



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Solutions Seeking Problems.

MAGNASPHERE® 

## TW-Series



This series is used in the security industry for door and window sensors in Closed loop alarm systems. It has a wider actuation zone in the X or Y axis than other Form A Magnasphere switches. Robust all metal construction is highly resistant to magnetic tamper and defeat, and permanent contact welding from power surges.

### CONTACT CHARACTERISTICS

Contact Form: A (Normally Open-N.O.)  
Contact Material: Gold/Gold  
Initial Contact Resistance (Typical):  
< 150 Milli Ohms  
Contact Capacitance: < 1pf  
Contact Ratings: 30 VDC @ 250ma  
Contact Bounce\* (Typical): < 10  
milliseconds\*. Recommended trial  
de-bounce - 15 milliseconds (min.)  
closed contact condition for logic state  
changes - or 30 Hz low pass filter buffer  
Minimum Breakdown Voltage (Typical):  
300 VDC  
Insulation Resistance (Typical):  
> 5 Mega Ohms

### OPERATION CHARACTERISTICS

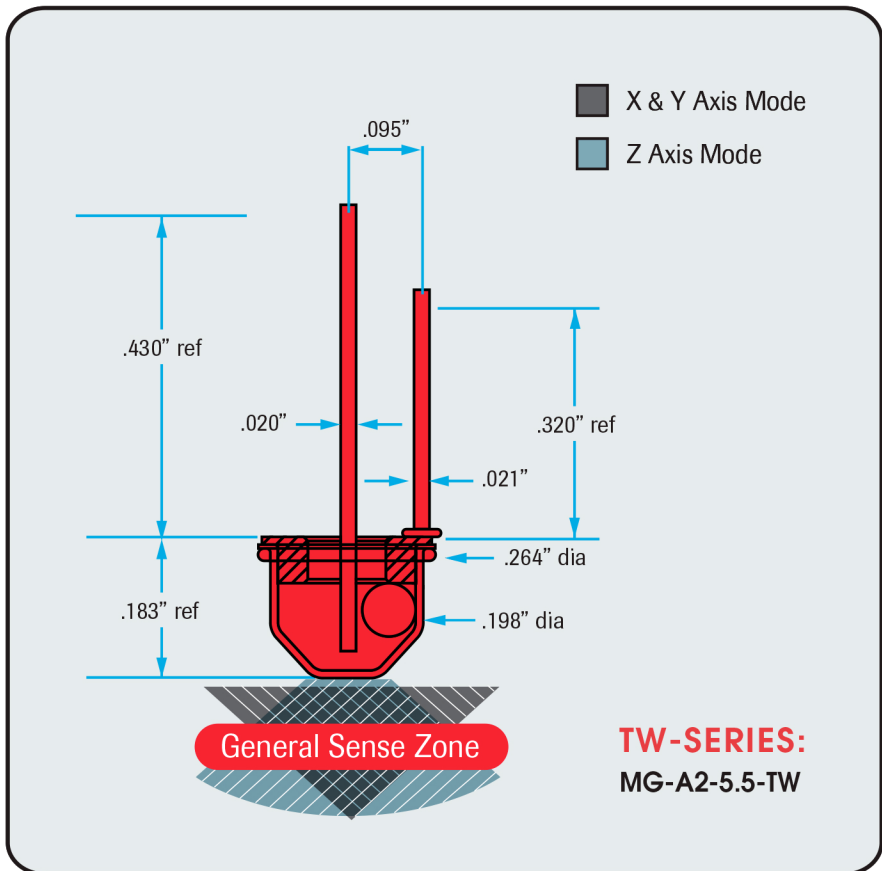
Operate/Release Values:  
See Switching Characteristics Table  
Actuation Magnet Orientation:  
Either Pole  
Maximum Operating Frequency: 20 Hz  
Mounting Position: Any Plane  
Operating Temperature: -40°C to +150°C  
Shock (Switch Damage): > 100 G's  
Vibration: 10-15 G's (80-450 Hz)  
(Higher Values Available)

### GENERAL CHARACTERISTICS & INFORMATION

Construction: Non-Ferrous Metal Housing,  
Compression Seal Hermetically Sealed,  
Protective Gas Atmosphere, Precious  
Metal Plated Spherical Magnet Contact.

