



SPDT Electromechanical Relay Latching Switch, DC to 18 GHz, up to 90W, 12V, Self Cut Off, Indicators, SMA

## Electromechanical Relay Switches Technical Data Sheet

PE71S6394

### Features

- Single Pole Double Throw
- DC to 18 GHz Frequency Range
- Isolation greater than 80 dB typical
- 5M Cycle Min Operating Life
- +12 Volt DC
- 90 Watt average Power
- Latching Actuator
- Self Cut Off
- 1 Watt Indicators
- -25 to +70°C Operating Temperature
- Insertion Loss as low as 0.15 dB Max
- VSWR as low as 1.2:1 max
- SMA Female RF connectors
- Solder Pins for DC Control
- Hot Switching Capability - Consult Factory
- S-Parameter Data available upon request

### Applications

- High Performance Relay Switch
- Military Communications
- Communications Systems
- Test & Measurement

### Description

The PE71S6394 is a Single Pole Double Throw (SPDT) electromechanical relay switch that operates across a wide frequency range of DC to 18 GHz and can handle up to 90 Watts of CW input power in a break before make condition. The design features a Latching actuator and is rated for 5M life cycles for high reliability operation. Impressive performance includes insertion loss less than 0.15 dB typical and isolation greater than 80 dB typical. The Latching Self Cut Off actuator includes Indicators and a +12 Vdc bias voltage, and operates over a temperature range of -25°C to +70°C. The rugged and compact package assembly supports SMA Female connectors and Solder Pins for DC Control. And for highly reliable operation, the model is guaranteed to meet MIL-STD-202 environmental test conditions for shock and random vibration.

### Electrical Specifications

Switch Type	SPDT
Actuator Type	Latching
Switching Sequence	Break before Make
Actuator Options	Self Cut Off, Indicators
Indicator Rating	1 Watts / 32 Volts / 125 mA

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		18	GHz
Impedance		50		Ohms
Operating Voltage	11	12	13	Volts
Actuating Current @ 12 Volts		200		mA
VSWR		1.2:1	1.4:1	
Insertion Loss		0.15	0.35	dB
Isolation	65	80		dB
Input Power (CW)			60	Watts
Switching Time			20	ms Max

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SPDT Electromechanical Relay Latching Switch, DC to 18 GHz, up to 90W, 12V, Self Cut Off, Indicators, SMA PE71S6394](#)



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### Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC to 6	6 to 12	12 to 18			GHz
VSWR, Max	1.2:1	1.3:1	1.4:1			
Insertion Loss, Max	0.15	0.25	0.35			dB
Isolation, Min	80	75	65			dB
Input Power, Typ (CW)	90	75	60			Watts

### Mechanical Specifications

#### Size

Package Type	Connectorized
Operating Life	5,000,000 Cycles

#### Connectors

RF Connector Type	SMA Female
Control Connector	Solder Pin

### Environmental Specifications

#### Temperature

Operating Range	-25 to +70 deg C
Storage Range	-55 to +100 deg C

Shock	MIL-STD-202 Method 213, Cond. D 500G Non Operating
Vibration	MIL-STD-202 Method 214, Cond. D 10G RMS Non Operating

**Compliance Certifications** (see [product page](#) for current document)

### Plotted and Other Data

Notes:

