

TS6B 6mm Bi-Stable Shutter Specifications

Features

- The TS6B from **UNIBLITZ**® has eliminated the external protruding actuator and contains no other interfering components.
- Shutter mechanism has a flag mounted internally and has the aperture on center.
- The single bladed design and innovative actuator system radically reduce moving parts to increase reliability.
- Machined flat surfaces on both sides of the device.
- Small form factor, 6mm aperture, 1.050" (26.67mm) overall diameter and only .190" (4.8mm) thick.
- Reflective blades available.
- Low voltage/current operation
- Frequency operation can exceed 80Hz.
- Terminated to a 2-pin JST connector (S2B-PH-SM4-TB) via a 4 inch flex interconnect

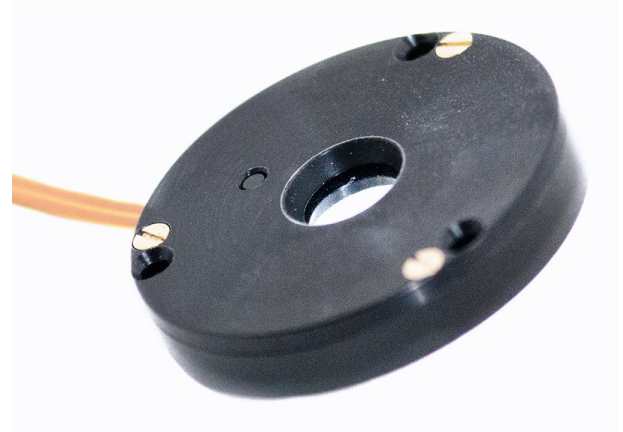
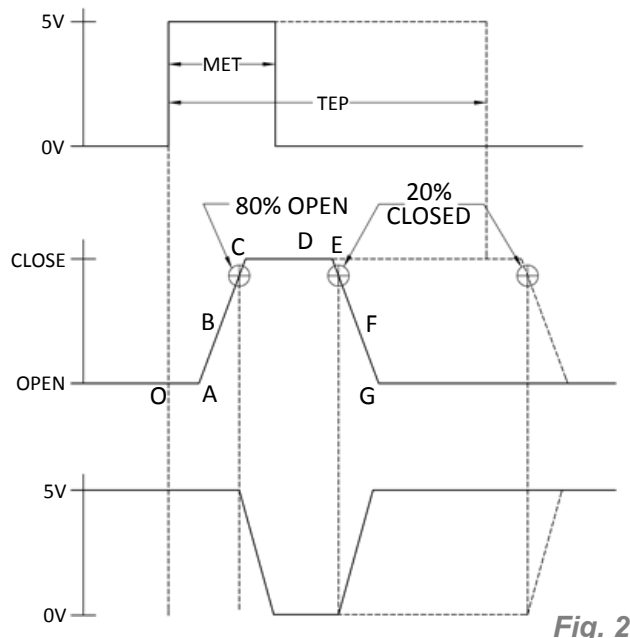


Fig. 1 TS6B 6mm Bi-Stable Shutter

Timing



¹ Timing data recorded with ED12DSS driver with drive pulse equal to MET.

TS6B		Time (msec.) ¹
O-A:	Delay time on opening after current is applied	1.4
A-C:	Transfer time on opening	1.7
O-C:	Total opening time	3.1
C-E:	Min. dwell time with min. input pulse	4.3
B-F:	Min. equivalent exp. time	6.0
D-E:	Delay time on closing after current is applied	1.4
E-G:	Transfer time on closing	1.7
A-G:	Total window time	7.7
MET:	Min. exposure time	6.0
TEP:	Typical exposure pulse	>6.0

