

# Common Mode Filters

For automobile signal line

## ACT series

Type:	ACT45B	[1812 inch]* (CAN-BUS)
	ACT45R	[1812 inch] (FlexRay)

\* Dimensions Code [EIA]

Issue date: July 2012

- 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 For Automobile Signal Line

Conformity to RoHS Directive

## ACT Series ACT45B

### FEATURES

- Operating temperature range covers from  $-40$  to  $+150^{\circ}\text{C}$ .
- 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, facsimiles, modems, ISDN

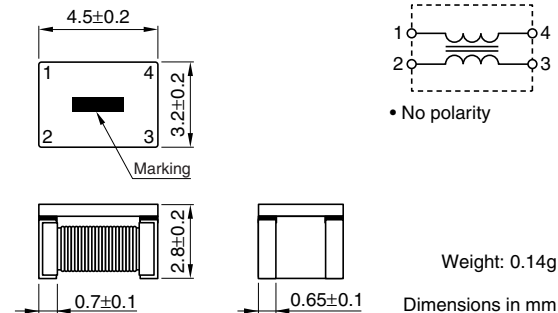
### TEMPERATURE RANGES

Operating	$-40$ to $+150^{\circ}\text{C}$
Storage(After mount)	$-40$ to $+150^{\circ}\text{C}$

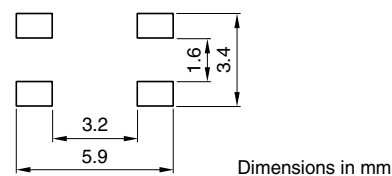
### PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Taping	2500 pieces/reel

### SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



### RECOMMENDED PC BOARD PATTERN

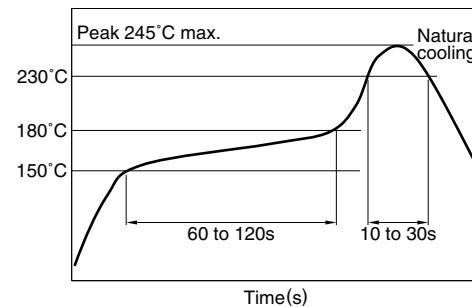


### PRODUCT IDENTIFICATION

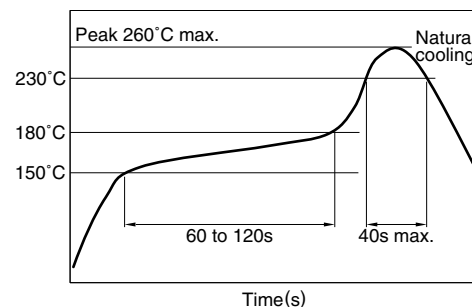
ACT45B - 510 - 2P - TL   
 (1) (2) (3) (4) (5)

- (1) Series name  
 (2) Inductance value (typ.)  
 510: 51 $\mu\text{H}$   
 (3) Number of line  
 2P: 2-line  
 (4) Packaging style  
 TL:  $\phi$ 330mm reel taping  
 (5) TDK internal code

### 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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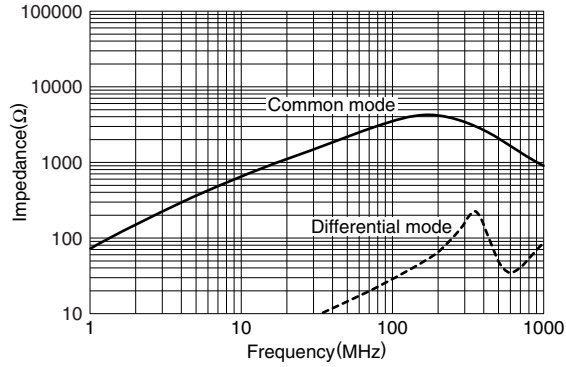
## ELECTRICAL CHARACTERISTICS

Part No.	Common mode impedance ( $\Omega$ )[10MHz]		Common mode inductance ( $\mu\text{H}$ )+50/-30% [100kHz]	Stray inductance ( $\mu\text{H}$ )typ. [100kHz]	DC resistance ( $\Omega$ )max.	Rated current (A)max.	Insulation resistance ( $\text{M}\Omega$ )min.	Rated voltage (V)max.
	min.	typ.						
ACT45B-110-2P	300	600	11	0.05	0.6	0.25	10	50
ACT45B-220-2P	500	1200	22	0.08	1.0	0.2	10	50
ACT45B-510-2P	1000	2800	51	0.15	1.0	0.2	10	50
ACT45B-101-2P	2000	5800	100	0.20	2.0	0.15	10	50