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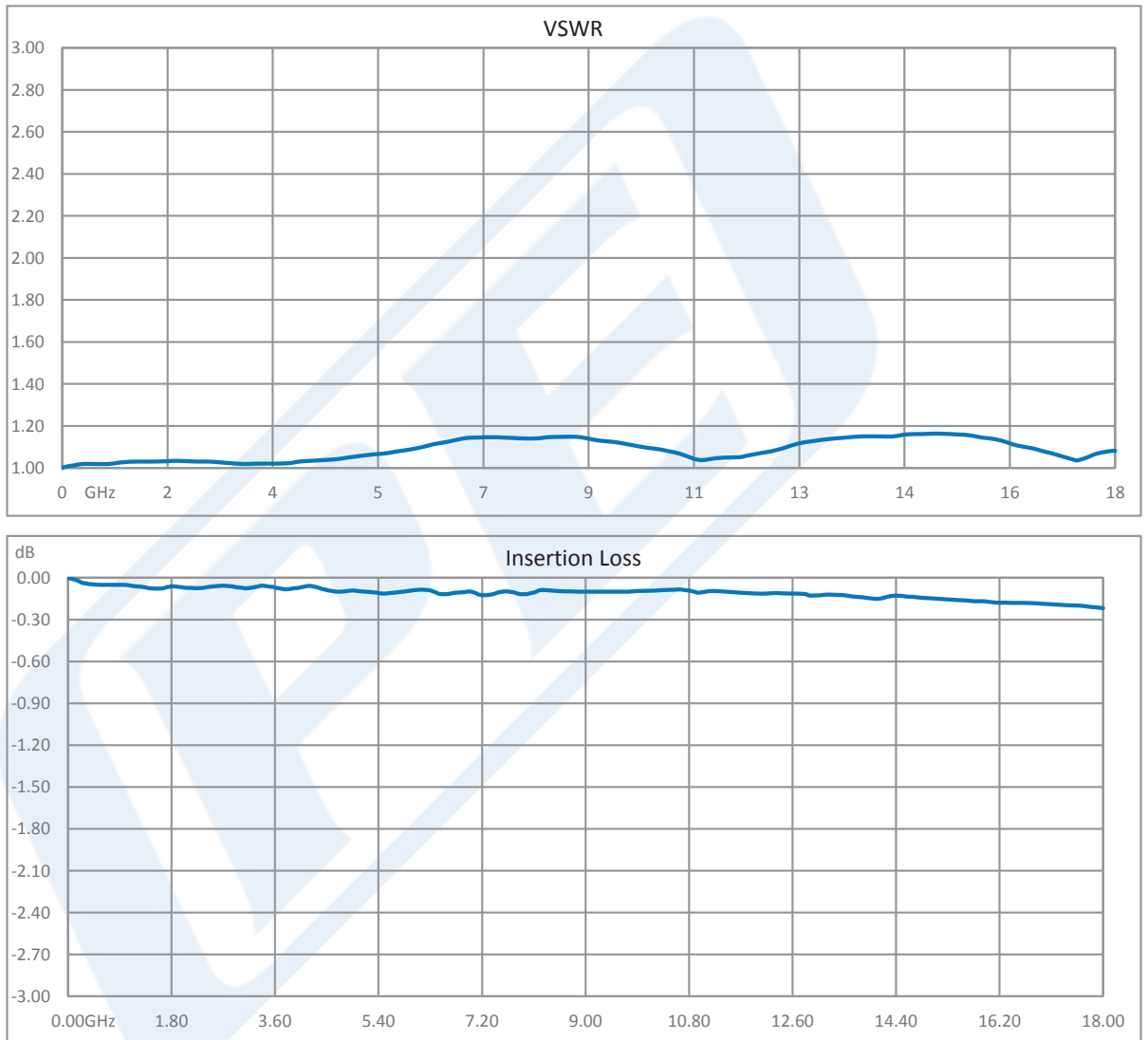


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Electromechanical Relay Switches Technical Data

