SPECIFICATION

Spec. No. _____

Issue Date   2021.03.10

Attn: _____

Product name	TDK Model No.
Auto Focus Voice Coil Motor	*TVF-8101KD*

Notes:

�†TDK.

台灣東電化股份有限公司
TDK TAIWAN CORP.
Taiwan Sales Office

Sales department		Design department		
App.	PIC	App.	Con.	PIC

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Specifications Revise History

Product name   WEB CAM Auto Focus Voice Coil Motor

TDK Model NO.   TVF-8101KD

Present Specification	Revised Specifications	Revised Reasons	Date
TVF-8101KD(00)		**Initial release**	2021.03.10

Department in Charge	Record Date	Specifications No.	
Sensor Actuator (B538)	2021.03.10	0	

1.Application Range

These specifications specify general specifications and performance of Actuator of Mobile
Camera Module。

2.Description

Our part No. in this specifications

ＴＤＫ　No.　　　TVF-8101KD

3.Related Specifications

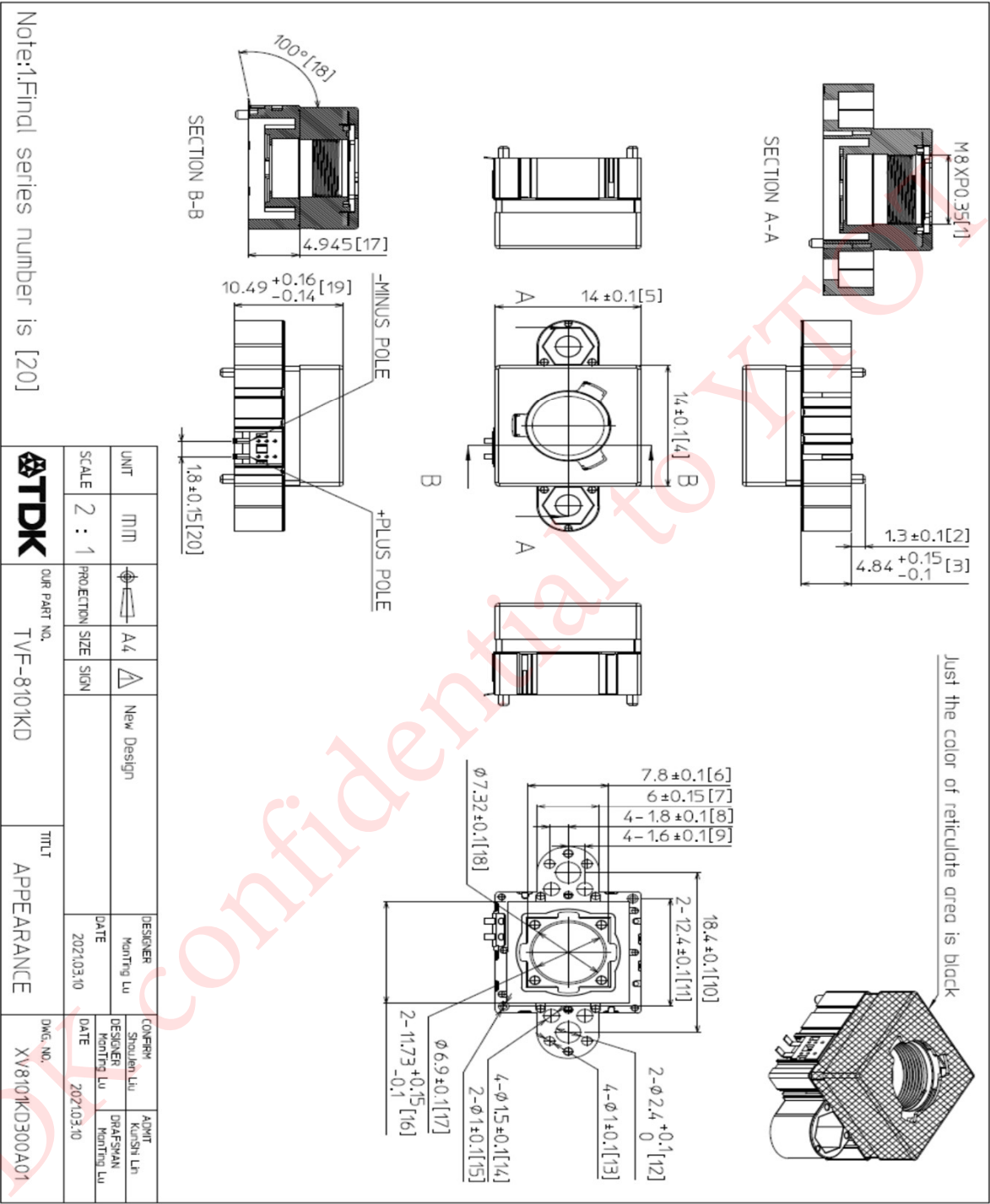All parts including glue and solder of TDK VCM-TVF-8101KD fit into RoHS .

