

SPECIFICATIONS

(Tentative)

Spec. No.

Issue Date

2017.04.10

Attn: **Portron**

Product name

***Auto Focus Actuator
(Voice Coil Type)***

TDK Model No.

TVC-673AKA

Notes:

Customer Approve

Signature	Date

After placing purchase order for mass production, clients without signing specification in one month regard as approval.



Sales department

App.	PIC

Design department

App.	Rev.	Con.	PIC

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Specifications Revise History

Product name Auto Focus Actuator(Voice Coil Type)

TDK Model No. TVC-673AKA

Present Specification	Revised Specifications	Revised Reasons	Date
0	New Design	Initial Release	2017.03.29
<div style="position: relative; height: 600px;"> <div style="position: absolute; top: 0; right: 0; transform: rotate(15deg); opacity: 0.3; font-size: 4em; pointer-events: none;"> TDK Confidential to Portron </div> </div>			

Scope

These specifications specify general requirement and performance of auto-focus Voice Coil Actuator made by TDK corp.

Related Specifications

All parts including glue and solder of this product fit into RoHS regulations.

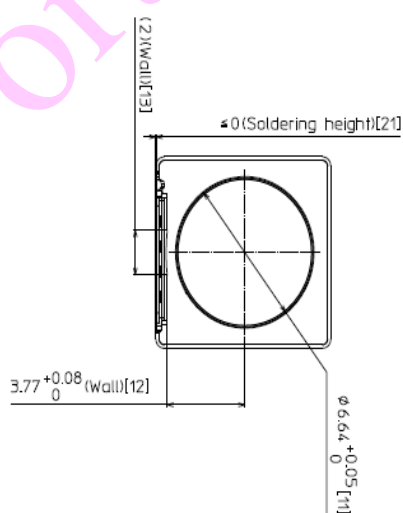
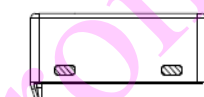
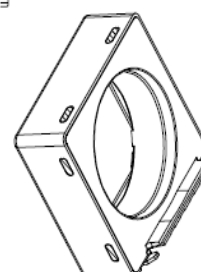
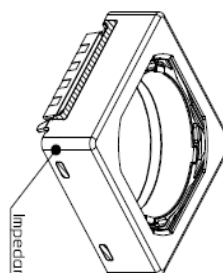
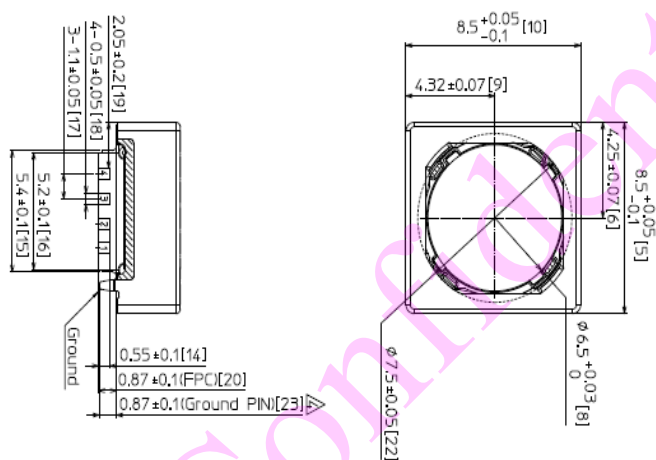
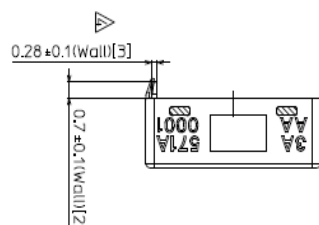
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1 · Appearance and Dimensions

Confidential

1	SCL
2	SDA
3	VDD
4	VSS



Note:
1. Final series number [23]
2. The underfill is within the VCA product.

UNIT	mm	DESIGNER	CHINGCHUNG CHU	DATE	2015.12.04	CONFIRM	CHINGCHUNG CHU	DATE	2015.12.04
SCALE	5 : 1	PROJECTION	SIZE	SPN					
TDK		OUR PART NO.	TVC-673AKA	TITLE	APPEARANCE	DWG. NO.	XC673AKA300A04		

SPECIFICATIONS

Product Name	Auto-Focus Actuator	Model	TVC-673AKA
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2. Scope

- 2-1 These specifications specify general specifications and performance of Auto-focus Actuator.
- 2-2 These specifications may be changed for improvement after agreement between both parties.
- 2-3 If any suspicion or inconvenience occurs in the contents of this specifications, it shall be resolved by the two parties.
- 2-4 If there are no comments about Auto-Focus Actuator, these specifications are applied for Auto-Focus camera module.
- 2-5 Standard of Sampling
 - (I) Visual Inspection. follow level II AQL 0.65%
 - (II) Performance SPEC. follow n=5,C(0,1)

3. Evaluation Conditions

- 3-1 Optical Axis of Lens is the direction of gravity and Actuator should move Upward.
- 3-2 Standard evaluation environment
 - Temperature 15 ~ 35 °C ; Humidity 30 ~ 80 % R.H.