Soldering Guidelines: 600° F (315° C)  
Temperature iron for 5 sec. (max.). Do  
not solder within 1/8" (3 mm) of glass  
seal. Lead pins precious metal plated  
for enhanced solderability.

Termination Polarity Guidelines: Polarity  
selection is non-critical, though some



life gain may be realized by center pin  
as cathode on logic loads, but center  
pin as anode on larger loads.

Leadwire Cutting / Bending Guidelines:  
Cut length has no effect on magnetic  
OP/REL values. Shearing action type  
cutters are recommended, but end nippers  
and side cutters are NOT recommended.  
Metal style seals are extraordinarily  
rugged, but the bending of unsupported  
lead wire pins adjacent to the glass seal  
is not recommended (i.e. when bending

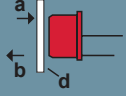
use the support of some type of parallel  
jaws spaced away from the glass seal to  
grip the lead wirepins while bending the  
pins' free ends, so no bending strains  
are imposed on the glass seal.

Other Comments: Ferromagnetic materials  
and strong Electromagnetic devices  
proximate to the switch or its actuator  
magnet may adversely affect expected  
OP/REL switching values. Experimentation  
is recommended to investigate  
areas of concern.





The Most Advanced and Effective Magnetic Sensor

		SWITCHING CHARACTERISTICS		AIR GAP DISTANCE		
		POSITION	TYPICAL	MIN	MAX	
<b>MG-A2-5.5-TW</b> Digikey Part#: 735-1003-ND 	(a) Leads Horz. <b>"CLOSED"</b> (b) Leads Horz. <b>"OPEN"</b>	.577"	.462"	.692"	<b>NEO 35 MAGNET TARGET</b> 0.5" L x .375" Dia	
		.713"	.610"	.817"		
<b>MG-A2-5.5-TW</b> Digikey Part#: 735-1003-ND 	(a) Leads Horz. <b>"CLOSED"</b> (b) Leads Horz. <b>"OPEN"</b>	NOT RECOMMENDED			<b>FERROUS METAL TARGET</b> EG: C1010 Low Carbon 1.0" L x 1.0" W x .0625" Dia	

## TW-Series

**Switching characteristics** the target moves closer (a), this normally open switch will CLOSE at the air gap distance (d), and OPEN when the target moves away (b).

### ABOUT MAGNASPHERE

MAGNASPHERE® Corp. is a privately held company founded in 2002, with the purpose of providing superior performing magnetic switch and sensor technology to the industrial/commercial OEM and security markets. MAGNASPHERE's patented, award-winning technology establishes new standards for magnetic switch performance while providing an affordable and more effective alternative to other magnetic switch technologies.

Learn more: Visit us at [www.MAGNASPHERE.com](http://www.MAGNASPHERE.com).



Standard for Industrial Control Equipment, UL 508

### PATENTED DESIGN

MAGNASPHERE® products are covered by one or more of the following U.S. and international patents:

- |          |                   |          |
|----------|-------------------|----------|
| #5332992 | #5530428          | #5673021 |
| #5880659 | #5977873          | #6087936 |
| #6506987 | #6603378          | #6803845 |
| #7023308 | (Patents Pending) |          |

**MAGNASPHERE® NOTICE OF LIMITED LICENSE AND RIGHTS:** (Security Applications)  
 The purchase of MAGNASPHERE® switches provides the purchaser and the purchaser's customers with a limited right and license to make, use, offer for sale, and sell security devices, each making use of a single MAGNASPHERE® switch; however, this limited right and license does not extend to and specifically excludes security devices making use of two or more MAGNASPHERE® switches that cooperatively monitor a single area or location.

### INDUSTRY AWARDS

- Best of Show Award:  
ISC Expo
- Gold Award  
Sensor Technology:  
Sensors Expo
- Best Intrusion  
Detection:  
ISC Expo