4.Contents

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Department in Charge	Record Date	Specifications No.
Sensor Actuator (B538)	2021.03.10	0

TDK TAIWAN CORP. VCM Project

1・Appearance and Dimensions

Note:1.Final series number is [20]

SECTION B-B

100°[18]

4.945[17]

10.49 +0.16 -0.14 [19]

-MINUS POLE

1.8±0.15[20]

+PLUS POLE

SECTION A-A

M8XP0.35[1]

14±0.1[5]

14±0.1[4]

A　B　A

B

1.3±0.1[2]

4.84 +0.15 -0.1 [3]

Just the color of reticulate area is black

Ø7.32±0.1[18]

7.8±0.1[6]
6±0.15[7]
4-1.8±0.1[8]
4-1.6±0.1[9]

2-12.4±0.1[11]

18.4±0.1[10]

2-11.73 +0.15 -0.1 [16]

Ø6.9±0.1[17]

2-Ø1±0.1[15]

4-Ø1.5±0.1[14]

4-Ø1±0.1[13]

2-Ø2.4 +0.1 0 [12]

TDK

UNIT: mm

SCALE 2:1

PROJECTION ⊕

SIZE A4

SIGN ⚠ New Design

OUR PART NO. TVF-8101KD

TITLE APPEARANCE

DESIGNER ManTing Lu DATE 2021.03.10

CONFIRM ShouJen Liu ADMIT KunShi Lin

DESIGNER ManTing Lu DRAFSMAN ManTing Lu

DATE 2021.03.10

DWG. NO. XV8101KD300A01

TDK TAIWAN CORP. VCM Project

SPECIFICATIONS

Target	No.	TVF-8101KD

1 .Applications

1-1. Application Range

（1） These specifications specify general specifications and performance of
Auto-focus VCM.

（2） These specifications may be changed for improvement ffter agreement between both parties。

（3） If any suspicion or inconvenience occurs in the contents of this specifications,
it shall be resolved by the two parties.

（4） If there are no comments about Auto-Focus VCM,these specifications are applied
for Auto-Focus camera module.

（5） Standard of Sampling
（Ⅰ）Appearance SPEC. follow Level II AQL 0.65% sampling
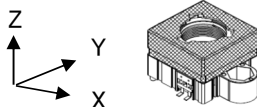
1-2. Evalu（Ⅱ）Performance SPEC. follow n=5,C(0,1)

（1） Optical Axis of Lens is the direction of gravity and Actuator should move Upward。

（2） Standard evaluation environment

If no errors occur in evaluation , the following range of conditions is acceptable。

Temperature 15～35℃ ; Humidity 30～80％ R.H.

1-3 Product Information

No.	Items	Specifications
1	Lens Module Diameter	M8.0XP0.35 (Diameter)
2	Working Direction	Along the Optical Axis
3	Operation Environ.	-30～70℃　10～90%RH
4	Storage Environ.	At ambient temperature and humidity.(Within six months after product delivery)
5	Particle	≤ 50 um
6	Torque (Thread gauge)	10 ~ 150 gf-cm
7	Definition of Direction	

2 .General Specifications

No.	Items	Specifications
1	Rated Load Current Stroke>0.305mm (Horizontal)	80mA Max. (Including 1 g(Max) lens)
2	Total Stroke (Vertical)	≥ 0.305mm
3	DC Resistance of Coil	28±3Ω
4	Dimensions	14mm*14mm*10.5mm (refer to Figure Diagram)