4. General Specifications

No.	Items	Specifications
4-1	Dimensions	8.5mm X 8.5mm X3.1mm (without label & terminal)
4-2	Lens Holder Diameter	φ6.5mm(Diameter)
4-3	Rated Current(Stroke=0.3mm) Optical Axis : +Z direction	≤ 100mA
4-4	DC Resistance of Coil	22.5Max.(25° c) ; 27Max.(70° C)
4-5	VCM Unit Weight	≤ 1g (nominal without Lens)
4-6	Lens Unit Weight	≤ 0.13g (nominal)
4-7	Working Direction	Along the Optical Axis
4-8	Operation Environment.	-30~70°C 10~90%RH
4-9	Storage Environment.	At ambient temperature and humidity.(The quality is guaranteed within six months after product delivery)
4-10	Drop test Definition of Direction	

SPECIFICATIONS

Product Name	Auto-Focus Actuator	Model	TVC-673AKA
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5. Mechanical Specification

No.	Items	Specifications	Measurement
5-1	Appearance	No scratch,rust,stain	Microscope
5-2	Dimensions	Refer attached drawing	Height gauge/ Vision measuring

6. Performance Specifications

No.	Items	Specifications	Condition
6-1	Maximum allowable Current(Coil)	$\leq 140 \text{ mA}$	Nominal
6-2	Moving Tilt	$\leq 8'$	Rated stroke 0.3mm Optical Axis : +Z direction
6-3	Accuracy	$\leq 5 \mu\text{m}$	Rated stroke 0.3mm Optical Axis : +Z direction
6-4	Rated Stroke	$\geq 0.3 \text{ mm}$	Operating range:- Optical Axis : +Z direction

Notice

The performance spec must be base on below condition, and the equipment from TDK.

Onsemi filter version :-

Calibration range : 4800~B800

Operating range :4500~BB00

Stroke Level : 7FFF

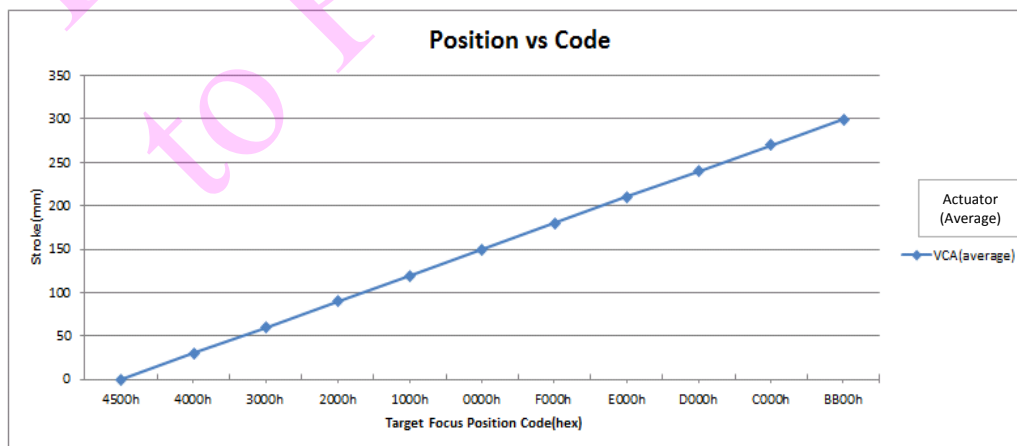
TDK will not be responsible for performance caused by other filter or equipment.

Actuator Polarity

Lens shift upward (+Z direction) with I2C commend hex code (relative target position).

Current consumption doesn't have significant correlation with the variance of position.

7. Performance Diagram



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Product Name	Auto-Focus Actuator	Model	TVC-673AKA
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Notice

The performance spec must be base on below condition, and the equipment from TDK.

Onsemi filter version :-

Calibration range : 4800~B800

Operating range :4500~BB00

Stroke Level : 7FFF

TDK will not be responsible for performance caused by other filter or equipment.

VCM Polarity

Lens shift upward (+Z direction) with I2C commend hex code (relative target position).

Current consumption doesn't have significant correlation with the variance of position.