

July 2013

# Clamp Filters (Ferrite Core with Case)

For cable



ZCAT ZCAT-A ZCAT-B ZCAT-D/-DT

## **REMINDERS FOR USING THESE PRODUCTS**

Before using these products, be sure to request the delivery specifications.

## SAFETY REMINDERS

Please pay sufficient attention to the warnings for safe designing when using these products.

### **▲** REMINDERS

- O The storage period is less than 6 months. Be sure to follow the storage conditions (Temperature: 5 to 40°C, Humidity: 10 to 75% RH or less).
- O The case may crack when it is handled below freezing point or when it experiences a fall or other mechanical shock, as it is made of plastic; please exercise caution when handling the case.
- O Do not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).
- In a case where the product is attached to a cable larger than the product's internal diameter, the ferrite core may be damaged. Please confirm compatibility with the cable before use.
- Dropping or forcible engagement may cause damage to the product.
   Please handle the product with care when engaging.
- $\bigcirc$  Do not detach and reuse a product that has been engaged; this may damage the engaged portion.
- O Do not expose the products to magnets or magnetic fields.
- O Do not use for a purpose outside of the contents regulated in the delivery specifications.
- The products listed on this catalog are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.

The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property.

If you intend to use the products in the applications listed below or if you have special requirements exceeding the range or conditions set forth in the each catalog, please contact us.

- (1) Aerospace/Aviation equipment
- (2) Transportation equipment (cars, electric trains, ships, etc.)
- (3) Medical equipment
- (4) Power-generation control equipment
- (5) Atomic energy-related equipment
- (6) Seabed equipment
- (7) Transportation control equipment

- (8) Public information-processing equipment
- (9) Military equipment
- (10) Electric heating apparatus, burning equipment
- (11) Disaster prevention/crime prevention equipment
- (12) Safety equipment
- (13) Other applications that are not considered general-purpose applications

When designing your equipment even for general-purpose applications, you are kindly requested to take into consideration securing protection circuit/device or providing backup circuits in your equipment.

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(3/13)

## **Clamp Filters (Ferrite Core with Case)**

Product compatible with RoHS directive Halogen-free

For cable

# **Overview of the ZCAT Series**

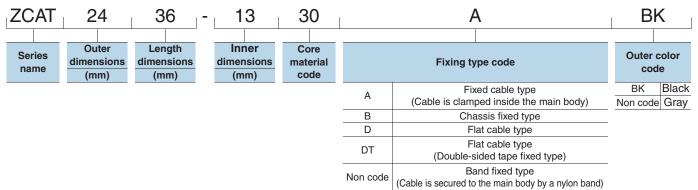
#### FEATURES

- O Using TDK's unique structure where the ferrite core is mounted and integrated in a plastic case, it is possible to attach them to interface cables and power cables with one touch without having to cut the cables.
- O Have excellent absorption of high-frequency noise using the high-frequency absorption characteristics of the ferrite core.
- O Effective for common mode noise, so can be implemented as a noise countermeasure without influencing signal quality.
- O Series are according to the outer diameter of the cable in order to be compatible with various cable sizes.

#### APPLICATION

PCs, word processors, monitors, HDDs, digital telephones, audio equipment, electronic musical instruments, video games, copiers, and facsimiles