SPECIFICATIONS

Target		No.	TVF-8101KD

3.Performance Specifications (With 1 g(Max) lens)

No.	Items	Specifications	Condition
1	Absolute Maximum Current	150mA Max.	Reference
2	Sensitivity	4.15~10 um/mA	40 mA ~80 mA Optical Axis: +Z direction
3	Rated Stroke	≥ 0.305mm	Optical Axis: +Z direction
4	Starting Current	15~40 mA	Optical Axis: +Y direction
5	Moving Tilt	≤ 10'	0.05～0.305mm Optical Axis：+Z direction
6	Linearity	≤ 10	Maximum difference value of stroke between standard line and actual stoke plot
7	Posture Difference	≤ 150	maximum difference value of the value of stroke between +Z direction~ +Y direction
8	Hysteresis	≤10um	0.05 ~ 0.305 mm Optical Axis: +Z direction

Actuator Polarity
Lens shift upward (+Z direction) with supply. positive(+) voltage
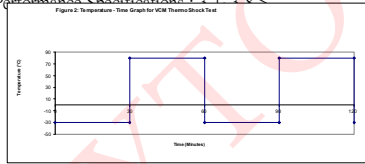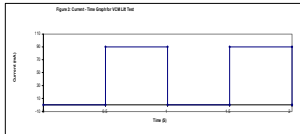to focus+ terminal.

4.Performance Diagram

特性圖
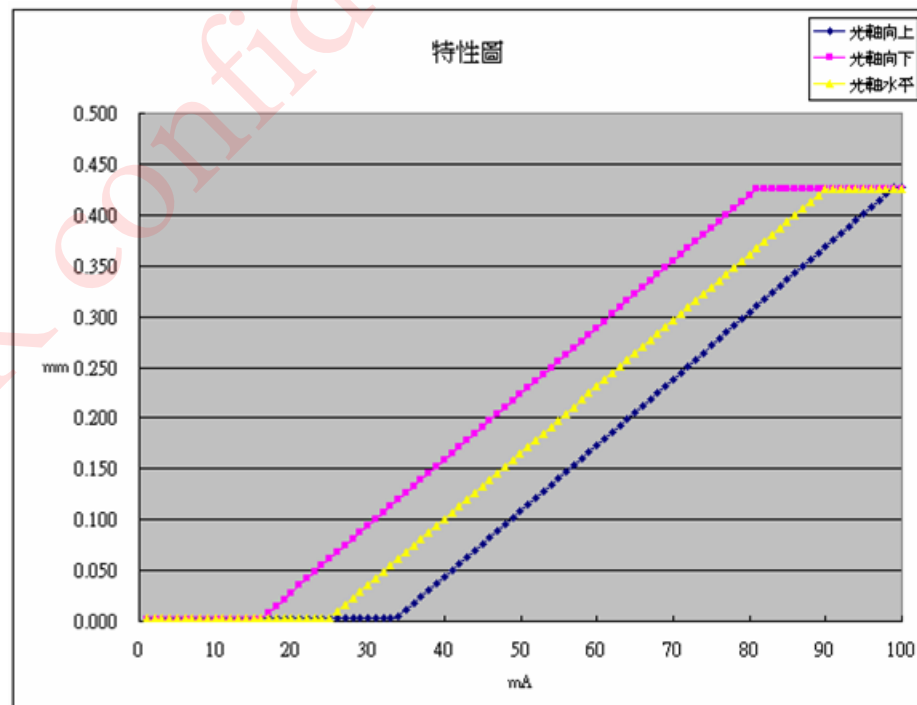
SPECIFICATIONS

Target		No.	TVF-8101KD

5・Reliability Specifications

    To judge the result of reliability by checking the samples fit into <General Specifications : 2-3 >
and <Performance Specifications : 3-1~3-8> or not . The quantity of sampling is 3 pcs per each items :

