



SP4T Electromechanical Relay Latching Switch,
Terminated, DC to 18 GHz, up to 90W, 12V, SMA

Electromechanical Relay Switches Technical Data Sheet

PE71S6364

Features

- Single Pole Four 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
- Internally Terminated
- -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
- 15 Pin D-Sub Connector 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 PE71S6364 is a Single Pole Four Throw (SP4T) 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 actuator has 50 Ohm Terminations 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 a 15 Pin D-Sub Connector 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: SP4T, Terminated
 Actuator Type: Latching
 Switching Sequence: Break before Make

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		18	GHz
Impedance		50		Ohms
Termination Impedance		50		Ohms
Operating Voltage	11	12	13	Volts
Actuating Set Current @ 12 Volts Requires reset before switching positions.			280	mA
Actuating Reset Current			1.12	A
VSWR		1.2:1	1.4:1	
Insertion Loss		0.15	0.4	dB
Isolation	80	80		dB
Input Power (CW)			60	Watts

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SP4T Electromechanical Relay Latching Switch, Terminated, DC to 18 GHz, up to 90W, 12V, SMA PE71S6364](#)



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Termination Input Power (CW)	5	Watts
Switching Time	20	ms Max

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	0.4			dB
Isolation, Min	80	80	80			dB
Input Power, Typ (CW)	90	75	60			Watts

Mechanical Specifications

Size

Body Material and Plating	Aluminum
Package Type	Connectorized
Operating Life	5,000,000 Cycles

Connectors

RF Connector Type	SMA Female
RF Connector Contact Material and Plating	Beryllium Copper, Gold
RF Connector Body Material and Plating	Aluminum, Nickel
Control Connector	15-Pin D-Subminiatur

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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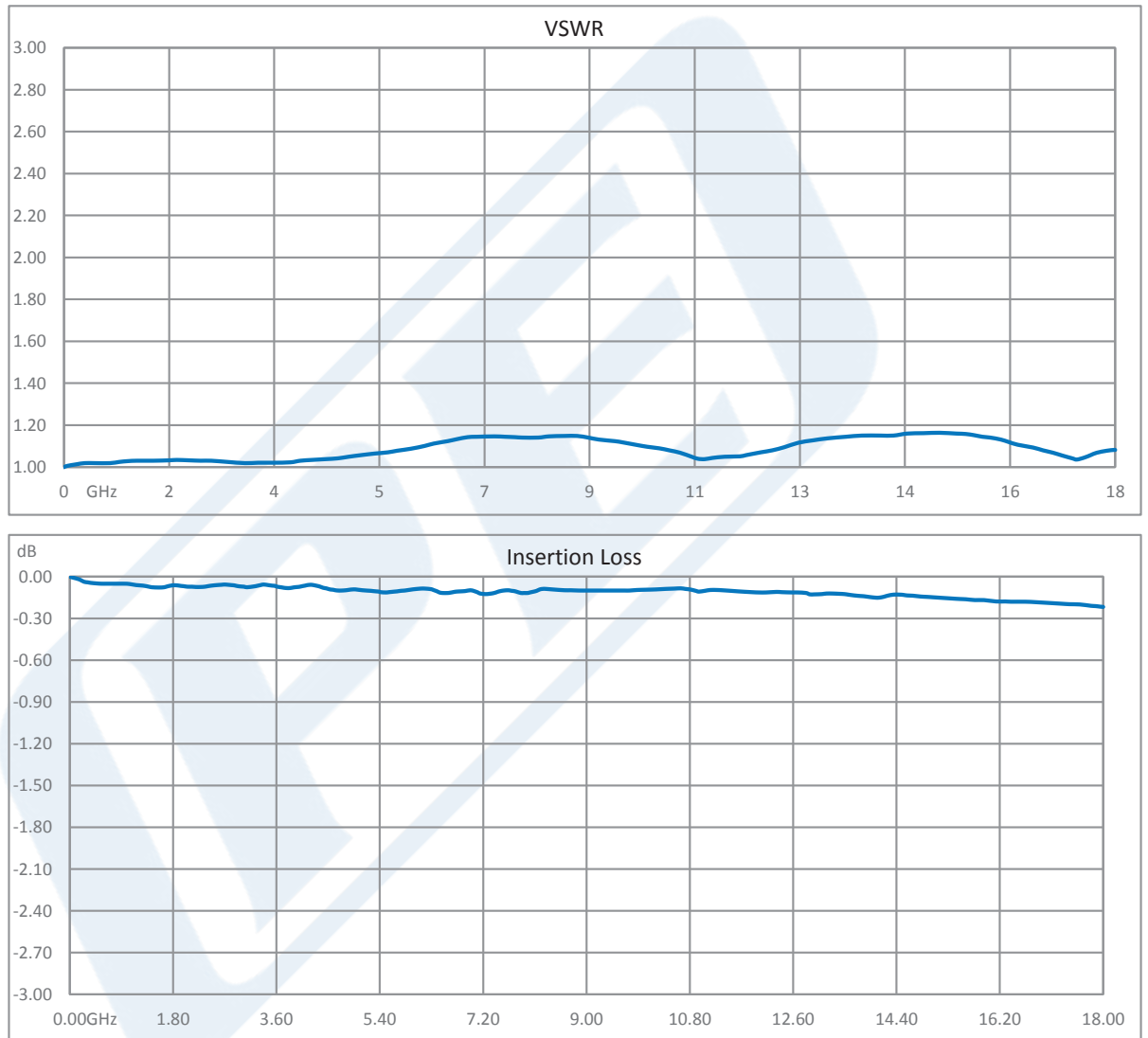


