

### 485-AB bus Surge Protection Module



RoHS



## FEATURES

- Compact size (19.50\*12.50\*9.80mm)
- Suppress signal port lightning surge
- Cost-effective
- Impact anti - current:  $\leq 1\text{kA}$  (8/20 $\mu\text{s}$  Simulated lightning waveforms)
- Meet surge level of IEC/EN61000-4-5

485-AB bus surge protection module is based on the IEC61000-4-5 standard design, using multi-level protection circuit, selection of surge protection devices, fast response, low output residual voltage, excellent transmission performance. Interface uses standard industrial terminal block, convenient to use, apply to Lightning Protection of RS-485 communications.

Products use plastic shell, good sealing, with dust, anti-corrosion function, connected in series installed, inhibiting high voltage pulses on the line, Protect back-end equipment from lightning and industrial surge damage.

## Selection Guide

Part No.	Operating Voltage(VDC)	Clamping Voltage (Typ.) (VDC)	Nominal Current (A)	Transmission rate(bps)
FS-TD01D	0-5	15	$\leq 0.1$	$\leq 115200$

Notes: Customization products are available if required.

## General Specifications

Item	Operating Conditions	Value
Clamping Voltage		$\leq 25\text{V}$
Capacitance between pins	CA-B	$\leq 800\text{pF}$
	CA-PE, CB-PE	$\leq 550\text{pF}$
Operating Temperature		$-40^{\circ}\text{C}$ to $+85^{\circ}\text{C}$
Transportation and Storage Temperature		$-40^{\circ}\text{C}$ to $+90^{\circ}\text{C}$
Welding Temperature	Wave soldering welding,10 seconds MAX	$260^{\circ}\text{C}$ (Typ.), $+255^{\circ}\text{C}$ to $+265^{\circ}\text{C}$
Storage Humidity		5-95%
Casing Temperature Rise	$T_a=25^{\circ}\text{C}$	$15^{\circ}\text{C}$ (Typ.)
Application Environment		The presence of dust, fierce vibration, impulsion and corrosive gas may cause damage to the product
<b>D•C•R</b>		$12 \times 2\Omega$

## Physical Specifications

Casing Material	Black flame-retardant heat-proof epoxy resin (UL94 V-0)
Package	DIP6
Weight	4.5g(Typ.)
Cooling Method	Natural cooling

### Surge Specifications

Impact anti - current	≤1kA (8/20μs Simulated lightning waveforms)
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### Design standards

FS-TD01D can ensure MORNSUN module meet surge level of IEC/EN61000-4-5 ± 2kV (2Ω resistance) and ± 4kV (12Ω resistance).

### Application Precautions

1. Please read the instructions carefully before use; contact our technical support if you have any problem.
2. Do not use the product in hazardous areas.
3. Products supporting the communication interface modules.
4. Do not dismount and assemble the product without permission to avoid failure or malfunction of equipment.

### After-sales service

1. Ex-factory inspection and quality control have been strictly conducted for the product; if there occurs abnormal operation or possibility of failure of internal module, please contact the local representative or our technical support.
2. The warranty period for the product is 3 years as calculated from the date of delivery. If any quality problem occurs under normal use within the warranty period, the product can be repaired or changed for free.

### Design Reference

#### 1. Inside schematic

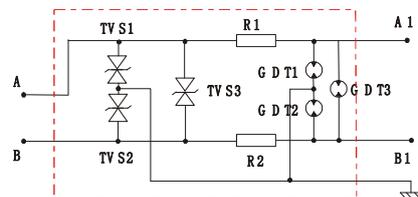


Fig. 1

#### 2. Typical application

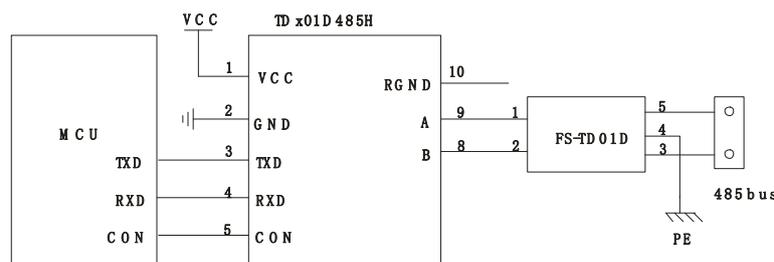


Fig. 2

3. For more information please find the application notes on [www.mornsun-power.com](http://www.mornsun-power.com)

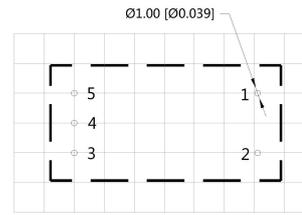
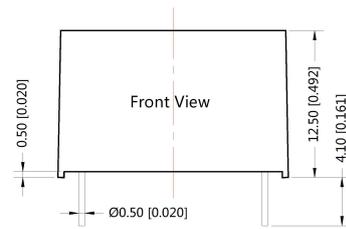
### Dimensions and Recommended Layout

# EMC lightning surge protector

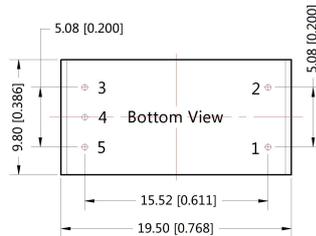
FS-TD01D

# MORNSUN®

THIRD ANGLE PROJECTION



Note : Grid 2.54\*2.54mm



Note:  
Unit :mm[inch]  
Pin section tolerances :±0.10[±0.004]  
General tolerances:±0.25[±0.010]

Pin-Out		
Pin	Designation	Function
1	A(out)	Output 485 BUS A
2	B(out)	Output 485 BUS A
3	B(in)	Input 485 BUS A
4	PE	Protective Earth
5	A(in)	Input 485 BUS A

## Notes:

- Packing information please refer to Product Packing Information which can be downloaded from [www.mornsun-power.com](http://www.mornsun-power.com).**  
Packing bag number: 58000150;
- Unless otherwise specified, data in this datasheet should be tested under the conditions of Ta=25°C, humidity<75% when inputting nominal voltage and outputting rated load;
- All index testing methods in this datasheet are based on our Company' s corporate standards;
- The performance indexes of the product models listed in this datasheet are as above, but some indexes of non-standard model products will exceed the above-mentioned requirements, and please directly contact our technician for specific information;
- We can provide product customization service;
- Products are related to laws and regulations: see "Features" and "EMC";
- Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.

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