

SPDT, Electromechanical Relay Failsafe Switch, DC to 53GHz, 28VDC, Solder Terminal, 2.4mm

Electromechanical Relay Switches Technical Data Sheet

PE71S8010

Features

- Single Pole Double Throw (SPDT) Electromechanical Relay Switch
- DC to 53 GHz Frequency Range
- Failsafe Actuator
- 1M Lifecycle Rating
- Insertion Loss 0.6 dB typ
- Isolation > 80 dB typ
- VSWR as low as 1.2:1 max
- Solder Terminal Pins for DC Control
- +28 Volt DC Bias
- 2.4mm Female Connectors
- -25°C to +65°C Operating Temperature
- Up to 3 Watt Average Power Handling
- 50 Ohm Design
- Hot Switching Capability - Consult Factory
- S-Parameter Data available upon request
- Rugged Design meets Mil-STD-202 Test Conditions

Applications

- Aerospace & Defense
- Test & Measurement
- Microwave Radio Systems
- Military & Commercial Communication Systems
- Research & Development
- SATCOM
- Wireless Communications
- Enterprise
- IoT

Description

The PE71S8010 is a Single Pole Double Throw (SPDT) electromechanical relay switch that operates across an ultra wide frequency range from DC to 53 GHz and can handle up to 3 Watts of Average Power in a break before make condition. The 50 Ohm design is rated for 1 million lifecycles and features a Failsafe Actuator. Impressive typical performance includes 0.6 dB insertion loss and isolation greater than 80 dB. This switch requires +28 Vdc bias voltage and operates over a temperature range of -25°C to +65°C. The rugged and compact package assembly supports 2.4mm female connectors and solder terminal 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.

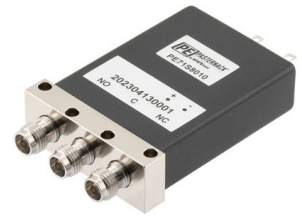
Electrical Specifications (TA = 25°C, DC Voltage = 28 Vdc)

Switch Type
Actuator Type

SPDT
Failsafe

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		53	GHz
Operating Voltage	26	28	30	Volts
Actuating Set Current			90	mA
VSWR		1.4:1	2.2:1	
Insertion Loss		0.6	1.2	dB
Isolation	50	80		dB
Input Power			3	Watts
Switching Time			20	ms

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 Failsafe Switch, DC to 53GHz, 28VDC, Solder Terminal, 2.4mm PE71S8010](#)



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Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC to 6	6 to 18	18 to 26.5	26.5 to 40	40 to 50	GHz
VSWR, Max	1.2:1	1.3:1	1.6:1	1.6:1	1.8:1	
Insertion Loss, Max	0.2	0.3	0.6	0.6	0.8	dB
Isolation, Min	80	70	70	70	50	dB

Performance by Frequency

Description	F6	F7	F8	F9	F10	Units
Frequency Range	50 to 53					GHz
VSWR, Max	2.2:1					
Insertion Loss, Max	1.2					dB
Isolation, Min	50					dB

Mechanical Specifications

Size

Length	1.95 in [49.53 mm]
Width/Diameter	2.75 in [69.85 mm]
Height	0.92 in [23.37 mm]
Weight	0.1 lbs [45.36 g]
Finish	Electroless Nickel

Connectors

RF Connector Type	2.4mm Female
Control Connector	Solder Terminals

Environmental Specifications

Temperature

Operating Range	-25 to +65 deg C
Storage Range	-55 to +100 deg C

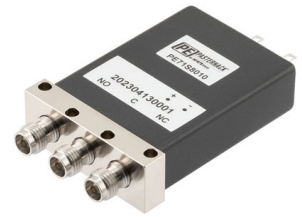
Shock

MIL-STD-202 Method 213, Condition D, 500G (non operational)

Vibration

MIL-STD-202 Method 204, Condition D, 10G RMS (non operational)