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Typical Performance Data



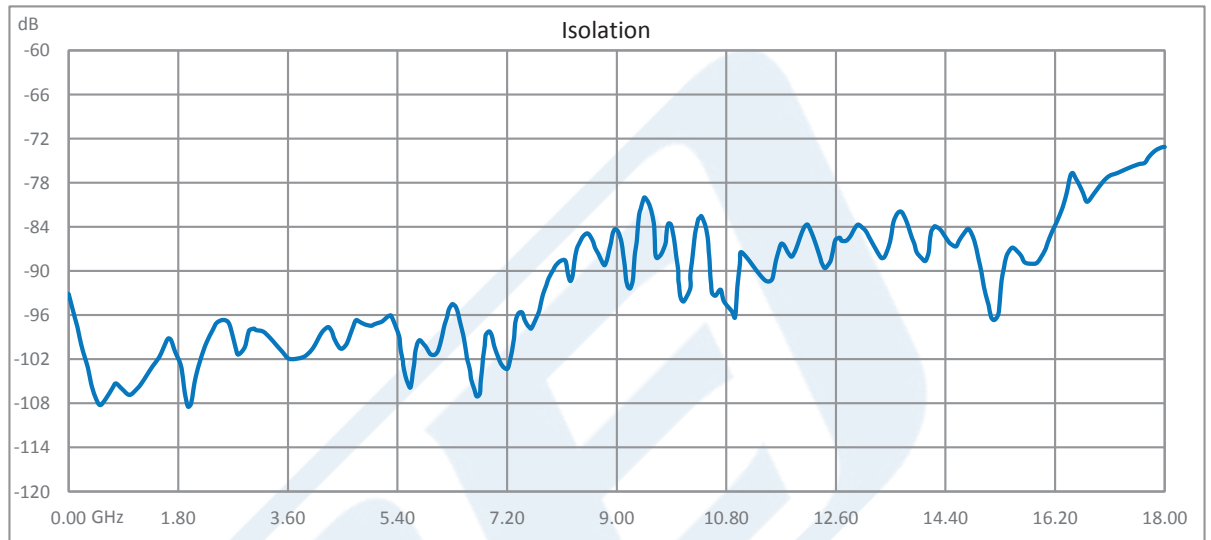
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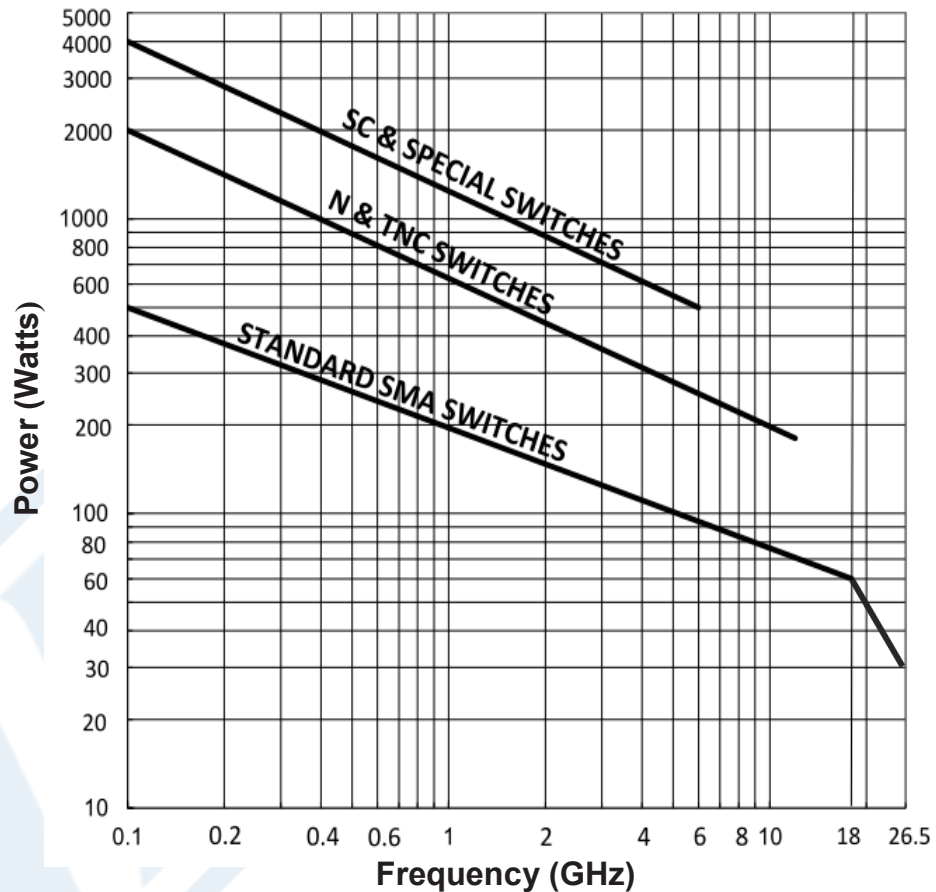


