

# Clamp Filters (Ferrite Core with Case)

For cable

ZCAT series

Type:           ZCAT  
                  ZCAT-A  
                  ZCAT-B  
                  ZCAT-D/-DT

Issue date:     June 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.
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# Clamp Filters For Cable

Conformity to RoHS Directive

## ZCAT Series

### FEATURES

- Unique plastic case ensures simple, convenient installation and includes a self-holding mechanism to prevent slippage on cables.
- Ferrite core provides excellent absorption of high-frequency EMC.
- Highly effective as countermeasure against common mode EMC without adverse effect on signal quality.
- Large core size prevents saturation during large signal surges.

### APPLICATIONS

Personal computers, word processors, monitors, hard disk drives, digital telephones, audio devices, electronic musical instruments, video games, copiers and facsimiles

### PRODUCT IDENTIFICATION

|      |     |     |     |     |     |     |   |     |
|------|-----|-----|-----|-----|-----|-----|---|-----|
| ZCAT | 24  | 36  | -   | 13  | 30  | A   | - | BK  |
| (1)  | (2) | (3) | (4) | (5) | (6) | (7) |   | (7) |

- (1) Series name  
 (2) Outer dimensions(mm)  
 (3) Length(mm)  
 (4) Inner dimensions(mm)  
 (5) Material code  
 (6) Fixed type code  
 A: Cable fixed  
     Hold the cable to secure it with the main body  
 B: Clamp fixed  
 D: Flat cable type  
 DT: Flat cable type (Hold with adhesive pad.)  
 Non code: Band fixed  
     (Secure the cable and main body with the nylon belt.)  
 (7) Outer color code  
 BK: Black  
 Non code: Gray

### TEMPERATURE RANGES

|                                       |              |
|---------------------------------------|--------------|
| Operating temperature range           | -40 to +85°C |
| Temperature range for engagement work | 0 to +50°C   |



### PACKAGING STYLE AND QUANTITIES

| Type       | Quantity        |
|------------|-----------------|
| ZCAT3035   | 200 pieces/box  |
| ZCAT2017-B | 350 pieces/box  |
| ZCAT2235   | 400 pieces/box  |
| ZCAT2436   | 400 pieces/box  |
| ZCAT2032   | 420 pieces/box  |
| ZCAT2035   | 480 pieces/box  |
| ZCAT2132   | 480 pieces/box  |
| ZCAT1730   | 840 pieces/box  |
| ZCAT2017   | 640 pieces/box  |
| ZCAT1325   | 1344 pieces/box |
| ZCAT1518   | 896 pieces/box  |
| ZCAT3618-D | 480 pieces/box  |
| ZCAT4625-D | 240 pieces/box  |
| ZCAT6819-D | 160 pieces/box  |
| ZCAT10D    | 770 pieces/box  |
| ZCAT13D    | 500 pieces/box  |
| ZCAT20D    | 280 pieces/box  |