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Typical Performance Data



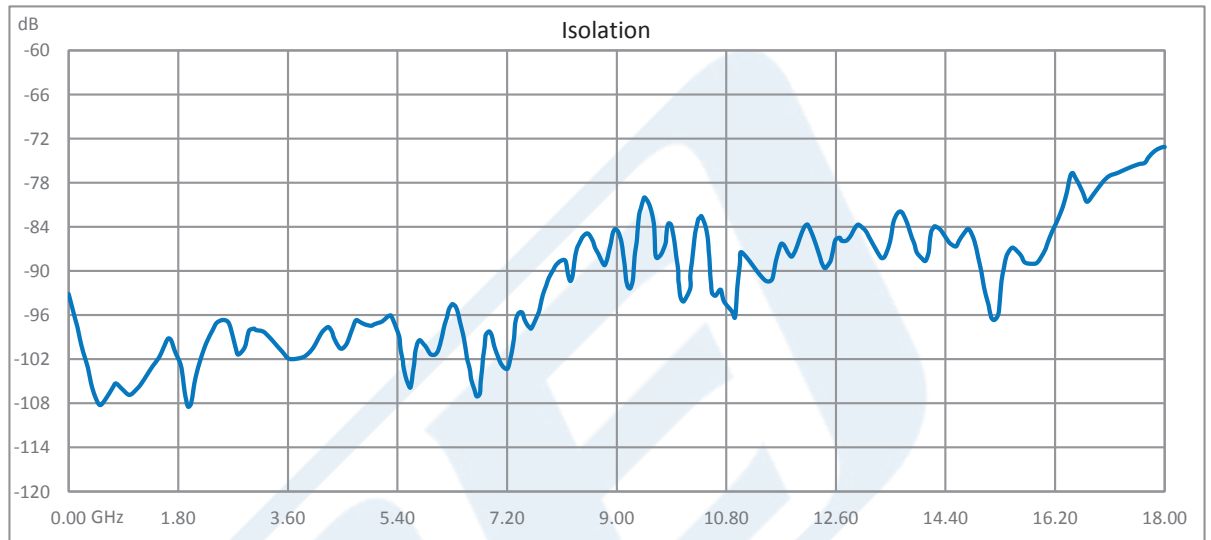
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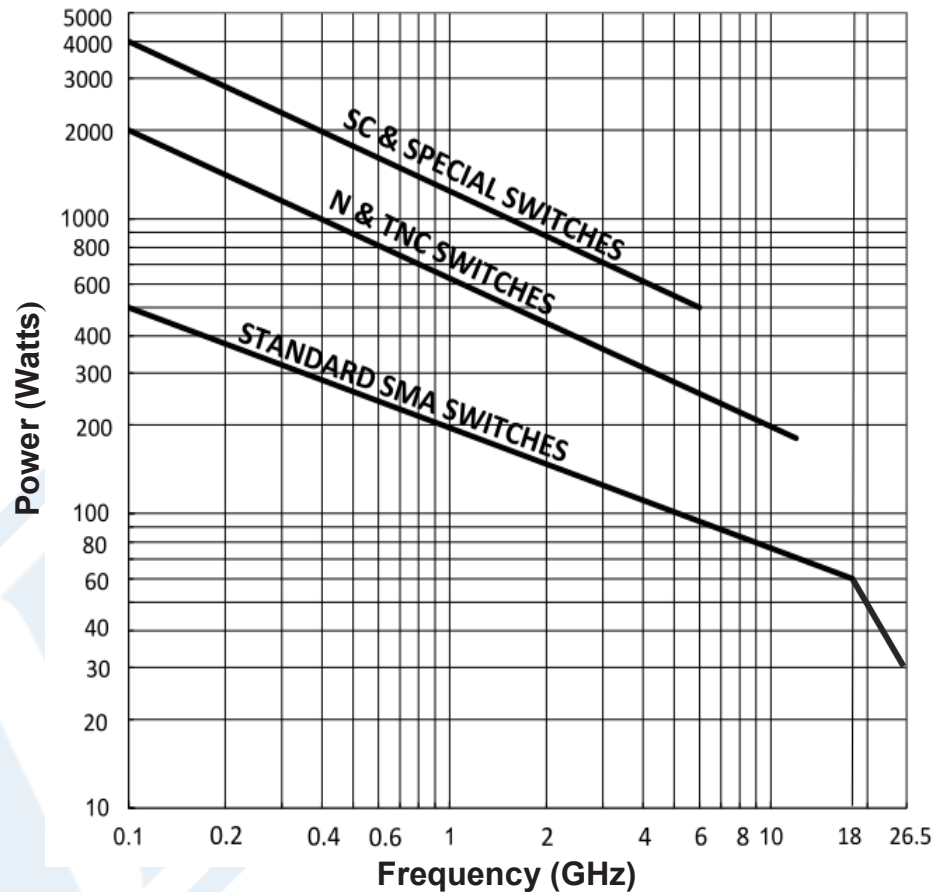