#### PART NUMBER CONSTRUCTION



#### OPERATING TEMPERATURE RANGE, PACKAGE QUANTITY, PRODUCT WEIGHT

		Temperature range			
Туре	Operating temperature*	Storage condition after engagement	Temperature range for engagement work	Package quantity	Individual weight
	(°C)	(°C)	(°C)	(pieces/box)	(g)
ZCAT3035	-40 to +85	-40 to +85	0 to +50	200	64.8
ZCAT2017-B	-40 to +85	-40 to +85	0 to +50	350	11.5
ZCAT2235	-40 to +85	-40 to +85	0 to +50	400	26.0
ZCAT2436	-40 to +85	-40 to +85	0 to +50	400	29.0
ZCAT2032	-40 to +85	-40 to +85	0 to +50	420	22.7
ZCAT2035	-40 to +85	-40 to +85	0 to +50	480	21.2
ZCAT2132	-40 to +85	-40 to +85	0 to +50	480	21.6
ZCAT1730	-40 to +85	-40 to +85	0 to +50	840	11.6
ZCAT2017	-40 to +85	-40 to +85	0 to +50	640	11.0
ZCAT1325	-40 to +85	-40 to +85	0 to +50	1,344	6.37
ZCAT1518	-40 to +85	-40 to +85	0 to +50	896	6.1
ZCAT3618-D	-40 to +85	-40 to +85	0 to +50	480	15.6
ZCAT4625-D	-40 to +85	-40 to +85	0 to +50	240	32.5
ZCAT6819-D	-40 to +85	-40 to +85	0 to +50	160	58.4
ZCAT10D	-40 to +85	-40 to +85	0 to +50	770	5.6
ZCAT13D	-40 to +85	-40 to +85	0 to +50	450	14.8
ZCAT20D	-40 to +85	-40 to +85	0 to +50	280	46.3

\* Operating temperature range includes self-temperature rise.

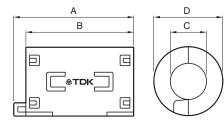
RoHS Directive Compliant Product: See the following for more details related to RoHS Directive compliant products. http://www.tdk.co.jp/rohs/
 Halogen-free: Indicates that Cl content is less than 900ppm, Br content is less than 900ppm, and that the total Cl and Br content is less than 1500ppm.

<sup>•</sup> All specifications are subject to change without notice.

### EMC Components

# ZCAT series **ZCAT Type**

#### SHAPE & DIMENSIONS



						Dimensions in mm
Part No.	٨	В	С	D	E	Applicable cable
Fait NO.	A	D	U	D	E	outer diameter
ZCAT1518-0730(-BK)*	22±1	18±1	7±1	15±1	-	7max.
ZCAT2017-0930(-BK)*	21±1	17±1	9±1	20±1	-	9max.
ZCAT2032-0930(-BK)*	36±1	32±1	9±1	19.5±1	-	9max.
ZCAT2132-1130(-BK)*	36±1	32±1	11±1	20.5±1	_	11max.

30±1

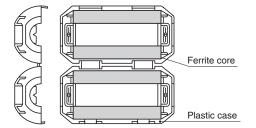
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13±1

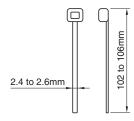
34±1

ZCAT3035-1330(-BK)\* 39±1 \* A fixing band is included when shipped.

#### INTERNAL CONSTRUCTION



#### STRUCTURE OF THE FIXING BAND



13max.

Material: 66-nylon(natural color)



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## ZCAT series ZCAT Type

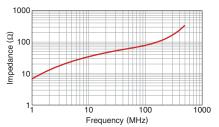
#### **ELECTRICAL CHARACTERISTICS**

#### **CHARACTERISTICS SPECIFICATION TABLE**

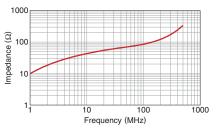
Impedance( $\Omega$ )min.		- Part No.	
[10 to 100MHz]	[100 to 500MHz]	[50 to 500MHz]	- Part No.
25	50	—	ZCAT1518-0730(-BK)
20	50	—	ZCAT2017-0930(-BK)
50	100	—	ZCAT2032-0930(-BK)
40	80	—	ZCAT2132-1130(-BK)
80	150	—	ZCAT3035-1330(-BK)

• Test conditions: When passing through an impedance meter (unloaded) ø1mm copper cable

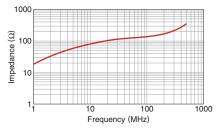
#### □ IMPEDANCE VS. FREQUENCY CHARACTERISTICS ZCAT1518-0730



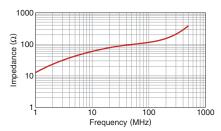
#### ZCAT2017-0930



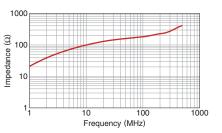
#### ZCAT2032-0930



#### ZCAT2132-1130



#### ZCAT3035-1330

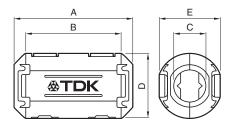


• All specifications are subject to change without notice.

