



SPDT Electromechanical Relay Failsafe Switch, DC to 40 GHz, 2M Lifecycles, 10W, 28V, 2.92mm, Solder Pins

Electromechanical Relay Switches Technical Data Sheet

PE71S6478

Features

- Single Pole Double Throw (SP2T) Electromechanical Relay Switch
- DC to 40 GHz Frequency Range
- Failsafe Actuator
- 2M Lifecycle Rating
- Insertion Loss 0.4 dB typ
- Isolation > 80 dB typ
- VSWR as low as 1.15:1 max
- Solder Terminal Pins for DC Control
- +28 Volt DC Bias
- 2.92mm Female Connectors
- -25°C to +65°C Operating Temperature
- Up to 10 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 PE71S6478 is a Single Pole Double Throw (SP2T) electromechanical relay switch that operates across a wide frequency range from DC to 40 GHz and can handle up to 10W of average power in a break before make condition. The 50 Ohm design is rated for 2 million lifecycles and features a Failsafe Actuator. Impressive typical performance includes 0.4 dB insertion loss and isolation greater than 80 dB. This switch requires +28Vdc bias voltage and operates over a temperature range of -25°C to +65°C. The rugged and compact package assembly supports 2.92mm 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 (TA = +25°C, DC Voltage = +28 Vdc)

Switch Type SPDT
Actuator Type Failsafe

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		40	GHz
Operating Voltage		+28		Volts
Actuating Set Current @ +28 Volts			90	mA
VSWR		1.4:1	1.5:1	
Insertion Loss		0.4	0.7	dB
Isolation	60	80		dB
Input Power (CW) (at 40 GHz)			10	Watts

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 40 GHz, 2M Lifecycles, 10W, 28V, 2.92mm, Solder Pins PE71S6478](#)



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Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC to 6	6 to 12.4	12.4 to 18	18 to 26.5	26.5 to 40	GHz
VSWR, Max	1.15:1	1.35:1	1.4:1	1.4:1	1.5:1	
Insertion Loss, Max	0.15	0.25	0.35	0.5	0.7	dB
Isolation, Min	80	75	65	65	60	dB

Mechanical Specifications

Size

Length	2.05 in [52.07 mm]
Width/Diameter	1.5 in [38.1 mm]
Height	0.52 in [13.21 mm]
Weight	0.1 lbs [45.36 g]

Connectors

RF Connector Type	2.92mm Female
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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 oper)
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Vibration	MIL-STD-202 Method 204, Condition D, 10G RMS (non oper)
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Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