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Power Handling vs. Frequency & Connector Type



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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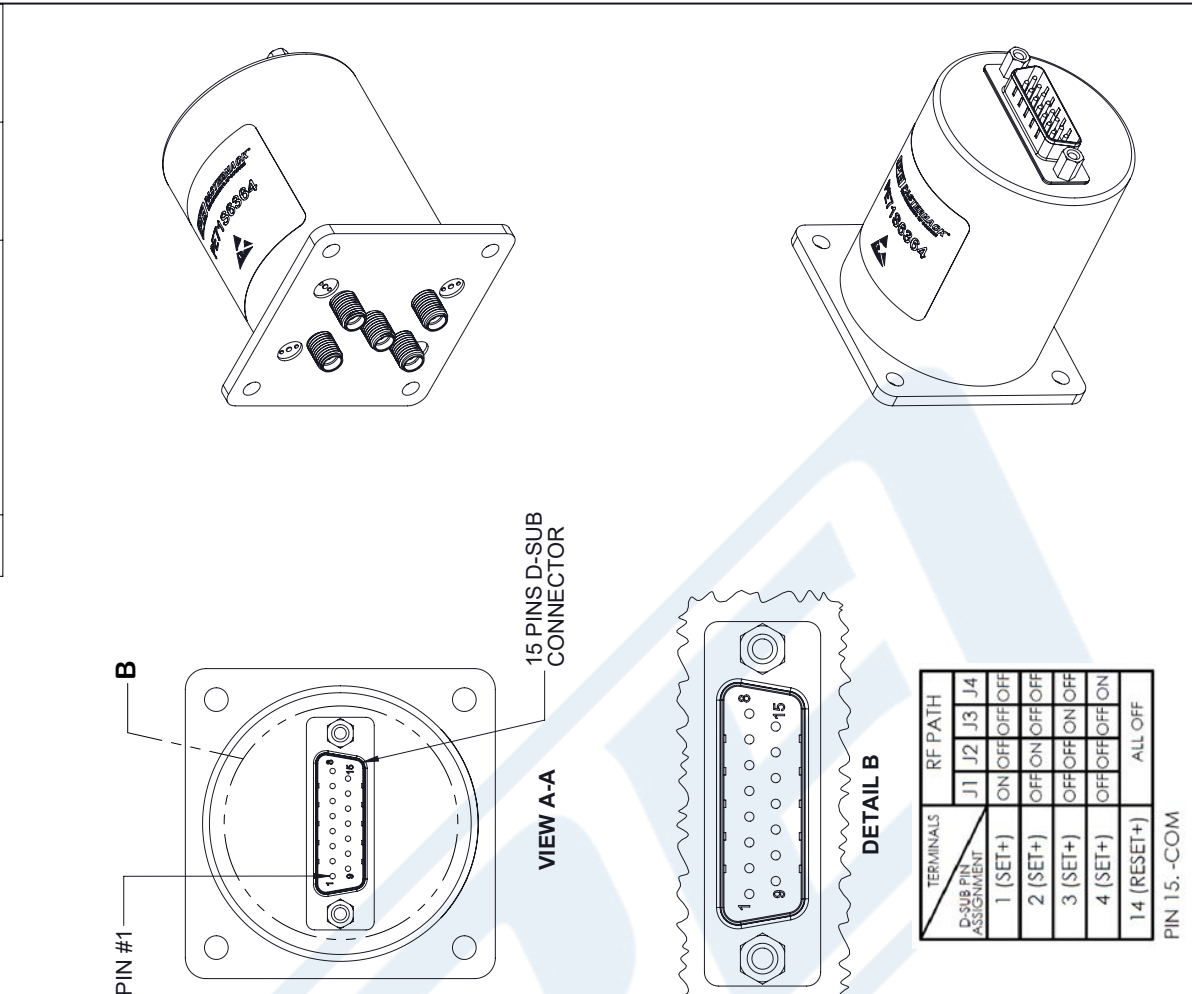
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PE71S6364 CAD Drawing