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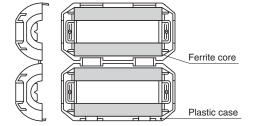
#### **SHAPE & DIMENSIONS**

ZCAT series



						Dimensions in mm
Part No.	A B C D E	Applicable ca	Applicable cable			
Fait NO.	A	D	C	D	E	outer diameter
ZCAT1325-0530A(-BK)	25±1	20±1	5±1	12.8±1	11.2±1	3 to 5(USB)
ZCAT1730-0730A(-BK)	30±1	23±1	7±1	16.5±1	15±1	4 to 7(USB/IEEE1394)
ZCAT2035-0930A(-BK)	35±1	28±1	9±1	19.5±1	17.4±1	6 to 9
ZCAT2235-1030A(-BK)	35±1	28±1	10±1	21.5±1	20±1	8 to 10
ZCAT2436-1330A(-BK)	36±1	29±1	13±1	23.5±1	22±1	10 to 13

#### INTERNAL CONSTRUCTION



• All specifications are subject to change without notice.

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(6/13)

## ZCAT series ZCAT-A Type

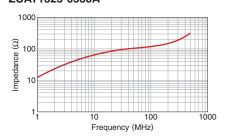
#### **ELECTRICAL CHARACTERISTICS**

#### **CHARACTERISTICS SPECIFICATION TABLE**

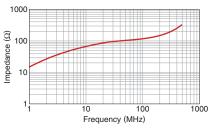
Impedance( $\Omega$ )min.		— Part No.	
[10 to 100MHz]	[100 to 500MHz]	[50 to 500MHz]	- Part No.
50	100	—	ZCAT1325-0530A(-BK)
40	80	—	ZCAT1730-0730A(-BK)
50	100	—	ZCAT2035-0930A(-BK)
50	100	—	ZCAT2235-1030A(-BK)
30	80	—	ZCAT2436-1330A(-BK)

• Test conditions: When passing through an impedance meter (unloaded) ø1mm copper cable

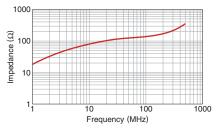
#### □ IMPEDANCE VS. FREQUENCY CHARACTERISTICS ZCAT1325-0530A



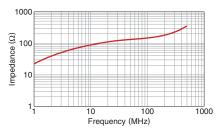
#### ZCAT1730-0730A



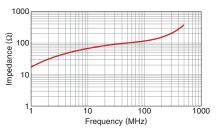
#### ZCAT2035-0930A



#### ZCAT2235-1030A



#### ZCAT2436-1330A



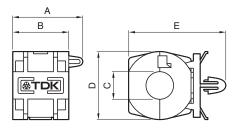
• All specifications are subject to change without notice.

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## EMC Components

# ZCAT series ZCAT-B Type

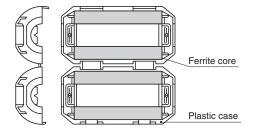
#### SHAPE & DIMENSIONS



						Dimensions in mm
Part No.	Δ	B	C	D	F	Applicable cable
l'art No.	~	D	U	D	L .	outer diameter
ZCAT2017-0930B(-BK)	21±1	17±1	9±1	20±1	(29)	9max.

Chassis fixed type attachment hole: ø4.8 to 4.9mm, Plate thickness: 0.5 to 2mm

#### INTERNAL CONSTRUCTION



• All specifications are subject to change without notice.



## ZCAT series ZCAT-B Type

#### ELECTRICAL CHARACTERISTICS

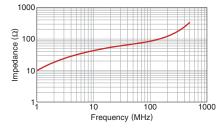
#### CHARACTERISTICS SPECIFICATION TABLE

Impedance( $\Omega$ )min.		Part No.			
[10 to 100MHz]	[100 to 500MHz]	[50 to 500MHz]	- Fait No.		
20	50	—	ZCAT2017-0930B(-BK)		

• Test conditions: When passing through an impedance meter (unloaded) ø1mm copper cable

#### □ IMPEDANCE VS. FREQUENCY CHARACTERISTICS







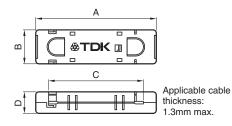
• All specifications are subject to change without notice.

