



### Features

- Rugged ceramic-metal construction
- Short delay times
- Miniature size
- High reliability

### Applications

- High current surge generators
- Military ordnance
  - Exploding bridge wires
  - Exploding foil initiators
  - Slapper detonators
  - Electronic safe and arm
- Crowbars
- Flashlamp triggers
- Rocket motor ignitions
- Missile stage separation
- Furnace ignitions

### Description

The TX is a series of miniature triggered spark gaps designed for high reliability switching with Main Static Breakdown's between 2.0 and 10.0kVdc and are available at relatively low cost. This series of gaps is capable of switching stored energy in a fraction of a microsecond upon command. Trigger gaps use no standby power, are extremely rugged and require only a low energy high voltage trigger pulse. They are hermetically sealed at high braze temperatures and will withstand rugged environmental conditions.

### Standard Voltages

Series	Main Static Breakdown Voltage (Nom)	Unit
TX	2.5	kV
	4.5	kV
	7.5	kV
	10.0	kV

Devices in the TX Series with other main static breakdown voltages in the 2.0-10.0kV range are available upon request.

### Ordering Information

A complete part number is represented by the digits below. Main static breakdown voltages are expressed in kV. For example, TX4.5L-01 is a 4.5kV TX series device with outline 01 and standard energy rating while TX10.0L-05M is a 10kV TX series device with outline 05 and high energy rating.

Product Series / Part Numbers	Main Static Breakdown Voltage	Outline	Energy Rating Options*
TXX.XL-XXX	2.0-9.0kV	01, 02, 05, S	M
TXXX.XL-XXX	10.0kV	01, 02, 05, S	M

\*Energy Rating Options

Blank: Standard

M: High (This option is only available with outline 05)

## Specifications (@25°C)

Parameter	Conditions	Symbol	TX2.5			TX4.5			Units
			Min	Nom	Max	Min	Nom	Max	
<b>Device Specifications</b>									
Main Static Breakdown Voltage	100V/s	$E_Z$	2.25	2.50	2.75	4.05	4.50	4.95	kV
Applied Voltage		$E_{bb}$	1.25	-	2.00	2.25	-	3.60	kV
Trigger Voltage <sup>(1)</sup>	$t_r = 0.5\mu s$ PW = 3.0 $\mu s$	$E_{trig}$	3.10	-	1.80	3.50	-	2.00	kV
<b>Life Ratings</b>									
Discharge Life <sup>(2)</sup>	5,000A Pulse Energy (0.7 Joules)	-	10,000	-	-	10,000	-	-	shots
Pulse Energy <sup>(3)</sup>		-	-	1.6	-	-	1.6	-	J
Cumulative Charge	Coulomb Rating	-	-	10	-	-	6	-	Q

## Specifications (@25°C)

Parameter	Conditions	Symbol	TX7.5			TX10.0			Units
			Min	Nom	Max	Min	Nom	Max	
<b>Device Specifications</b>									
Main Static Breakdown Voltage	100V/s	$E_Z$	6.75	7.50	8.25	9.00	10.0	11.0	kV
Applied Voltage		$E_{bb}$	3.75	-	6.00	5.00	-	8.00	kV
Trigger Voltage <sup>(1)</sup>	$t_r = 0.5\mu s$ PW = 3.0 $\mu s$	$E_{trig}$	3.90	-	2.00	4.70	-	2.00	kV
<b>Life Ratings</b>									
Discharge Life <sup>(2)</sup>	5,000A Pulse Energy (0.7 Joules)	-	10,000	-	-	10,000	-	-	shots
Pulse Energy <sup>(3)</sup>		-	-	1.6	-	-	1.6	-	J
Cumulative Charge	Coulomb Rating	-	-	3	-	-	2.5	-	Q