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## SHAPES AND DIMENSIONS

### ZCAT



### ZCAT-A



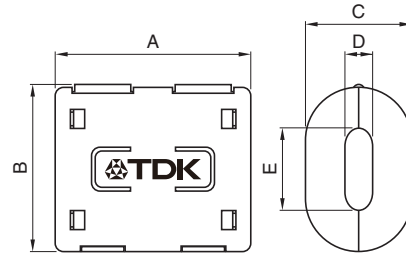
### ZCAT-B



### ZCAT-D, ZCAT-DT



### ZCAT10D, 13D, 20D



## INTERNAL CONSTRUCTION



## STRUCTURE OF THE MOUNTING BAND



| Part No.               | Dimensions in mm |        |      |        |        | Applicable cable outer diameter | Weight (g) | Impedance freq. characteristics Fig. |
|------------------------|------------------|--------|------|--------|--------|---------------------------------|------------|--------------------------------------|
|                        | A                | B      | C    | D      | E      |                                 |            |                                      |
| ZCAT1518-0730(-BK)*1   | 22±1             | 18±1   | 7±1  | 15±1   | –      | 7max.                           | 6.1        | 1                                    |
| ZCAT2017-0930(-BK)*1   | 21±1             | 17±1   | 9±1  | 20±1   | –      | 9max.                           | 7.0        | 2                                    |
| ZCAT2032-0930(-BK)*1   | 36±1             | 32±1   | 9±1  | 19.5±1 | –      | 9max.                           | 22.7       | 3                                    |
| ZCAT2132-1130(-BK)*1   | 36±1             | 32±1   | 11±1 | 20.5±1 | –      | 11max.                          | 21.6       | 4                                    |
| ZCAT3035-1330(-BK)*1   | 39±1             | 34±1   | 13±1 | 30±1   | –      | 13max.                          | 64.8       | 5                                    |
| ZCAT1325-0530A(-BK)    | 25±1             | 20±1   | 5±1  | 12.8±1 | 11.2±1 | 3 to 5(USB)                     | 6.37       | 4                                    |
| ZCAT1730-0730A(-BK)    | 30±1             | 23±1   | 7±1  | 16.5±1 | 15±1   | 4 to 7(USB/IEEE1394)            | 11.6       | 6                                    |
| ZCAT2035-0930A(-BK)    | 35±1             | 28±1   | 9±1  | 19.5±1 | 17.4±1 | 6 to 9                          | 21.2       | 3                                    |
| ZCAT2235-1030A(-BK)    | 35±1             | 28±1   | 10±1 | 21.5±1 | 20±1   | 8 to 10                         | 26.0       | 7                                    |
| ZCAT2436-1330A(-BK)    | 36±1             | 29±1   | 13±1 | 23.5±1 | 22±1   | 10 to 13                        | 29.0       | 8                                    |
| ZCAT2017-0930B(-BK)    | 21±1             | 17±1   | 9±1  | 20±1   | (29)   | 9max.                           | 11.5       | 2                                    |
| ZCAT3618-2630D(-BK)    | 33.5±1           | 17.5±1 | 26±1 | 11.5±1 | –      | For 20 wires flat cable         | 15.6       | 9                                    |
| ZCAT3618-2630DT(-BK)*2 | 33.5±1           | 17.5±1 | 26±1 | 12.5±1 | –      | For 20 wires flat cable         | 15.6       | 9                                    |
| ZCAT4625-3430D(-BK)    | 45.5±1           | 24.5±1 | 34±1 | 12±1   | –      | For 26 wires flat cable         | 32.5       | 10                                   |
| ZCAT4625-3430DT(-BK)*2 | 45.5±1           | 24.5±1 | 34±1 | 13±1   | –      | For 26 wires flat cable         | 32.5       | 10                                   |
| ZCAT6819-5230D(-BK)    | 67.5±1           | 18.5±1 | 52±1 | 16±1   | –      | For 40 wires flat cable         | 58.4       | 10                                   |
| ZCAT6819-5230DT(-BK)*2 | 67.5±1           | 18.5±1 | 52±1 | 17±1   | –      | For 40 wires flat cable         | 58.4       | 10                                   |
| ZCAT 10D(-BK)          | 27±1             | 14.5±1 | 10±1 | 4±1    | 7±1    | 4max.                           | 5.6        | 11                                   |
| ZCAT 13D(-BK)          | 34±1             | 20±1   | 13±1 | 5±1    | 8.5±1  | 5max.                           | 14.8       | 12                                   |
| ZCAT 20D(-BK)          | 35±1             | 30±1   | 20±1 | 5±1    | 15±1   | 5max.                           | 46.3       | 13                                   |

\*1 These products are delivered with fixed band.

\*2 ZCAT-DT type: Adapted for flat cables and hold with adhesive pad.

• ZCAT-B type: Clamp fixed type installation hole diameter  $\phi$ 4.8 to 4.9mm, thickness of board 0.5 to 2mm.

## ELECTRICAL CHARACTERISTICS

| Part No.               | Impedance ( $\Omega$ ) min. |                 |                |
|------------------------|-----------------------------|-----------------|----------------|
|                        | [10 to 100MHz]              | [100 to 500MHz] | [50 to 500MHz] |
| ZCAT1518-0730(-BK)     | 25                          | 50              | —              |
| ZCAT2017-0930(-BK)     | 20                          | 50              | —              |
| ZCAT2032-0930(-BK)     | 50                          | 100             | —              |
| ZCAT2132-1130(-BK)     | 40                          | 80              | —              |
| ZCAT3035-1330(-BK)     | 80                          | 150             | —              |
| ZCAT1325-0530A(-BK)    | 50                          | 100             | —              |
| ZCAT1730-0730A(-BK)    | 40                          | 80              | —              |
| ZCAT2035-0930A(-BK)    | 50                          | 100             | —              |
| ZCAT2235-1030A(-BK)    | 50                          | 100             | —              |
| ZCAT2436-1330A(-BK)    | 30                          | 80              | —              |
| ZCAT2017-0930B(-BK)    | 20                          | 50              | —              |
| ZCAT3618-2630D(T)(-BK) | —                           | —               | 30             |
| ZCAT4625-3430D(T)(-BK) | —                           | —               | 35             |
| ZCAT6819-5230D(T)(-BK) | —                           | —               | 35             |
| ZCAT 10D(-BK)          | 25                          | 70              | —              |
| ZCAT 13D(-BK)          | 40                          | 100             | —              |
| ZCAT 20D(-BK)          | 60                          | 150             | —              |