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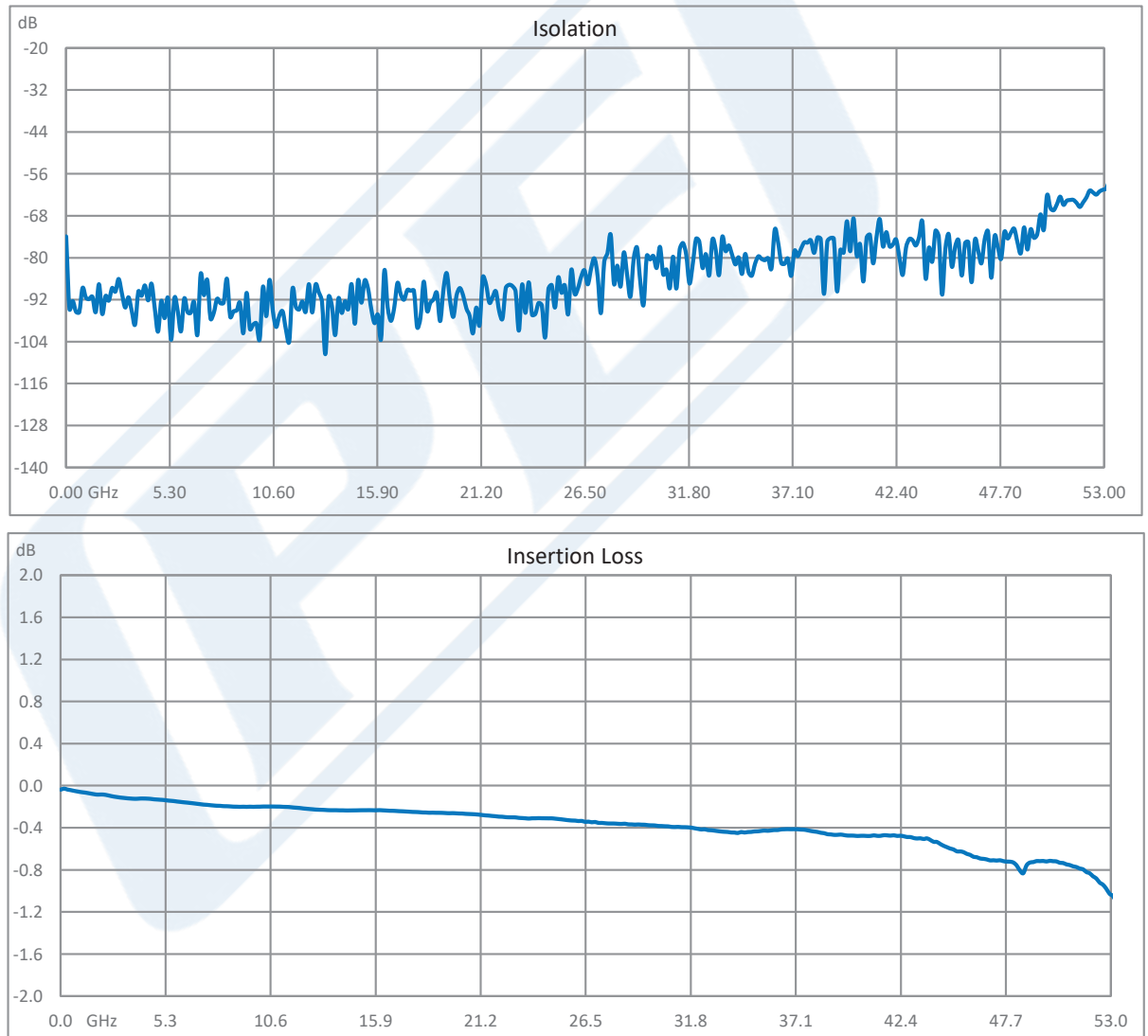
PE71S8010

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

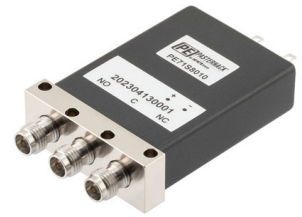
Plotted and Other Data

Notes:

