

# Clamp Filters (Ferrite Core with Case)

For automotive ECU/Cable

## ZCAT series

Type:            **ZCAT-V-BK**  
                     **ZCAT**

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.

# Clamp Filters For Cable

Conformity to RoHS Directive

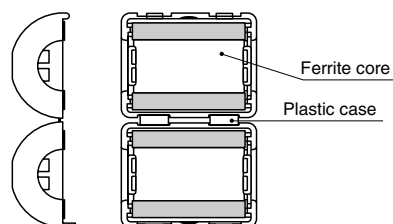
## ZCAT-V-BK Series

### FEATURES

- Can easily be attached without cutting the cable.
- Possesses better mechanical strength and operational temperature range (−40 to +125°C) than existing products.
- The plastic case has a self-sustaining mechanism that prevents slipping on the cable after being clamped.
- Possesses excellent high-frequency noise absorption effect.
- Works against common mode noise, allowing for noise suppression without affecting signal quality.
- Effective for EMS (Electromagnetic Susceptibility), immunity against surges/noise.



### INTERNAL CONSTRUCTION



### APPLICATIONS

Best for providing noise suppression of in-vehicle ECUs.

### PRODUCT IDENTIFICATION

ZCAT	12	V	- BK
(1)	(2)	(3)	(4)

(1) Series name

(2) Max external diameter of the cable to which the product is applied (mm)

(3) Usage mark In-vehicle: V=Vehicle

(4) Outer color code

BK: Only Black

### SPECIFICATIONS

Part No.	ZCAT08V-BK	ZCAT12V-BK
Impedance	120Ω min. [50 to 500MHz]	140Ω min. [50 to 500MHz]
Operating temperature range	−40 to +125°C	
Temperature range for engagement work	0 to +50°C	
Operating humidity range	10 to 95(%)RH [Maximum wet-bulb temperature: 38.5°C]	

- Test conditions  
Impedance meter or equivalent/ø1mm solder plated copper wire passes through(1ts)/Unloaded

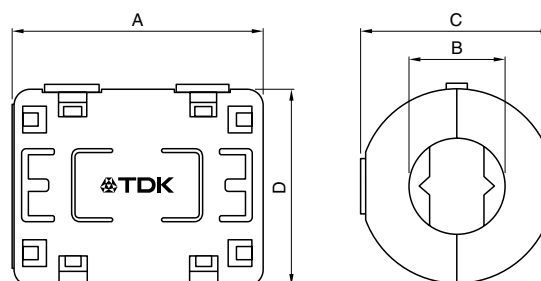
### PACKAGING STYLE AND QUANTITIES

Type	Quantity
ZCAT08V-BK	350 pieces/box
ZCAT12V-BK	120 pieces/box

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### SHAPES AND DIMENSIONS

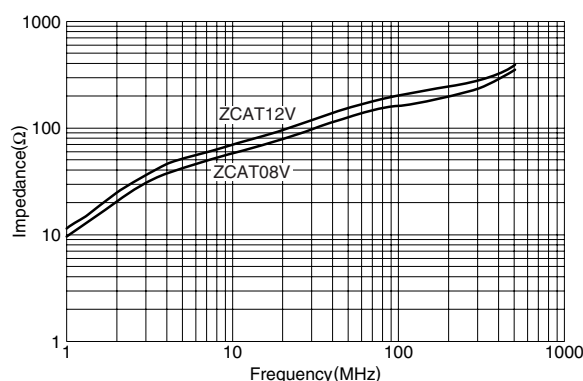


Dimensions in mm

Part No.	A	B	C	D	Applicable cable outer dia.	Weight (g)
ZCAT08V-BK	32.5	8.0	17.4	18.5	8.0 max.	16.0
ZCAT12V-BK	34.6	12.0	26.2	27.0	12.0 max.	43.0