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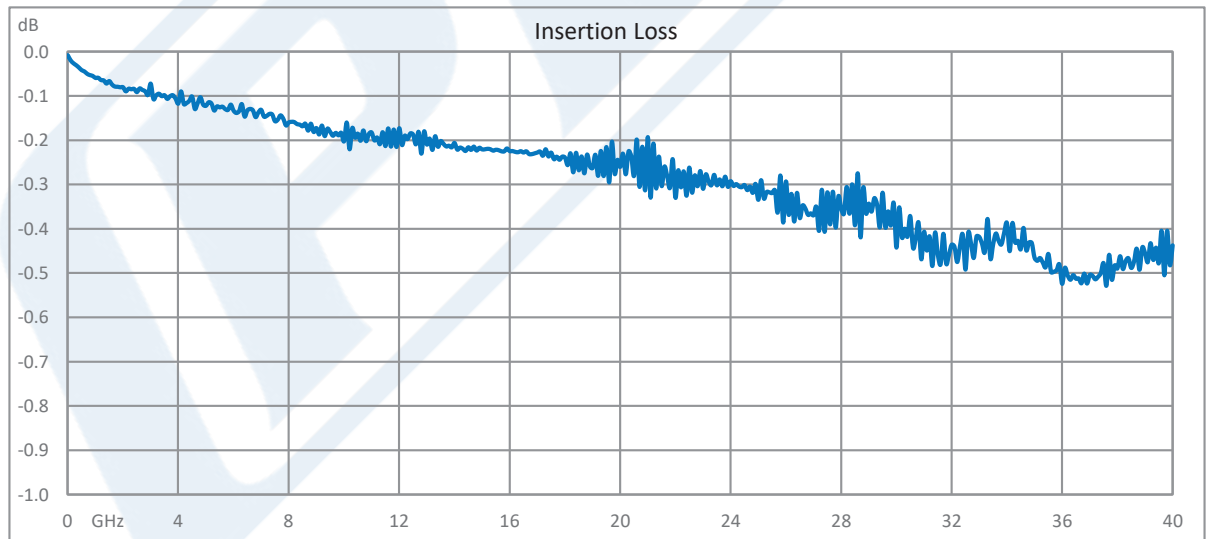
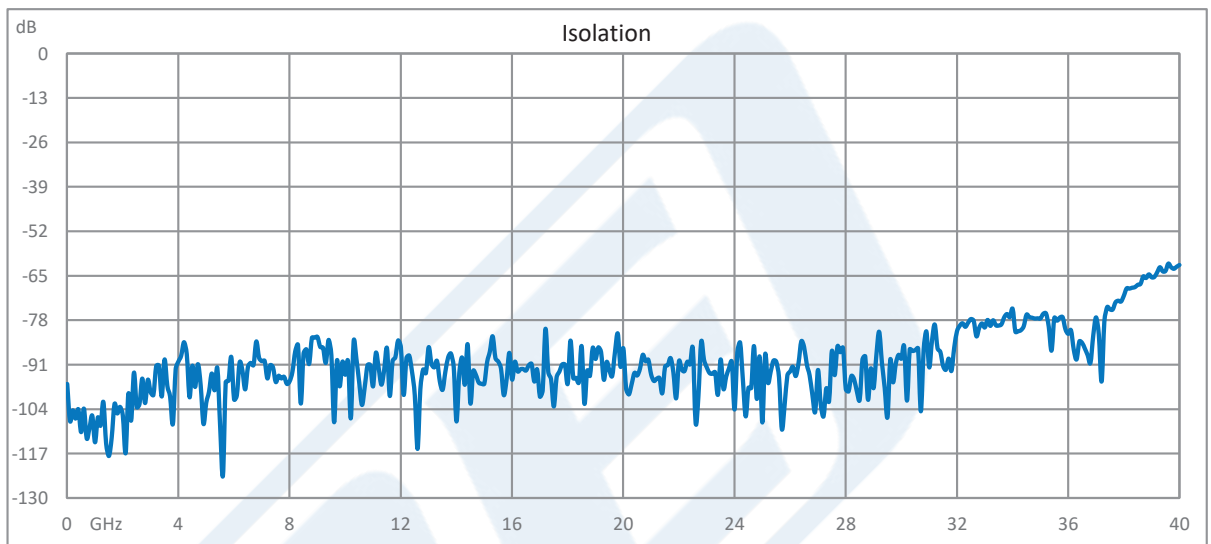


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Electromechanical Relay Switches Technical Data

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Typical Performance Data



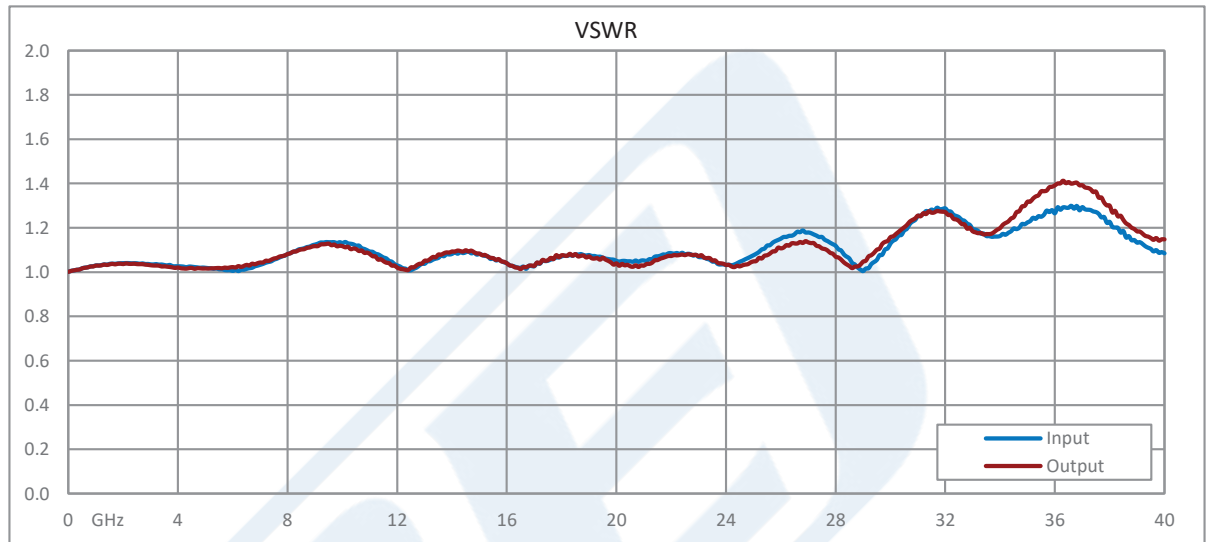
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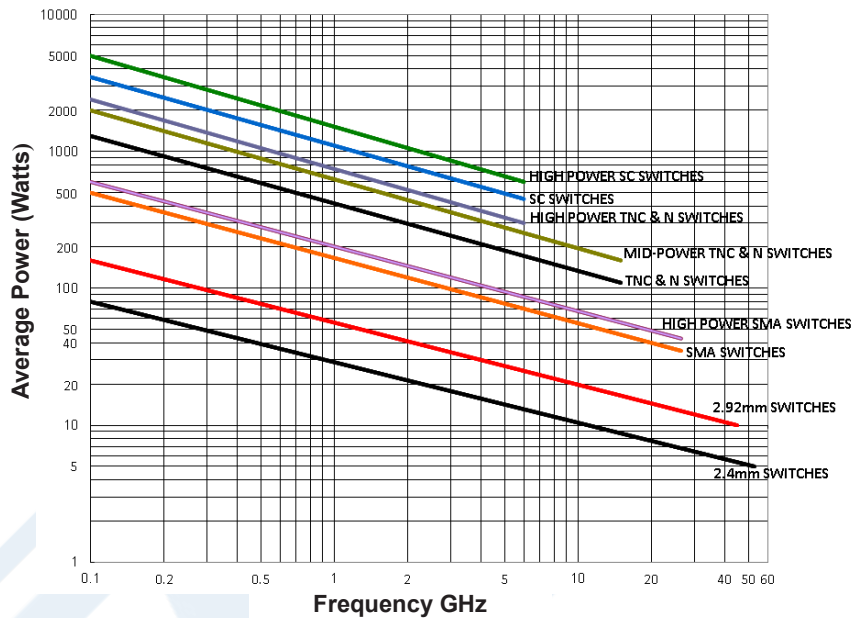