Typical Performance Data



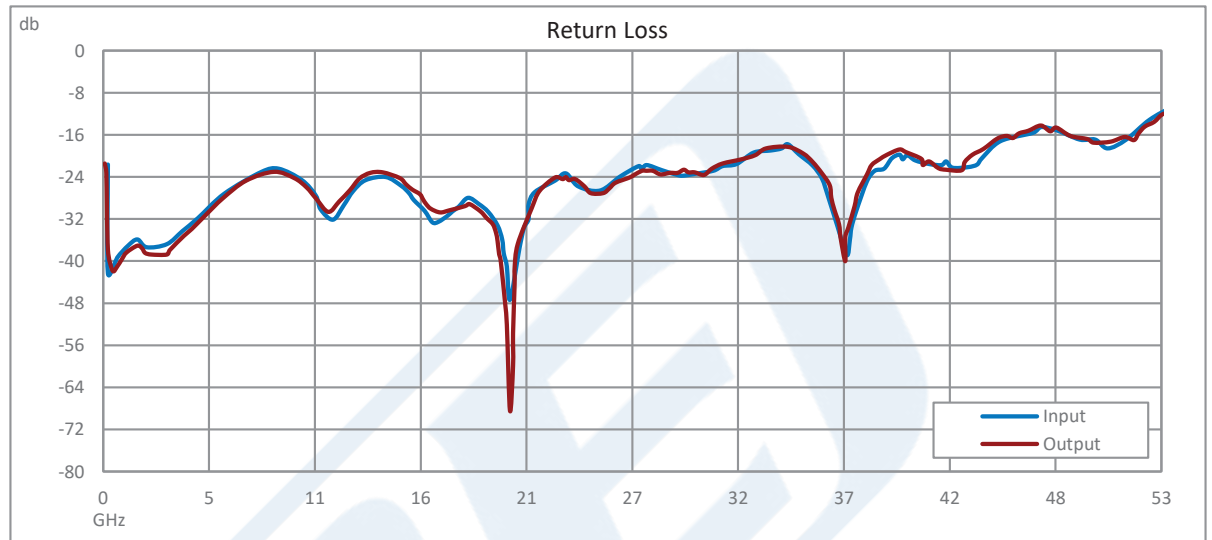
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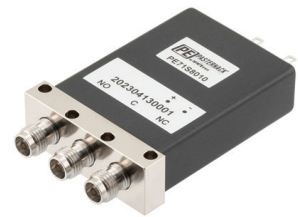
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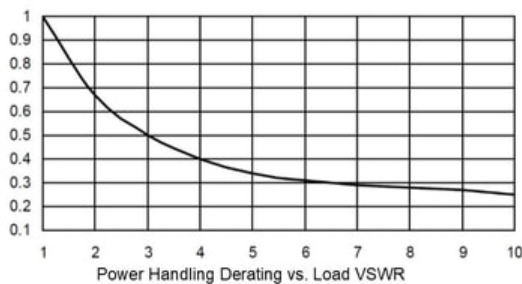
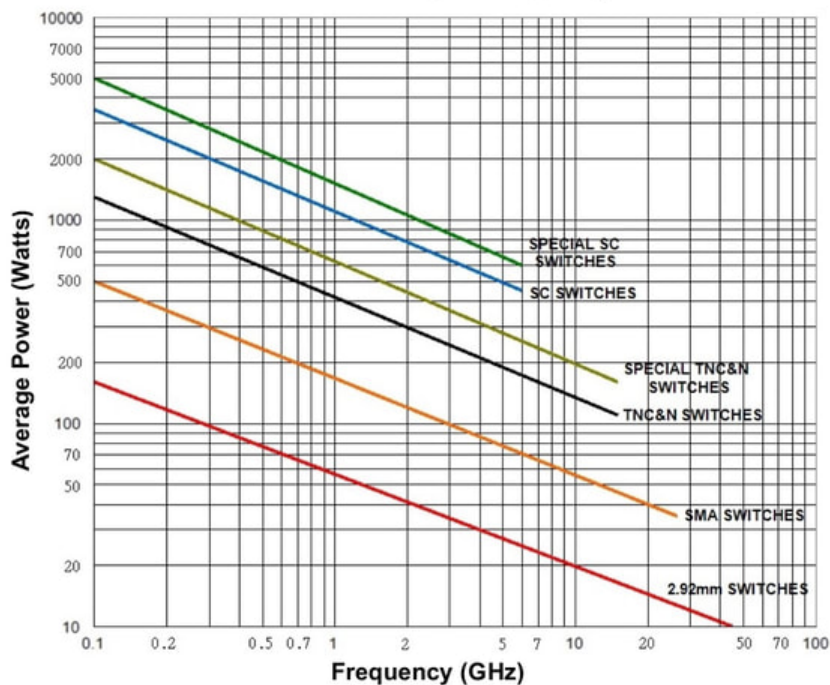
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Power Handling vs. Frequency