### TYPICAL ELECTRICAL CHARACTERISTICS

#### IMPEDANCE vs. FREQUENCY CHARACTERISTICS



# Clamp Filters For Cable

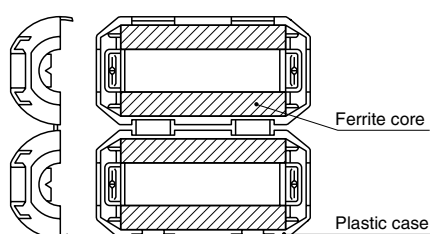
Conformity to RoHS Directive

## 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.

### INTERNAL CONSTRUCTION



### APPLICATIONS

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

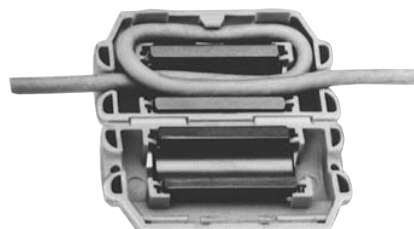
### PRODUCT IDENTIFICATION

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

- (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  
 AP: Cable fixed  
     (with lock mechanism)  
 B: Clamp fixed  
 C: Cable coil securing type  
     (Coil the cable one time within the case to fix it/with lock mechanism.)  
 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



### ZCAT-C TYPE



### PACKAGING STYLE AND QUANTITIES

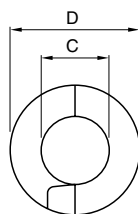
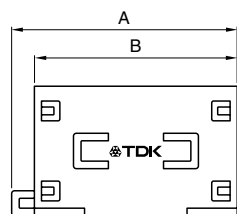
Part No.	Quantity
ZCAT3035	200 pieces/box
ZCAT2017-B	350 pieces/box
ZCAT2235	400 pieces/box
ZCAT2436	400 pieces/box
ZCAT2032	420 pieces/box
ZCAT2035	480 pieces/box
ZCAT2132	480 pieces/box
ZCAT2749	400 pieces/box
ZCAT1730	840 pieces/box
ZCAT2017	640 pieces/box
ZCAT1325	1344 pieces/box
ZCAT1518	896 pieces/box
ZCAT1525	900 pieces/box
ZCAT3618-D	480 pieces/box
ZCAT4625-D	240 pieces/box
ZCAT6819-D	160 pieces/box

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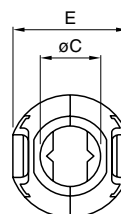
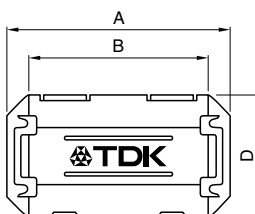
- All specifications are subject to change without notice.

## SHAPES AND DIMENSIONS

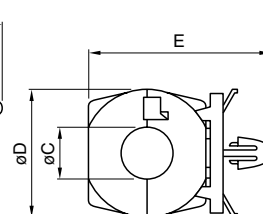
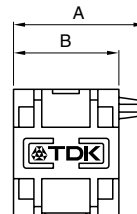
### ZCAT TYPE