Items	Conditions	Remarks
Storage Test At High Temperature	(1)Temperature：+80±2℃ (2)Time：48H	After storaging in the each environment without operation ,then keep it in normal temperature and humidity for 6 hours. The actuator should still meet the related specification shown in general spec. and performance spec.<General Specification 2-3，Performance Specifications : 3-1~3-8 >
Storage Test At Low Temperature	(1)Temperature：-30±3℃ (2)Time：48H	Figure 2: Temperature - Time Graph for VCM Thermo Shock Test
Temperature Cycle Test	(1)Temperature：+80±2℃/30min - -30±3℃/30min (2)Ambient Time：5min (3)Times: 10 cycles	
Vibration Test	(1)Frequency：10~55Hz sweep sine wave (2)Amplitude:1.5mm(P-P) (3)Time: 25 min/X,Y,Z direction	After the test, the motor should still meet the related specification shown in general spec. and performance spec. <General Specification 2-3，Performance Specifications : 3-1~3-8 >
Bulk Package Test	(1)Highet: 100 cm (2)Floor : Wood (3)direction : 6 face	
Durability	(1)Current : 0~90~0 mA (2)Optical Axis : +Z direction (3)Cycle : 1cycle=0.5s ON → 0.5s OFF (4)Temperature : 23℃ ± 2℃ (5)Times : 3,000,000cycles (TBD)	After the test, the motor should still meet the related specification shown in general spec. and performance spec. <General Specification 2-3，Performance Specifications : 3-1~3-8 > Figure 3: Current - Time Graph for VCM Life Test

SPECIFICATIONS

Target			No.	TVF-8101KD

6. Packing Specification

(1).To stack the trays onto 11 layers(The top layer is empty.).

100 pieces per tray

Blank tray

11 Layers

Total:100*10=1000pcs

(2).Using tape to fix the trays as picture show.

tape

(3) Bag then vacuum trays twice times after taping. Paste out-going label on external packing bag.

Ttransparent bags

Bagging by two transparent bags. to pack

(4).Using strofoam and sponge to protect products as picture show.

① Products

▨ Styrofoam

☐ Sponges

The OQC report would be attached to products.

Cardboard box

Using cardboard box to pack.

SPECIFICATIONS

Target		No.	TVF-8101KD

P/N: C2395-0018-00
DCODE: 20080522
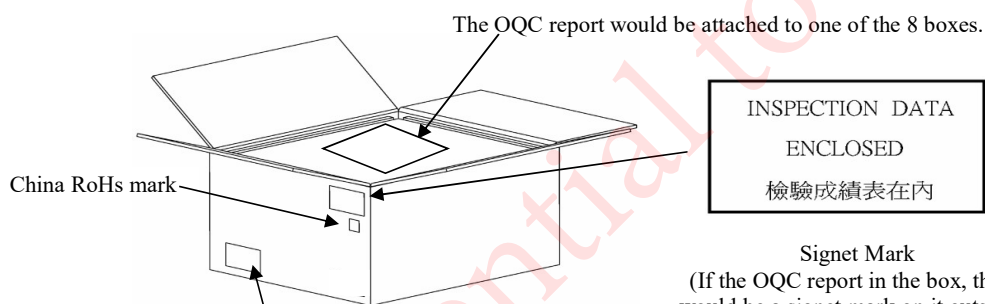LOT: IV34080000290001
QTY: 1000 PCS
CZ440ZBx TVF-xxx xxx
MADE IN CHINA ⊕TDK

Out-going label

(5).Packing with cardboard pallet
  To put 8 package of products on the pallet and affix a invoice label on the first package.
  Fixing them by vinyl tape and sticking the invoice label as picture show.

The OQC report would be attached to one of the 8 boxes.

China RoHs mark

INSPECTION DATA
ENCLOSED
檢驗成績表在內

Signet Mark
(If the OQC report in the box, there
would be a signet mark on it outside.)

P/N: C2395-0018-00
QTY: 2000 PCS   R-PB-F
I/V: 91087A0057
C/N: 2
MADE IN CHINA
PO: 3408000641 1-1   2008/06/24
PT146378 HH17344T   XIAMEN
CZ440ZB 602 /H1028/09751 XXX-XXXXXX
⊕TDK

Out-going label (Outside)

Bond tape   Invoice label

TDK
I/NO: 11033A3864
C/NO: 7
MADE IN CHINA
Invoice label

To fix by vinyl tape outside.

Cardboard pallet