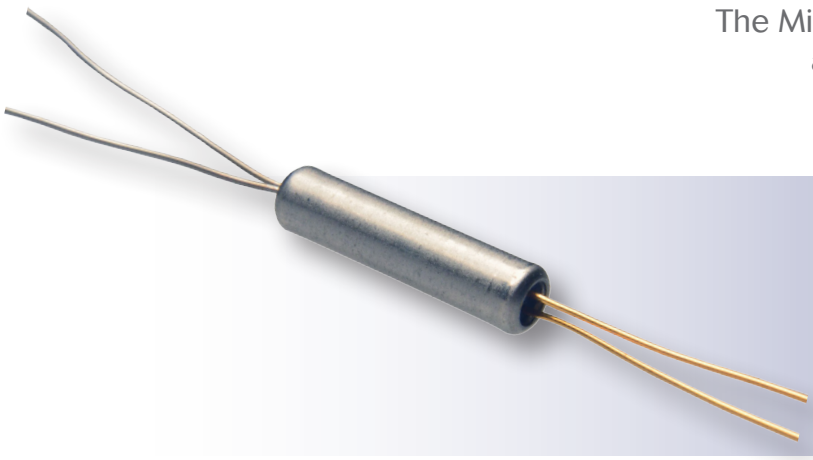
EAGLEPICHER TECHNOLOGIES

MMS Micro-Miniature Switches



The Micro-Miniature Switch (MMS) is a pyrotechnic-actuated device that can close one electrical circuit on a one-time basis.

It is the smallest, lightest, fastest and least expensive device of its type. The normally open switch closes a circuit when gas pressure from the burning pyrotechnic mixture breaks an insert piece in its specially designed shear section.

Variations

The two halves of the switch element telescope tightly together, making excellent electrical contact.

Each MMS is hermetically sealed so that no products of the pyrotechnic reaction can escape from the housing. Several squibs are available for variations in firing characteristics.

MMS have been used in many missile and spacecraft applications because of their light weight, small size, high reliability and low power consumption (as little as 1 amp pulse for 2 milliseconds).

Characteristics

Some of the characteristics listed here are nominal; others are levels to which the units have been tested. There are no limits on design capabilities. Please consult an EaglePicher representative before using this data as a specification.

Specifications

Electrical

Squib	Bridge Resistance* @70˚F (21˚C)	All-Fire Current @ -65˚F (-54˚C) 10 ms	No-Fire Current @ 160˚F (71˚C) 5 min
Type	**Ohm**	**Amp**	**Amp**
A	6.0 ± 1	0.30	0.03
C	1.8 ± 0.2	1.00	0.10
F	0.35 ± 0.06	4.50	1.00
G	25.0 ± 5.0	0.10	0.01
Contact Resistance @ 1.0 amp, Measured 1/8" (3.17 mm) from Case	0.04 ohm Max.		
Insulation Resistance @ 500 Vdc	Before firing, either end, shunted leads to case: 50 megohm min Before firing, contact lead to lead: 50 megohm min		
Contact Current Carrying Capacity @ 160°F (71°C) (worst case)	1.0 amp for 6 hr 1.5 amp for 2 hr 5 amp for 100 msec		

**1/4" (6.35 mm) from ends of leads, with test current limited to 0.010 amp.*

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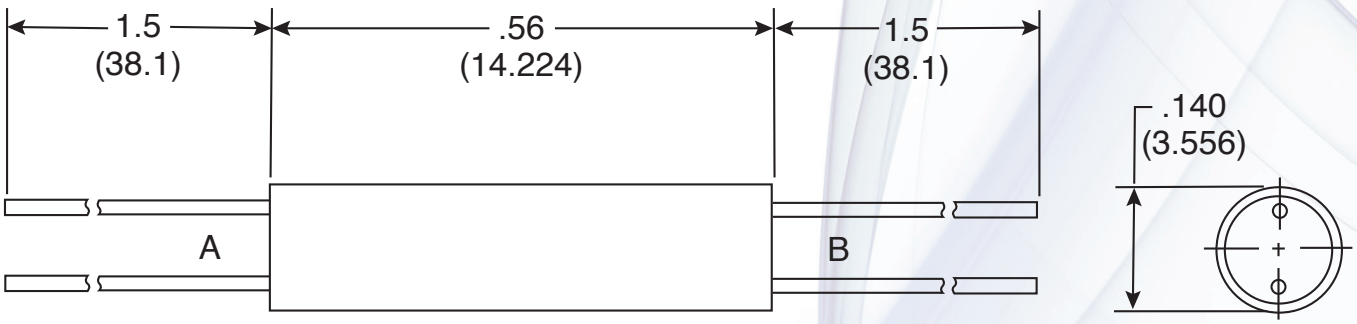
Specifications Continued	
Mechanical	
Size	See drawing
Weight, Max.	0.6 gm
Function Time	All units will fire within 10 ms at designated all-fire currents. See Firing Characteristics of Pyrotechnic-Actuated Devices for effect of current on ignition time.
Environmental	
Temperature	Operating range: -65° to +160°F (-54° to + 71°C) Cycling: MIL-STD-202, Method 102A, Condition D
Humidity	MIL-STD-202, Method 103B, Condition D
Vibration	5-2000-5 Hz, 30 g's or 0.34" (8.64 mm) d.a.
Acceleration	200 g's
Shock	2000 g's, 1.5 ms, 1/2 sine wave

Specifications Continued	
Chemical	
Ignition Compound	KDNBF
Freight Classification	
Shipping Name	Release Device, Explosive
Identification Number	UN0173
Hazard Classification	1.4S
Ordering Information	
Order switches by part number as follows:	
Normally Open	MMS-1.0-0-*
**Specify squib type A, C, F or G.*	



A) GOLD PLATED SQUIB LEADS .015 (.381) DIA

B) NICKEL PLATED SWITCH LEADS .015 (.381) DIA

DIMENSIONS IN ( ) ARE IN MM

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