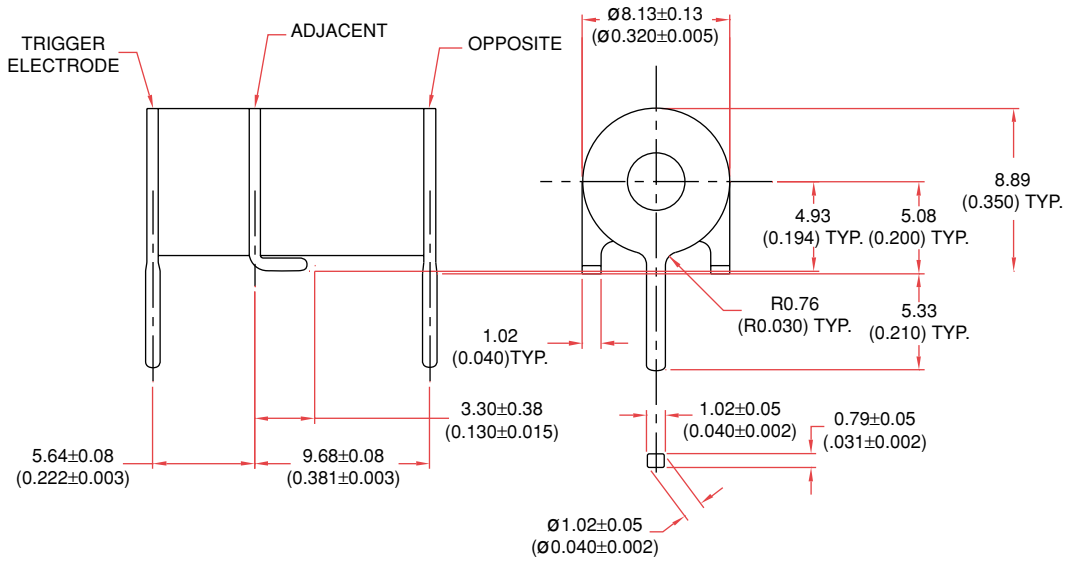
<sup>(1)</sup> The trigger voltages given in these tables are the minimum triggering voltages necessary for triggering at the corresponding applied voltage limits. As the applied voltage increases, the trigger voltage required for triggering decreases. It is assumed that the trigger is applied across the trigger and adjacent main electrodes. Higher trigger voltages are required if it is applied across the trigger and opposite main electrodes.

<sup>(2)</sup> End point for the life testing is a 20% reduction in the main static breakdown voltage.

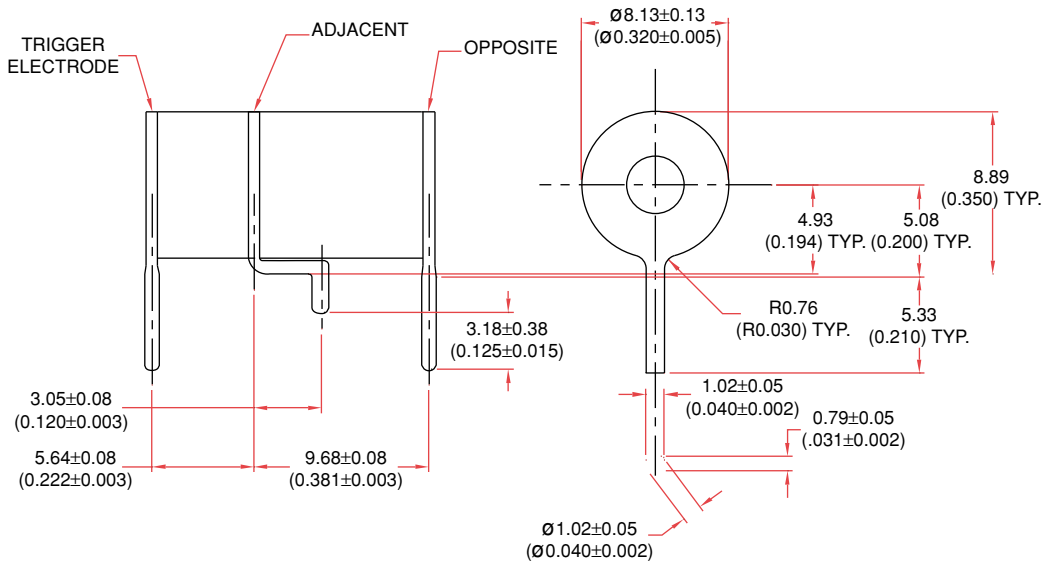
<sup>(3)</sup> The Pulse Energy is the stored energy which the spark gap can dissipate per discharge, during intermittent duty, without permanently changing its breakdown ratings by more than 10%. The principal effect of excessive pulse energies is rapid electrode erosion and change in breakdown characteristics.