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**Power Handling vs. Frequency & Connector Type**



**Environmental and Test Conditions:**

- Ambient temperature of 25°C or less
- Altitude: Sea Level
- Load VSWR: 1.20:1 max.
- Cold Switching

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## Electromechanical Relay Switches Technical Data

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SPDT Electromechanical Relay Latching Switch, DC to 18 GHz, up to 90W, 12V, Self Cut Off, Indicators, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SPDT Electromechanical Relay Latching Switch, DC to 18 GHz, up to 90W, 12V, Self Cut Off, Indicators, SMA PE71S6394](https://www.pasternack.com/spdt-electromechanical-relay-latching-switch-18-ghz-60w-12v-indicators-sma-pe71s6394-p.aspx)

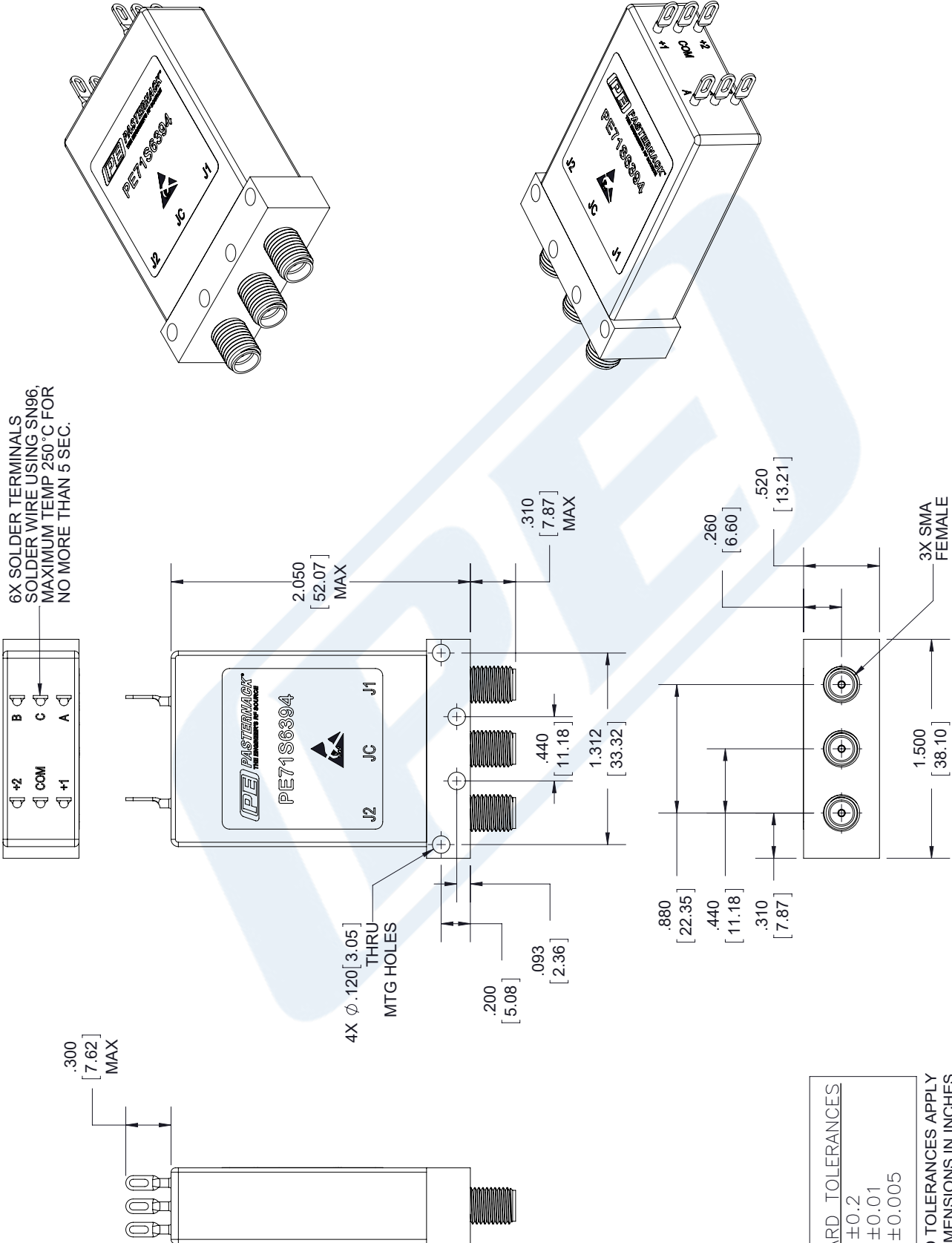
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The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack does not assume any liability arising out of the use of any part or documentation.