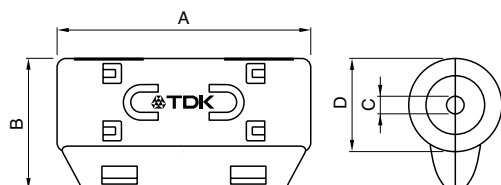
### ZCAT-A, ZCAT-AP TYPE



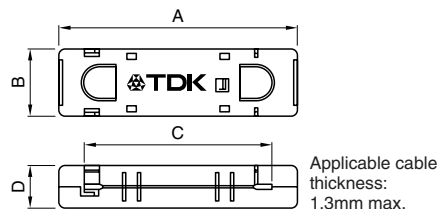
### ZCAT-B TYPE



### ZCAT-C TYPE



### ZCAT-D TYPE



Dimensions in mm

Part No.	A	B	øC	øD	E	Applicable cable outer dia.	Weight(g)	Impedance freq. characteristics Fig.
ZCAT1518-0730(BK) <sup>*1</sup>	22±1	18±1	7±1	15±1	–	7max.	6	1
ZCAT2017-0930(-BK) <sup>*1</sup>	21±1	17±1	9±1	20±1	–	9max.	11	2
ZCAT2032-0930(-BK) <sup>*1</sup>	36±1	32±1	9±1	19.5±1	–	9max.	22	3
ZCAT2132-1130(-BK) <sup>*1</sup>	36±1	32±1	11±1	20.5±1	–	11max.	22	4
ZCAT3035-1330(-BK) <sup>*1</sup>	39±1	34±1	13±1	30±1	–	13max.	63	5
ZCAT1525-0430AP(-BK)	25±1	20±1	4±1	15±1	11.5±1	2.5 to 4(USB)	7	4
ZCAT1325-0530A(-BK)	25±1	20±1	5±1	12.8±1	11.2±1	3 to 5(USB)	7	4
ZCAT1730-0730A(-BK)	30±1	23±1	7±1	16.5±1	15±1	4 to 7(USB/IEEE1394)	12	6
ZCAT2035-0930A(-BK)	35±1	28±1	9±1	19.5±1	17.4±1	6 to 9	22	3
ZCAT2235-1030A(-BK)	35±1	28±1	10±1	21.5±1	20±1	8 to 10	27	7
ZCAT2436-1330A(-BK)	36±1	29±1	13±1	23.5±1	22±1	10 to 13	29	8
ZCAT2017-0930B(-BK)	21±1	17±1	9±1	20±1	28.5±1	9max.	12	2
ZCAT2749-0430C(-BK)	49±1	27±1	4.5±1	19.5±1	–	4.5max.	26	9
ZCAT3618-2630D(-BK)	33.5±1	17.5±1	26±1	11.5±1	–	For 20 wires flat cable	15	10
ZCAT3618-2630DT(-BK) <sup>*2</sup>	33.5±1	17.5±1	26±1	12.5±1	–	For 20 wires flat cable	15	10
ZCAT4625-3430D(-BK)	45.5±1	24.5±1	34±1	12±1	–	For 26 wires flat cable	32	11
ZCAT4625-3430DT(-BK) <sup>*2</sup>	45.5±1	24.5±1	34±1	13±1	–	For 26 wires flat cable	32	11
ZCAT6819-5230D(-BK)	67.5±1	18.5±1	52±1	16±1	–	For 40 wires flat cable	58	11
ZCAT6819-5230DT(-BK) <sup>*2</sup>	67.5±1	18.5±1	52±1	17±1	–	For 40 wires flat cable	58	11

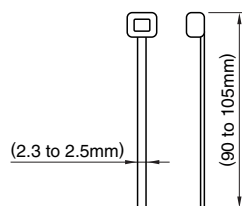
<sup>\*1</sup> These products are delivered with fixed band.

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

• ZCAT-B type: Clamp fixed type installation hole diameter ø4.8 to 4.9mm, thickness of board 0.5 to 2mm.

• ZCAT-AP, ZCAT-C type: Once closed, the case will not be easily opened manually.

### STRUCTURE OF THE MOUNTING BAND



Material: 66-nylon(natural color)

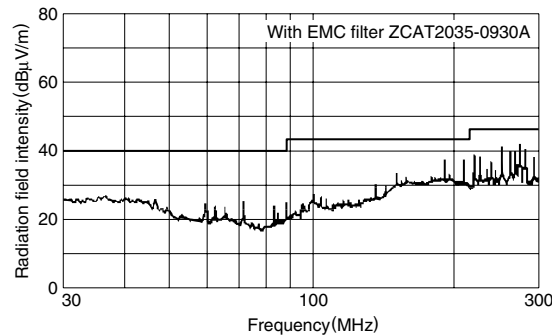
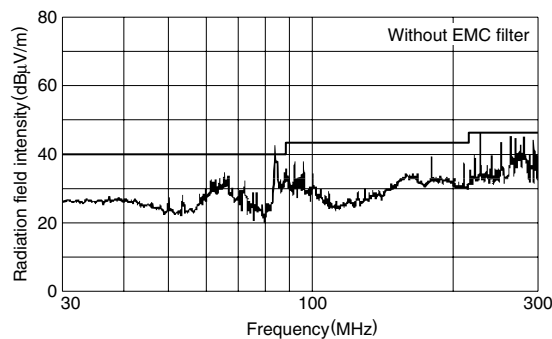
### ELECTRICAL CHARACTERISTICS