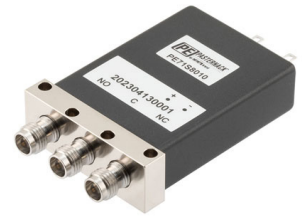


Power handling chart and derating curves based on the following conditions:

- Ambient temperature: 40°C or less
- Altitude: Sea level
- Load VSWR: 1.20:1 Maximum
- Relative Humidity: 40-50%
- Cold switching: RF signal off

Note: specifications subject to change without notice

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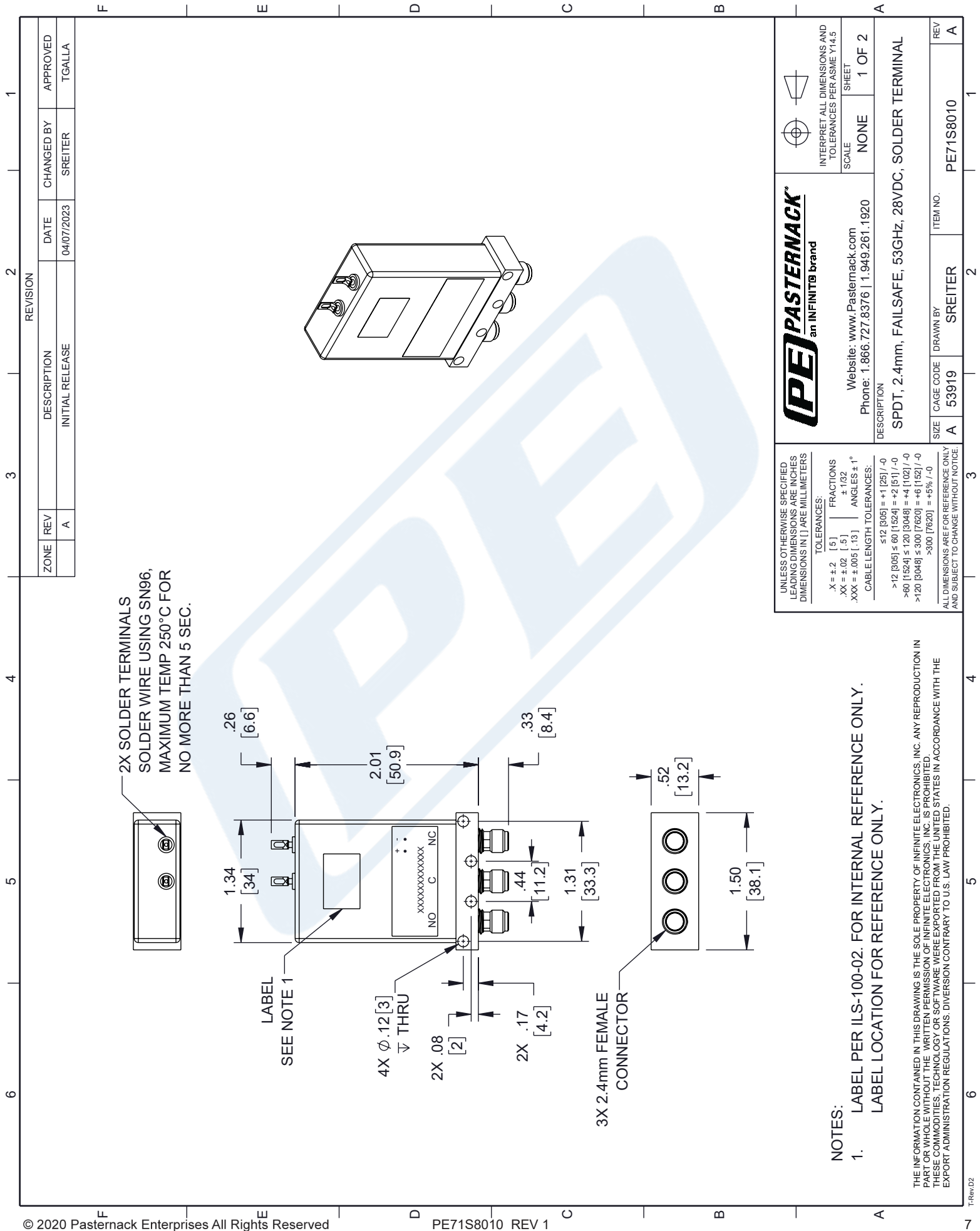
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PE71S8010 CAD Drawing