SP4T Electromechanical Relay Latching Switch, Terminated,
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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
1.1	PCR PE71S6364 20190712	07/17/19	J.GARCIA



UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [] ARE MILLIMETERS

TOLERANCES:
 X±.2 [5.08]
 XX±.01 [.25]
 .XXX±.005 [.13]

FRACTIONS
 ±.132
 ANGLES ± 1°

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

THIRD-ANGLE PROJECTION

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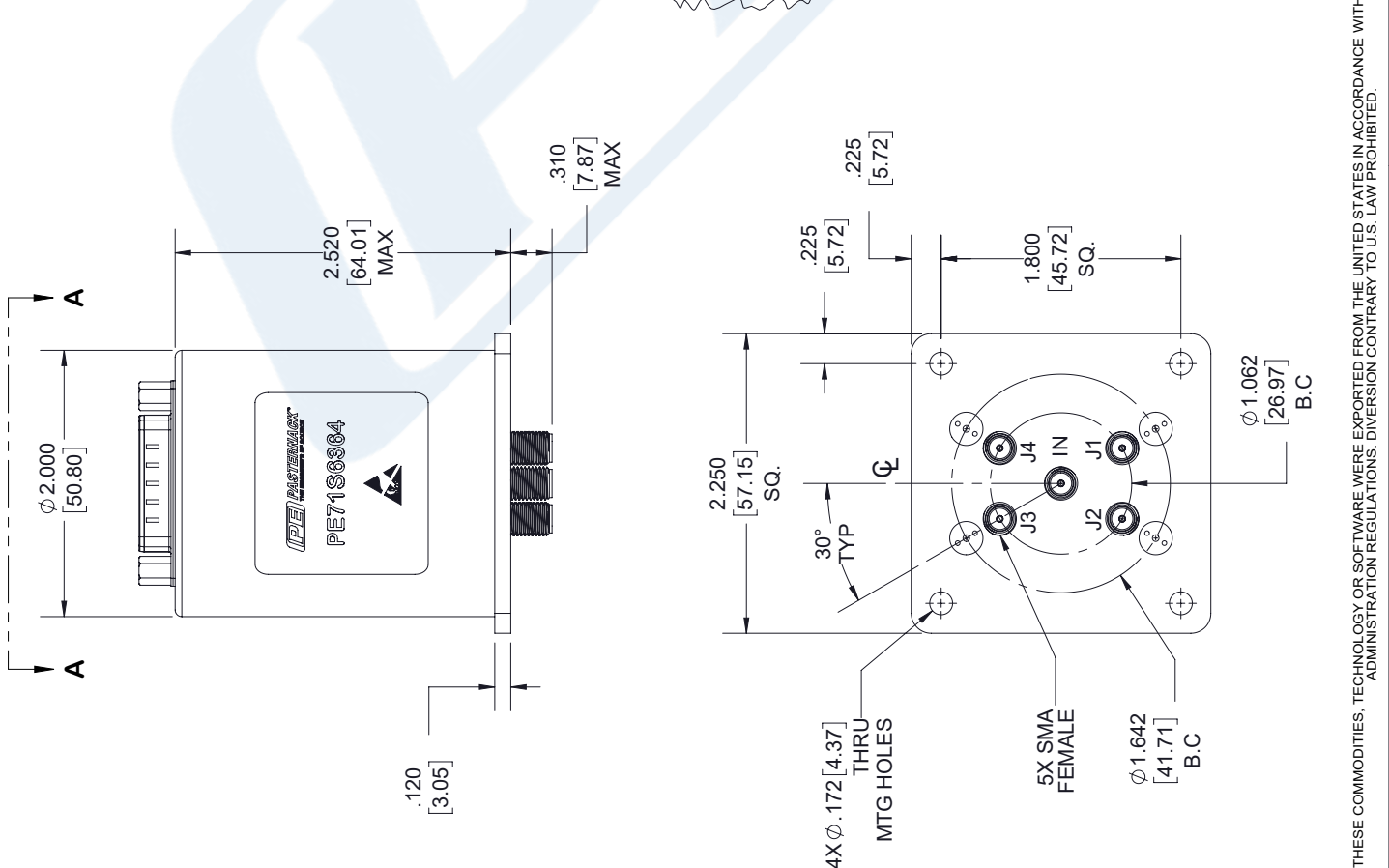
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SHEET 1 OF 2
 SCALE N/A