# PE71S6394 CAD Drawing

SPDT Electromechanical Relay Latching Switch, DC to 18 GHz,  
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6X SOLDER TERMINALS  
SOLDER WIRE USING SN96,  
MAXIMUM TEMP 250 °C FOR  
NO MORE THAN 5 SEC.



### STANDARD TOLERANCES

- .X ±0.2
- .XX ±0.01
- .XXX ±0.005

\*STANDARD TOLERANCES APPLY  
ONLY TO DIMENSIONS IN INCHES



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DWG TITLE

PE71S6394

CAGE CODE 53919

NOTES:  
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.  
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME  
3. DIMENSIONS ARE IN INCHES [mm].

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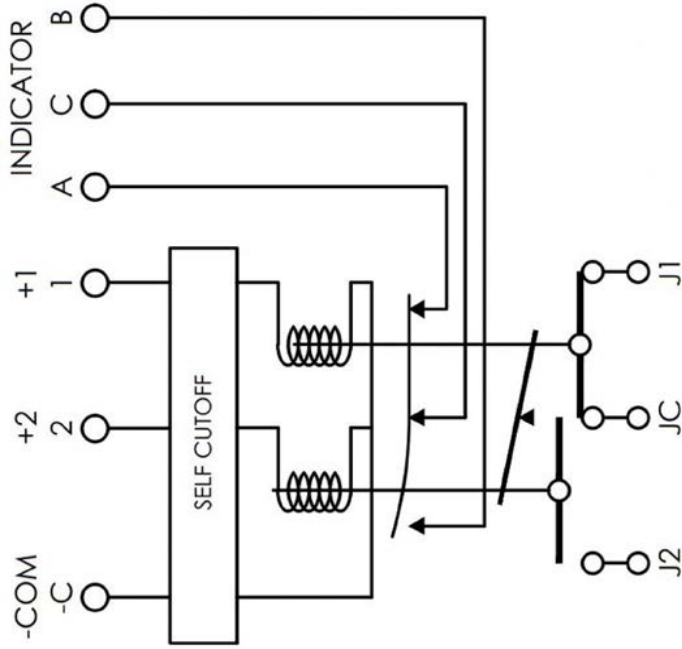
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SIZE A

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# PE71S6394 CAD Drawing

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**SCHEMATIC SHOWN IN LATCHING POSITION**

	RF PATH	INDICATOR
POS1	J1-JC	A-C
POS2	J2-JC	B-C

**STANDARD TOLERANCES**

.X ±0.2  
.XX ±0.01  
.XXX ±0.005

\*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES



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