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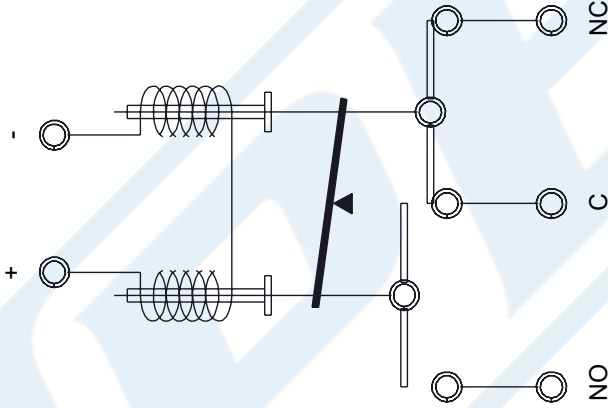


ZONE	REV	DESCRIPTION	DATE	CHANGED BY	APPROVED
	A	INITIAL RELEASE	04/07/2023	SREITER	TGALLA

PE PASTERNAK® an INFINITO brand INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5 SCALE NONE SHEET 1 OF 2								
Website: www.Pasternack.com Phone: 1.866.727.8376 1.949.261.1920								
DESCRIPTION SPDT, 2.4mm, FAILSAFE, 53GHz, 28VDC, SOLDER TERMINAL								
SIZE	CAGE CODE	DRAWN BY	ITEM NO.	REV				
A	53919	SREITER	PE71S8010	A				
UNLESS OTHERWISE SPECIFIED, LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [] ARE MILLIMETERS TOLERANCES: X ± .2 [.5] FRACTIONS .XX ± .02 [.5] ± 1/32 .XXX ± .005 [.13] ANGLES ± ° CABLE LENGTH TOLERANCES: 512 [305] ± +1 [25] / -0 >12 [305] ≤ 60 [1524] ± +2 [51] / -0 >60 [1524] ≤ 120 [3048] ± +4 [102] / -0 >120 [3048] ≤ 300 [7620] ± +6 [152] / -0 >300 [7620] ± +5% / -0								
ALL DIMENSIONS ARE FOR REFERENCE ONLY AND SUBJECT TO CHANGE WITHOUT NOTICE.								

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SCHEMATIC

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.XX = ±.02 [.5] ± 1/32
.XXX = ±.005 [.13] ANGLES ± 1°

CABLE LENGTH TOLERANCES:
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DESCRIPTION
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SIZE	CAGE CODE	DRAWN BY	ITEM NO.	REV
A	53919	SREITER	PE71S8010	A

	SCALE	SHEET
	NONE	2 OF 2