**MECHANICAL DIMENSIONS**  
mm/(inches)

**Outline 01**

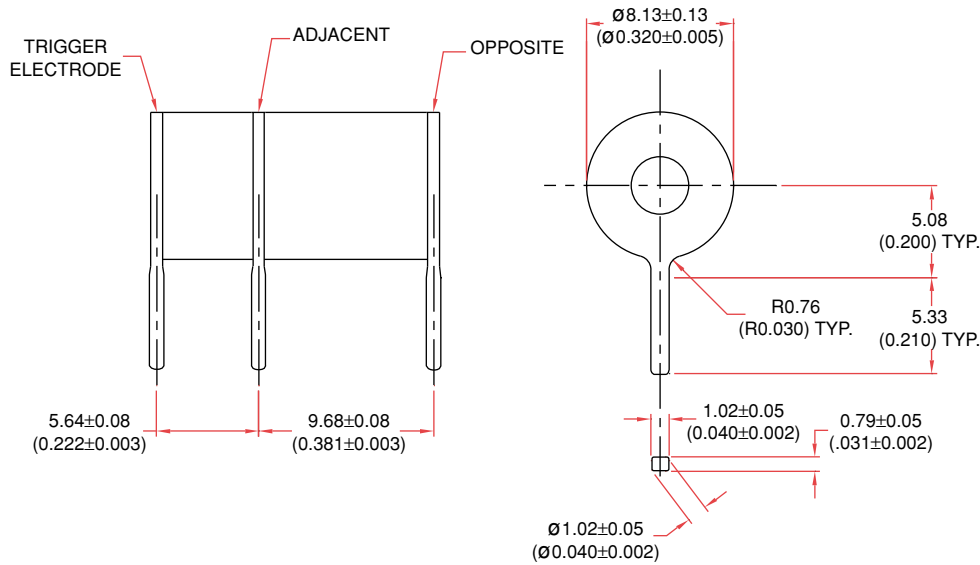


**Outline 02**

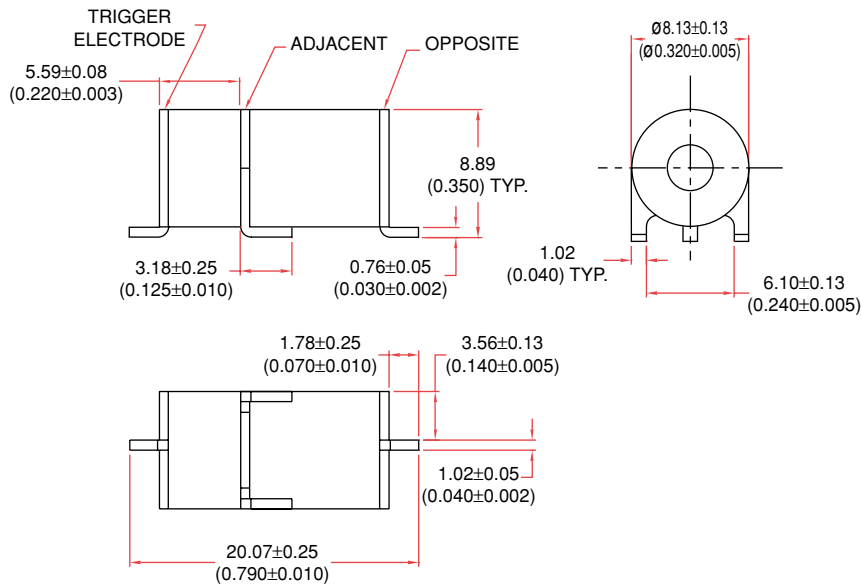


MECHANICAL DIMENSIONS  
mm/(inches)

Outline 05



Outline S



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