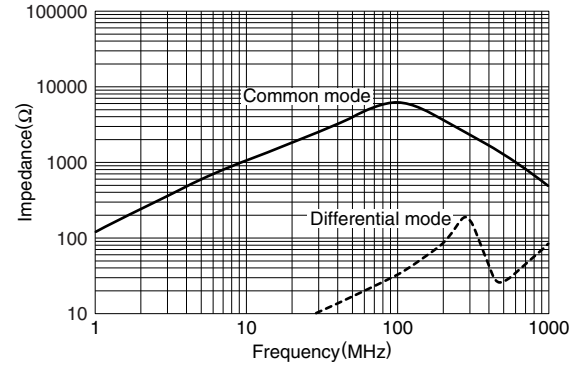
## TYPICAL ELECTRICAL CHARACTERISTICS

### IMPEDANCE vs. FREQUENCY CHARACTERISTICS

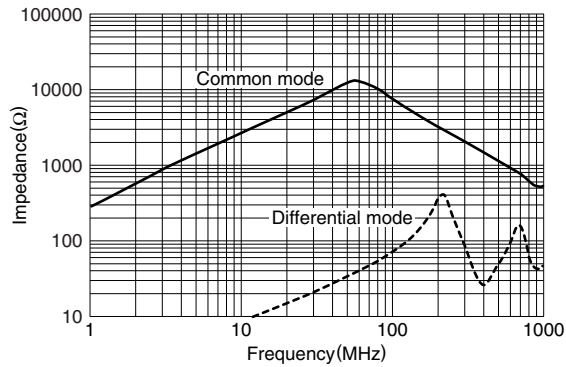
#### ACT45B-110-2P



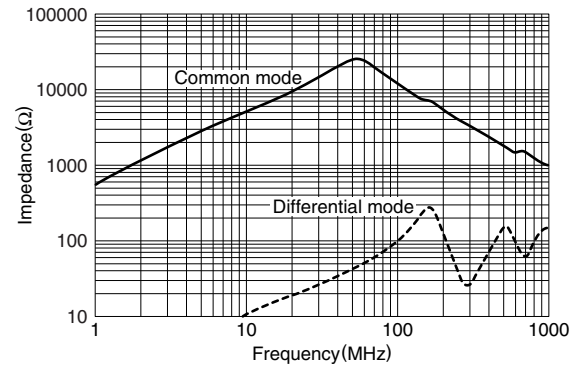
#### ACT45B-220-2P



#### ACT45B-510-2P



#### ACT45B-101-2P



# Common Mode Filters For Automobile Signal Line

Conformity to RoHS Directive

## ACT Series ACT45R

### FEATURES

- Operating temperature range covers from  $-40$  to  $+150^{\circ}\text{C}$ .
- 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

FlexRay system

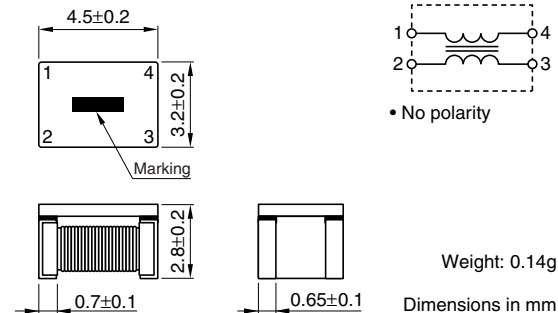
### TEMPERATURE RANGES

Operating	$-40$ to $+150^{\circ}\text{C}$
Storage(After mount)	$-40$ to $+150^{\circ}\text{C}$

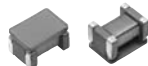
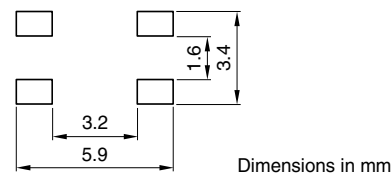
### PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Taping	2500 pieces/reel

### SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



### RECOMMENDED PC BOARD PATTERN

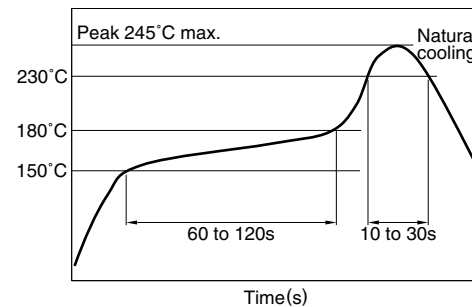


### PRODUCT IDENTIFICATION

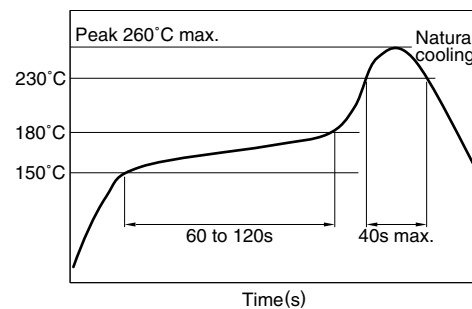
ACT45R - 101 - 2P - TL   
 (1) (2) (3) (4) (5)

- (1) Series name  
 (2) Inductance value (typ.)  
 101:  $100\mu\text{H}$   
 (3) Number of line  
 2P: 2-line  
 (4) Packaging style  
 TL:  $\phi 330\text{mm}$  reel taping  
 (5) TDK internal code

### 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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Part No.	Common mode impedance ( $\Omega$ ) [10MHz]		Common mode inductance ( $\mu\text{H}$ ) +50/-30% [100kHz]	Stray inductance ( $\mu\text{H}$ ) typ. [100kHz]	DC resistance ( $\Omega$ ) max.	Rated current (A) max.	Insulation resistance ( $\text{M}\Omega$ ) min.	Rated voltage (V) max.
	min.	typ.						
ACT45R-101-2P-TL001	2200	5500	100	0.2	1.5	0.2	10	50

## TYPICAL ELECTRICAL CHARACTERISTICS

### IMPEDANCE vs. FREQUENCY CHARACTERISTICS