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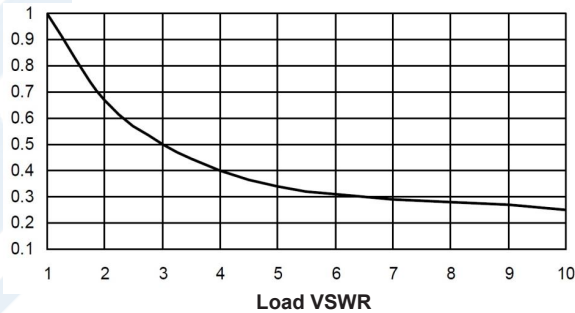
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Power Handling vs. Frequency



Power Handling De-rating vs. Load VSWR



Power Handling Chart and Derating Curves based on the following Test and Environmental Conditions:
 Ambient temperature: 20-25°C
 Altitude: Sea Level to 1,000 feet
 Relative Humidity: 50-55%
 Load VSWR: ≤ 1.20:1
 Operation: Cold Switching

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SPDT Electromechanical Relay Failsafe Switch, DC to 40 GHz, 2M Lifecycles, 10W, 28V, 2.92mm, Solder Pins 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 Failsafe Switch, DC to 40 GHz, 2M Lifecycles, 10W, 28V, 2.92mm, Solder Pins PE71S6478](https://www.pasternack.com/spdt-electromechanical-relay-failsafe-switch-40-ghz-2m-lifecycles-10w-28v-2.92mm-pe71s6478-p.aspx)

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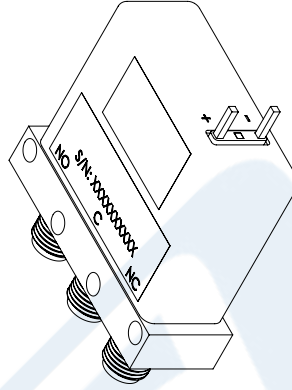
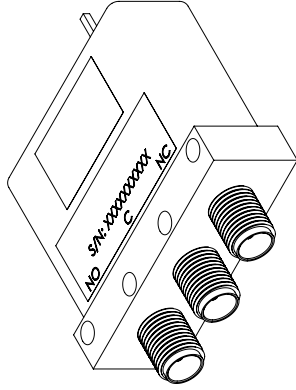
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PE71S6478 CAD Drawing

