

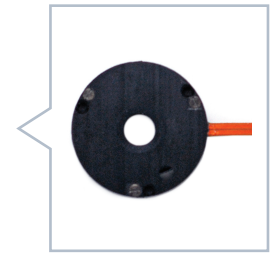


TS6B Shutter Series Specifications

(Sub-miniature “Flag” alternative)

Overview

The TS series is the latest technology available from UNIBLITZ®. This patent pending device has eliminated the external protruding actuator and contains no other interfering components. The direct-drive system eliminates all linkages between the actuator and the shutter blade. The TS6B provides a 6mm clear aperture. The device can also be scaled for alternate aperture sizes to further tailor the device for the most demanding custom applications. The TS6B is a bi-stable shutter and no power is required to hold the shutter in either the open or closed state. Power is required only to change the state of the device. The reliability of this device has been enhanced by containing only two moving parts (the rotor and the blade). This, in conjunction with their bi-stable operation, (and when driving the shutter with the new ED12DSS +12VDC driver) provides the most reliable device of its kind.



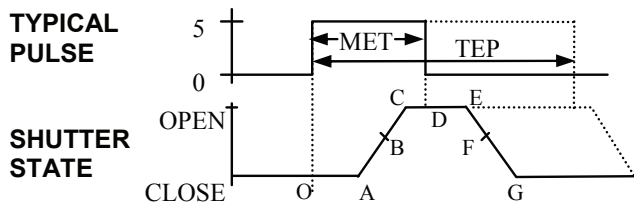
As stated, the TS6B can be actuated by the ED12DSS, a new driver built specifically to take advantage of the DSS and TS series' low power requirements.

This new driver will permit the TS6B to operate with virtually identical open and close times. The TS6B can also be operated by the VDM1000 for faster transfer times. The TS6B is available in a bi-stable configuration only. In this configuration the shutter will not require power to remain in the open or closed position. A short pulse (5ms) of 10.7V will switch the shutter open, reversing the current with the same pulse will close the shutter.

Features

- Patent Pending single bladed design.
- Shutter mechanism has a flag mounted internally and has the aperture on center.
- Innovative actuator system radically reduces moving parts to increase reliability.
- Machined flat surfaces on both sides of the device for easy system integration since the flag is mounted internally.
- Small form factor, 6mm aperture, 1.050” outer diameter and .190” (4.8mm) thick.
- Reflective blades available for high energy light sources.
- Alternate blade material can be made available by special order (i.e. x-ray or other unique customer applications).
- Low voltage/current operation.
- Fast exposure operation, opening times shorter than 2ms.
- Frequency operation as fast as 85Hz.
- Terminated to a 2-pin JST connector (S2B-PH-SM4-TB) via a 4 inch flex interconnect.

TS6B Product Specifications



TS6B Timing Data in msec

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

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

The question regarding enhancement of shutter speed with the application of user supplied lubricants has been repeatedly asked. It is our experience that lubricating the shutter blades will actually slow shutter down and eventually render the shutter inoperable. UNDER NO CIRCUMSTANCES SHOULD ANY TYPE OF LUBRICANT BE APPLIED TO THE SHUTTER BLADE AREA..

TS6B Electrical Specifications

COIL RESISTANCE: 8 OHMS
PULSE VOLTAGE: 10.7V
HOLD VOLTAGE: NOT REQUIRED

TS6B Mechanical Specifications

WEIGHT: 4.7g
TEMP RANGE: 0-80C
OPEN BOUNCE: 5%
CLOSE BOUNCE: 5%
NO BLADES: 1
FREQ CONT: 20HZ
FREQ BURST: 85HZ

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. For additional information on maximum sustained frequencies obtainable, please contact one of our technical representatives.

For OEM driver, contact technical support for typical drive circuit applications and wiring diagrams.

TS6B Shutter Outline Drawing

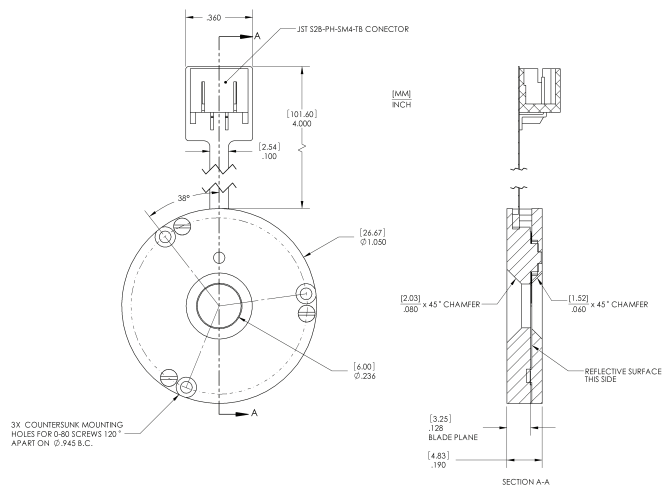


FIGURE #1

FIGURE #2

The UNIBLITZ TS6B is designed with a low-profile and flat surfaces for easy integration into your system. 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 of any kind outside of the main envelope. A 45° chamfer is included on both sides of the shutter allowing for extra clearance through the aperture.

A standard shutter is terminated by a 2-pin JST header (S2B-PH-SM4-TB). The connector is mounted on a 4" flexible circuit. Alternatively, the shutter 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.

TS6B Product Options

TS6B	1	T	O	
Aperture Size	Housing	Blade Finish	Electronic Sync	Connector
TS6B - 6mm	1- Un-housed (Housing may be available at a future date.)	T-Black both sides Z-ALSiO Coated* ZM-AlMgF ₂ Coated*	O-Omit Sync N/A (Electronic Sync may be available at a future date.)	Blank- Install 2-pin connector with 4" flex harness L-2 wire bare leads attached to 4" flex connector

*Input side only, black coating is on opposite side. Intended to protect the shutter blade surface. The light source must be input to the reflective side only.



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