• Test conditions: R-X meter at unloaded condition,  $\phi$ 1mm solder plated copper wire passes through.

## TYPICAL EMC SUPPRESSION EFFECTS

### RADIATION LEVEL vs. FREQUENCY CHARACTERISTICS

Without EMC filter



With EMC filter ZCAT2035-0930A



**TYPICAL ELECTRICAL CHARACTERISTICS**  
**IMPEDANCE vs. FREQUENCY CHARACTERISTICS**

**ZCAT1518-0730**



Fig.1

**ZCAT2017-0930**  
**ZCAT2017-0930B**



Fig.2

**ZCAT2032-0930**  
**ZCAT2035-0930A**



Fig.3

**ZCAT2132-1130**  
**ZCAT1325-0530A**

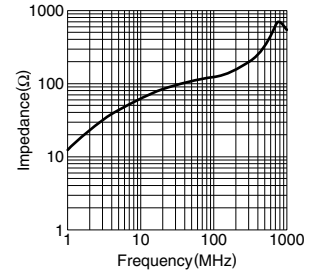


Fig.4

**ZCAT3035-1330**



Fig.5

**ZCAT1730-0730A**

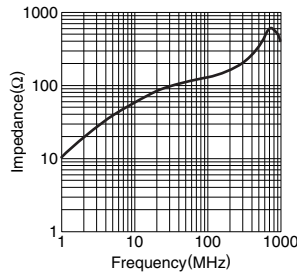


Fig.6

**ZCAT2235-1030A**

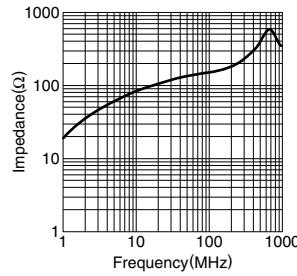


Fig.7

**ZCAT2436-1330A**

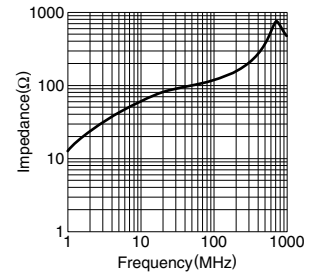


Fig.8

**ZCAT3618-2630D(T)**



Fig.9

**ZCAT4625-3430D(T)**  
**ZCAT6819-5230D(T)**

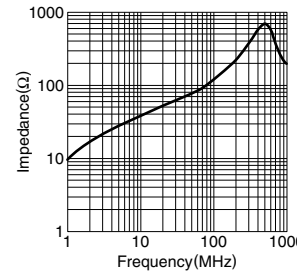


Fig.10

**ZCAT10D**

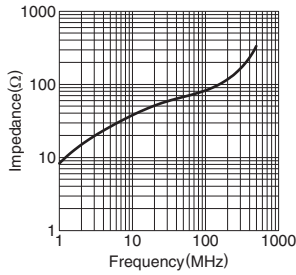


Fig.11

**ZCAT13D**

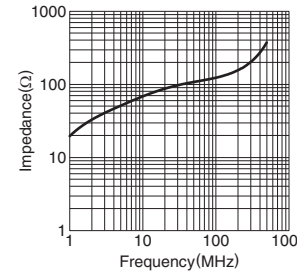


Fig.12

**ZCAT20D**

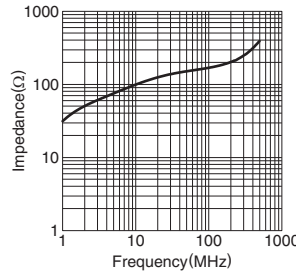


Fig.13

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