SIZE A
 CAGE DRAWN BY K.DANG
 PART NUMBER PE71S6364
 REV 1.1

TERMINALS	RF PATH			
	J1	J2	J3	J4
D-SUB PIN ASSIGNMENT	1 (SET+)	ON	OFF	OFF
	2 (SET+)	OFF	ON	OFF
	3 (SET+)	OFF	OFF	ON
	4 (SET+)	OFF	OFF	OFF
	14 (RESET+)	ALL	OFF	ON
				ALL OFF

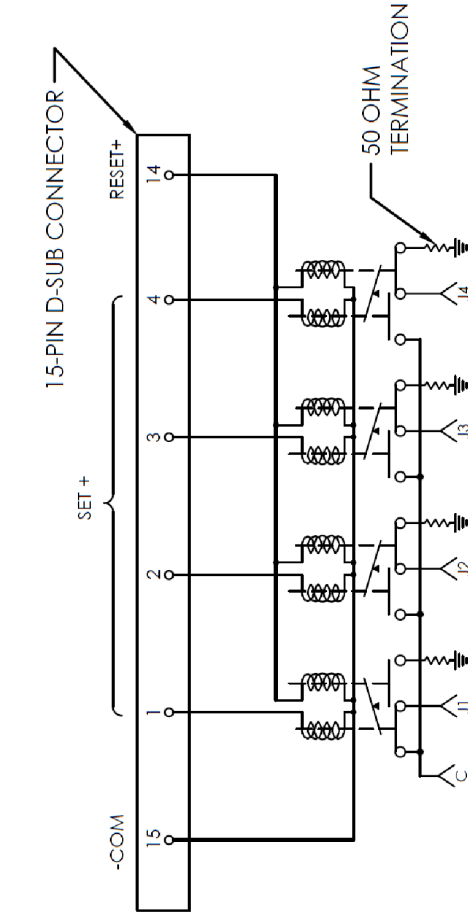
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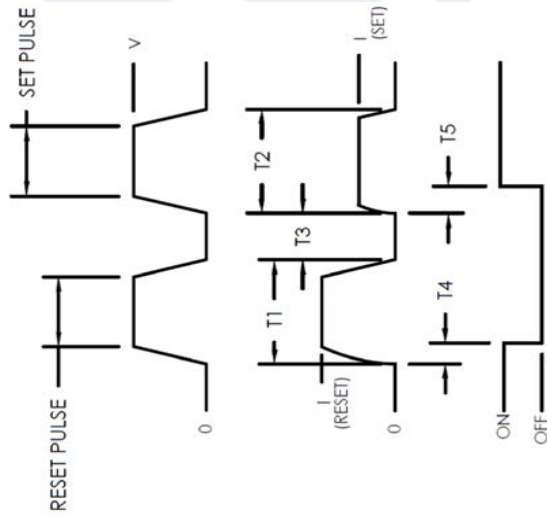
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SCHEMATIC

(COIL 1 SHOWN LAST ENERGIZED)



ACTUATION CHARACTERISTICS

- REQUIRES TWO (2) SEQUENTIAL PULSES (RESET & SET)
- T1 & T2 = 30mSEC MIN
- T3 = 10mSEC MIN
- T4 & T5 = 20mSEC MAX

UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [] ARE MILLIMETERS	
TOLERANCES:	FRACTIONS
X±.2	[5.08]
.XX±.01	[.25]
.XXX±.005	[.13]
ANGLES ± 1°	
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THIRD-ANGLE PROJECTION	

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SIZE A CAGE 53919 DRAWN BY K.DANG	PART NUMBER PE71S6364 REV 1.1	

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