Electrical

COIL RESISTANCE	PULSE VOLTAGE TO OPEN	HOLD VOLTAGE ¹ (NOMINAL)
8 OHMS	10.7 VDC	Not Required

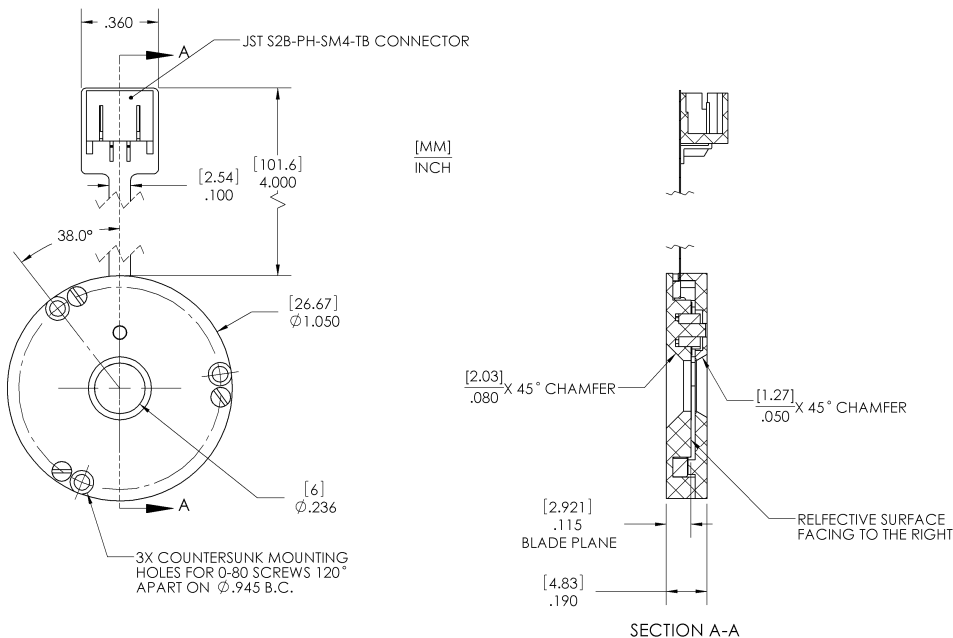
¹ Voltage level required across actuator coil when being held in the open position.

Mechanical

SERIES	WEIGHT	OPERATING TEMP. (DEGREES)	MAX. OPENING BOUNCE	MAX. CLOSING BOUNCE	MAX. FREQUENCY OF OPERATION ²	NUMBER OF SHUTTER BLADES
TS6B	4.7g	-10 to +65°C	5%	5%	20 HZ / 85 HZ	1

² (CONT/BURST) CONTinuous frequency rating specified at shutter's minimum exposure pulse. BURST frequency rating specified for (4) four seconds maximum with (1) one minute minimum between bursts. Frequency measurements are taken in free air, 25°C ambient, actuator coil equipped with heat sink. For additional information on maximum sustained frequencies obtainable, please contact one of our technical representatives.

Un-Housed Style



- Three countersunk mounting holes are provided for use with 0-80 FH screws.
- The body of the shutter measures 1.050" in diameter and only .190" thick.
- There are no protrusions from either mounting surface
- A standard shutter is terminated by a 2-pin JST header (S2B-PH-SM4-TB). The connector is mounted on a 4" flexible circuit (can be purchased with 18" flying leads (30 AWG) attached to the end of the 4" flexible circuit ("L" specification))
- The 203D cable is required when controlling the TS6B with the ED12DSS which is included with the ED12DSS driver.

Fig. 3

Optical Blade Finish

SHUTTER MODEL	ULTRAVIOLET .3-.4µm (microns)		VISIBLE .4-.75µm (microns)		INFRARED .75-.106µm (microns)	
	(Z) AlSiO	(ZM) AlMgF ₂	(Z) AlSiO	(ZM) AlMgF ₂	(Z) AlSiO	(ZM) AlMgF ₂
TS6B	N/A	2.5 W/mm ²	5 W/mm ²	2.5 W/mm ²	2.5 W/mm ²	2.5 W/mm ²

Blade Samples are available upon request.

For reflectance graph, please visit <http://www.uniblitz.com/optical-shutters-comparison-chart.aspx>

Product Options

Part Number: **TS6B**     - 

① ② ③ ④ ⑤ ⑥

Example Part Number:
TS6B1T0L-NL

① Aperture Size\Type: TS6B: 6mm	② Housing: 1: Un-housed	③ Blade Finish: ³ T: Teflon® Coated S.S. Blades ZM: AlMgF₂ Coated BeCu Blades¹ Z: AlSiO Coated BeCu Blades¹
	④ Electronic Sync: 0: Omit Sync.	
⑤ Connector: L: 2 Wire bare leads attached to 4" flex connector ▪ Leave blank for 2-Pin JST Connector with 4" flex harness	⑥ RoHS Compliant Version: NL: RoHS Compliant² ▪ Leave blank if not required	

¹ Input side only, Teflon® coating is on opposite side. Intended to protect the shutter blade surface, light source must be input to the reflective side only.

² Please visit our website for more information regarding this option.

³ Other blade options are available through special order.

For information regarding applicable intellectual property, please visit www.uniblitz.com/patents.

803 Linden Avenue • Rochester, NY 14625 • 585-385-5930 tel • 800-828-6972 toll-free • 585-385-6004 fax • www.uniblitz.com

Due to our ongoing product development program, Vincent Associates reserves the right to discontinue or change specifications or designs at any time, without incurring any obligations. Teflon is a registered trademark of E.I. DuPont. Drawings shown for illustrative purposes only. Updated 04/13. *Specification sheet Ver. 4.1*