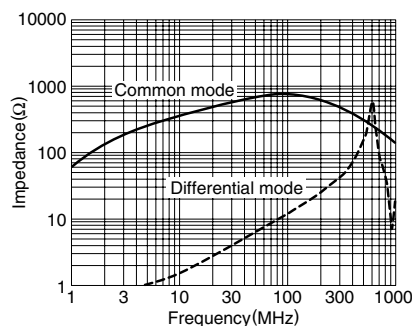
\*2 Separate winding type (for communications).

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

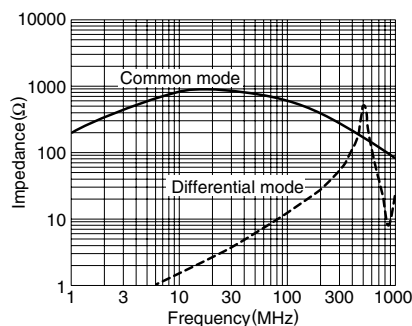
## TYPICAL ELECTRICAL CHARACTERISTICS

### IMPEDANCE CHARACTERISTICS (for 1 element)

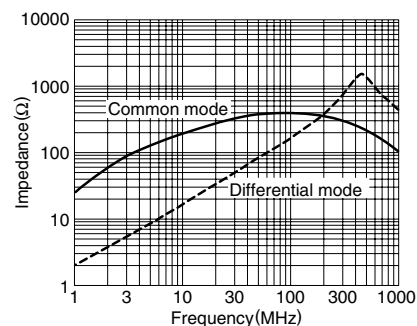
#### ZJYS51R5-2P-01, 4P(T)-01



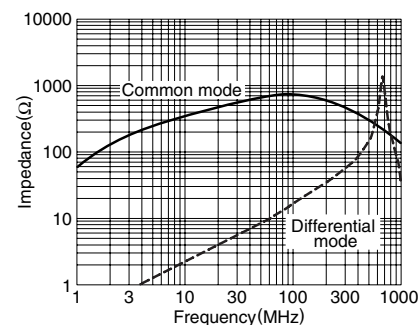
#### ZJYS51R5-2PB-01



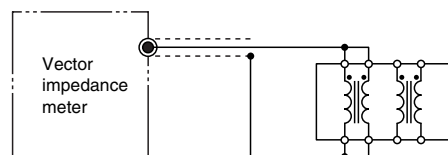
#### ZJYS51R5-2PL-01



#### ZJYS51R5-M4PA-01



## MEASURING CIRCUIT



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

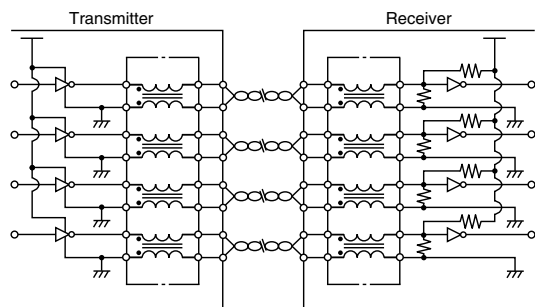
## PACKAGING STYLE AND QUANTITIES

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

• All specifications are subject to change without notice.

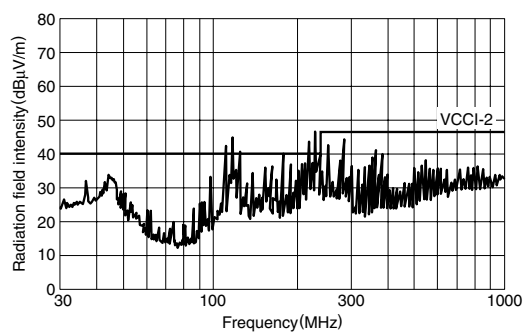
## TYPICAL APPLICATION

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



## TYPICAL APPLICATION EFFECTS

### (a) Without EMC filter



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