# ZCAT series ZCAT-D, ZCAT-DT Type



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#### SHAPE & DIMENSIONS

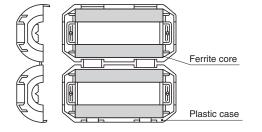


Dimensions in mm

Part No.	А	В	С	D	Е	Applicable cable outer diameter
ZCAT3618-2630D(-BK)	35.5±1	17.5±1	26±1	11.5±1	—	For 20 wires flat cable
ZCAT3618-2630DT(-BK)*	35.5±1	17.5±1	26±1	12.5±1	—	For 20 wires flat cable
ZCAT4625-3430D(-BK)	45.5±1	24.5±1	34±1	12±1	_	For 26 wires flat cable
ZCAT4625-3430DT(-BK)*	45.5±1	24.5±1	34±1	13±1	_	For 26 wires flat cable
ZCAT6819-5230D(-BK)	67.5±1	18.5±1	52±1	16±1	_	For 40 wires flat cable
ZCAT6819-5230DT(-BK)*	67.5±1	18.5±1	52±1	17±1	_	For 40 wires flat cable

\* Double-sided tape fixed type (tape included when shipped).

#### INTERNAL CONSTRUCTION



• All specifications are subject to change without notice.

# ZCAT series ZCAT-D, ZCAT-DT Type

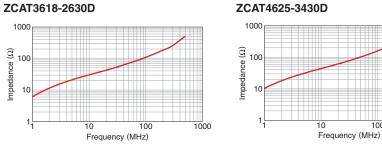
#### **ELECTRICAL CHARACTERISTICS**

#### **CHARACTERISTICS SPECIFICATION TABLE**

Impedance( $\Omega$ )min.			Part No.
[10 to 100MHz]	[100 to 500MHz]	[50 to 500MHz]	Part No.
_	_	30	ZCAT3618-2630D(T)(-BK)
—	—	35	ZCAT4625-3430D(T)(-BK)
_	—	35	ZCAT6819-5230D(T)(-BK)

• Test conditions: When passing through an impedance meter (unloaded) ø1mm copper cable

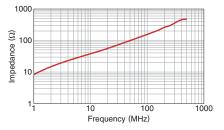
### □ IMPEDANCE VS. FREQUENCY CHARACTERISTICS



#### ZCAT6819-5230D

1000

100

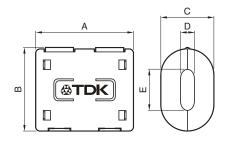


**<b>***<u>⊗</u>TDK* 

# ZCAT series ZCAT10D, 13D, 20D Type

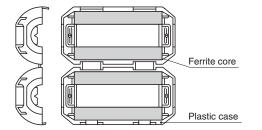


#### SHAPE & DIMENSIONS



						Dimensions in mm
Part No.	٨	D	C	D	E	Applicable cable
Fait NO.	A	Б	U	D	E	outer diameter
ZCAT 10D-(BK)	27±1	14.5±1	10±1	4±1	7±1	4max.
ZCAT 13D-(BK)	34±1	20±1	13±1	5±1	8.5±1	5max.
ZCAT 20D-(BK)	35±1	30±1	20±1	5±1	15±1	5max.

#### ■ INTERNAL CONSTRUCTION



(12/13)

## ZCAT series ZCAT10D, 13D, 20D Type

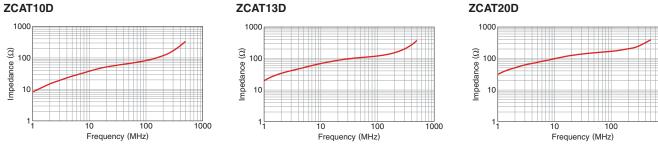
#### ELECTRICAL CHARACTERISTICS

#### CHARACTERISTICS SPECIFICATION TABLE

Impedance( $\Omega$ )min.		— Part No.	
[10 to 100MHz]	[100 to 500MHz]	[50 to 500MHz]	Fait NO.
25	70	_	ZCAT 10D-(BK)
40	100	_	ZCAT 13D-(BK)
60	150		ZCAT 20D-(BK)

• Test conditions: When passing through an impedance meter (unloaded) ø1mm copper cable

#### □ IMPEDANCE VS. FREQUENCY CHARACTERISTICS



1000