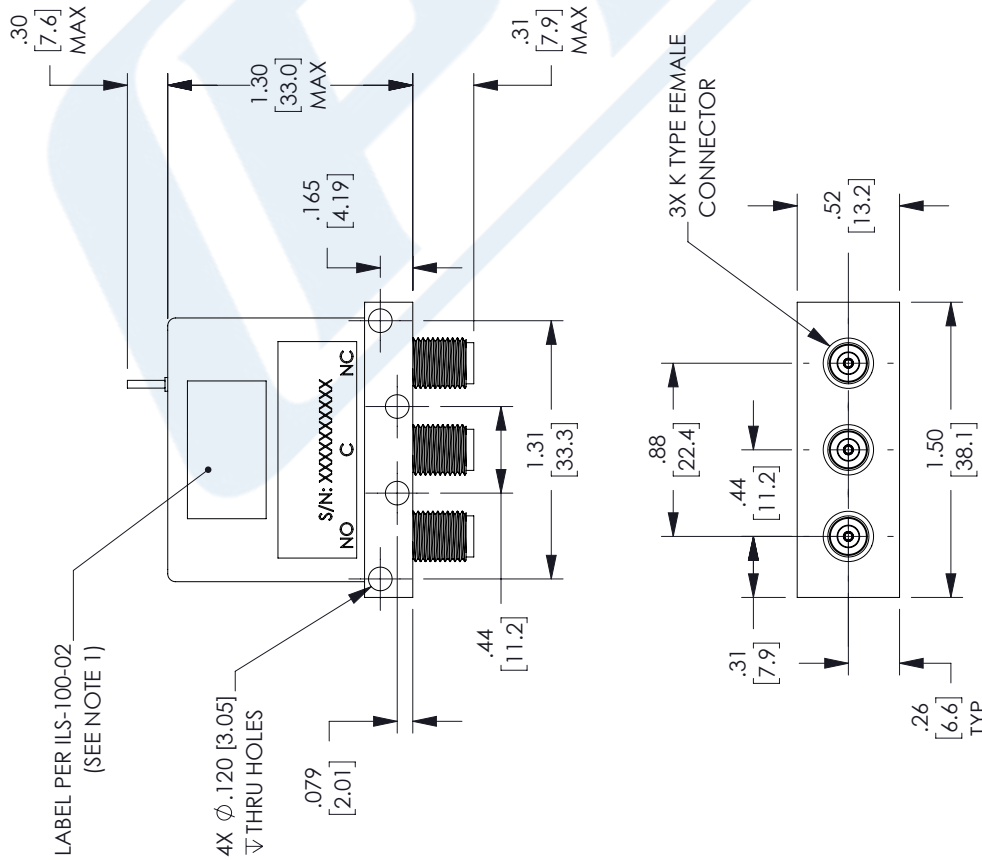
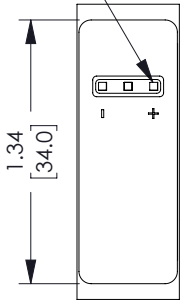
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REVISIONS

REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	05/17/2022	TGALLA



2X SOLDER TERMINALS,
SOLDER WIRE USING SN96,
MAXIMUM TEMP 430 °F FOR
NO MORE THAN 5 SEC.



3X K TYPE FEMALE
CONNECTOR

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

TOLERANCES:
 .X = ±.2 [5.08] FRACTIONS
 .XX = ±.02 [.51] ±.1/32
 .XXX = ±.005 [.13] ANGLES ± 1°
 CABLE LENGTH (L) TOLERANCES:
 L ≤ 12 [305] = +1 [25] / -0
 12 [305] < L ≤ 60 [1524] = +2 [51] / -0
 60 [1524] < L ≤ 120 [3048] = +4 [102] / -0
 120 [3048] < L ≤ 300 [7620] = +6 [152] / -0
 300 [7620] < L = +5%L / -0
 ALL DIMENSIONS SHOWN
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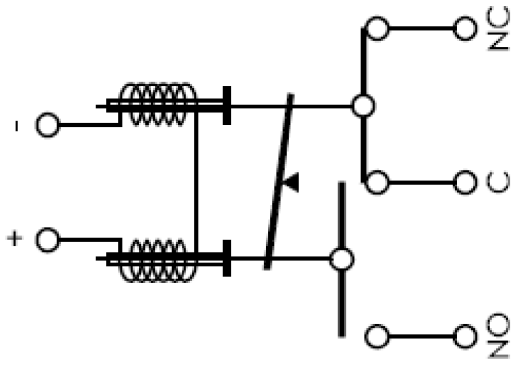
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PE71S6478 CAD Drawing

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SCHEMATIC (FAILSAFE POSITION)

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

TOLERANCES:

.X = ±.2	[.08]	FRACTIONS
.XX = ±.02	[.51]	±.1/32
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120 [3048] < L ≤ 300	[7620]	= +6 [152] / -0
300 [7620] < L		= +5%L / -0

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