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	—
ZCAT1525-0430AP(-BK)	50	100	—
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	—
ZCAT2749-0430C(-BK)	50	100	—
ZCAT3618-2603D(T)(-BK)	—	—	30
ZCAT4625-3430D(T)(-BK)	—	—	35
ZCAT6819-5230D(T)(-BK)	—	—	35

• 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



### TYPICAL ELECTRICAL CHARACTERISTICS

#### IMPEDANCE vs. FREQUENCY CHARACTERISTICS

ZCAT1518-0730

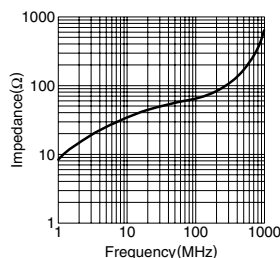


Fig.1

ZCAT2017-0930

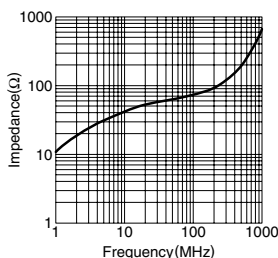


Fig.2

ZCAT2032-0930  
ZCAT2035-0930A

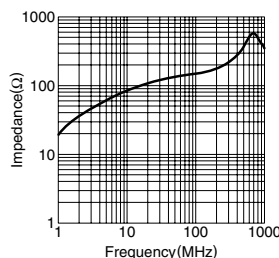


Fig.3

ZCAT1525-0430AP  
ZCAT2132-1130  
ZCAT1325-0530A

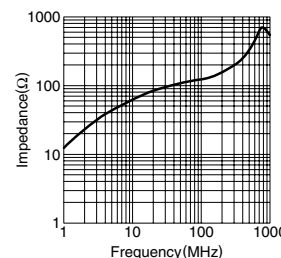


Fig.4

ZCAT3035-1330

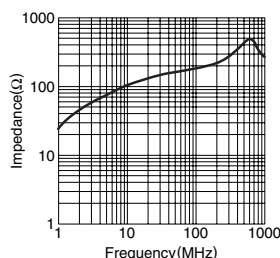


Fig.5

ZCAT1730-0730A

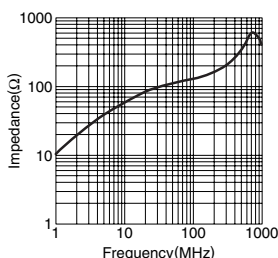


Fig.6

ZCAT2235-1030A

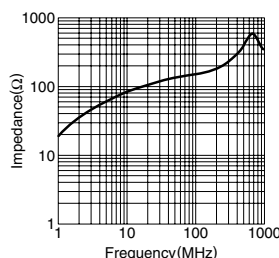


Fig.7

ZCAT2436-1330A

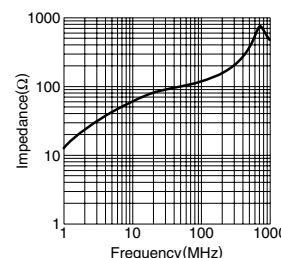


Fig.8

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

**ZCAT2749-0430C**

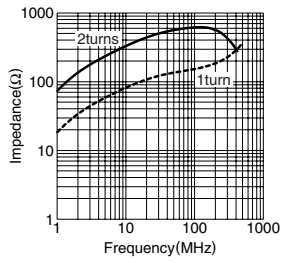


Fig.9

**ZCAT3618-2630D**

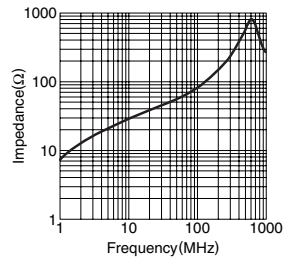


Fig.10

**ZCAT4625-3430D**  
**ZCAT6819-5230D**

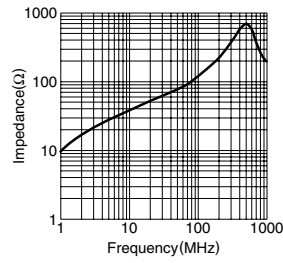


Fig.11

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