



SPDT Electromechanical Relay Latching Switch,
DC to 40 GHz, 2M Lifecycles, 10W, 28V, TTL,
Self Cut Off, Diodes, 2.92mm, Solder Pins

Electromechanical Relay Switches Technical Data Sheet

PE71S6481

Features

- Single Pole Double Throw (SP2T) Electromechanical Relay Switch
- DC to 40 GHz Frequency Range
- Latching Self Cut-Off Actuator
- TTL Logic Control
- Suppression Diodes
- 2M Lifecycle Rating
- Insertion Loss 0.4 dB typ
- Isolation > 85 dB typ
- VSWR as low as 1.15:1 max
- Terminal Solder Pins for DC Command Control
- +12 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 PE71S6481 is a Single Pole Double Throw (SP2T) electromechanical relay switch that operates across a wide frequency range of 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 Latching Self Cut-Off Actuator that magnetically latches in place after the control voltage is removed. For power sensitive applications, this is the best actuator option. Additional features include TTL control logic, and suppression diodes which limit voltage spikes or reverse current. Impressive typical performance includes 0.4 dB insertion loss and isolation greater than 85 dB. This switch requires +12Vdc 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 terminal solder pins for DC command control functions. 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	Latching
Actuator Options	Self Cut Off
TTL Control	on: 2.4 to 5.5 Volts off: 0 to 0.8 Volts

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		40	GHz
Operating Voltage		+28		Volts
Actuating Set Current @ +28 Volts			65	mA
VSWR		1.4:1	1.5:1	
Insertion Loss		0.4	0.7	dB

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 40 GHz, 2M Lifecycles, 10W, 28V, TTL, Self Cut Off, Diodes, 2.92mm, Solder Pins PE71S6481](#)



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Isolation	60	85		dB
Input Power (CW) (at 40 GHz)			10	Watts

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	1.45:1	1.5:1	
Insertion Loss, Max	0.2	0.3	0.4	0.5	0.7	dB
Isolation, Min	85	80	80	75	60	dB

Mechanical Specifications

Size

Length	2.2 in [55.88 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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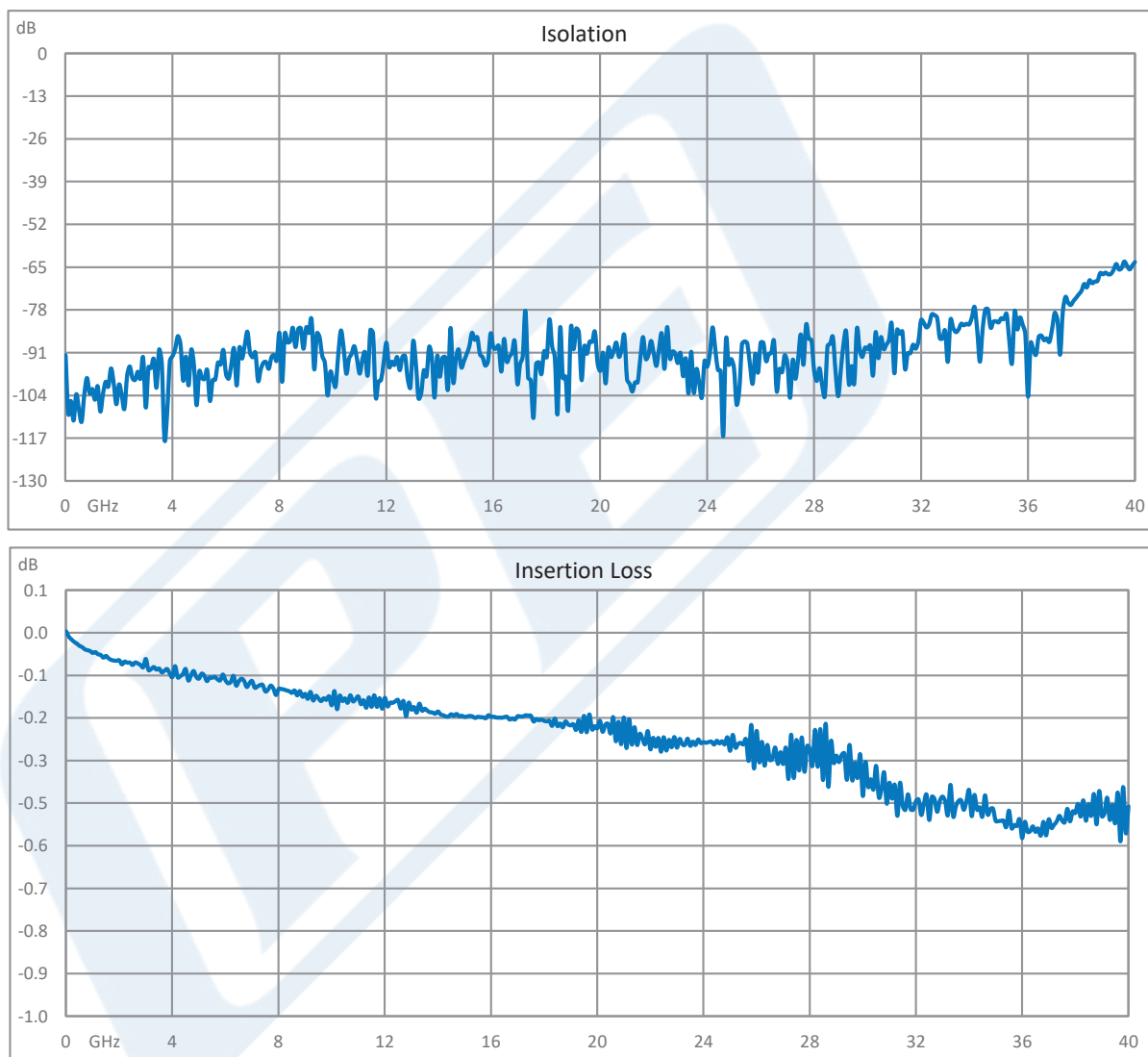
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Electromechanical Relay Switches Technical Data

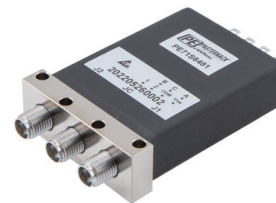
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Typical Performance Data



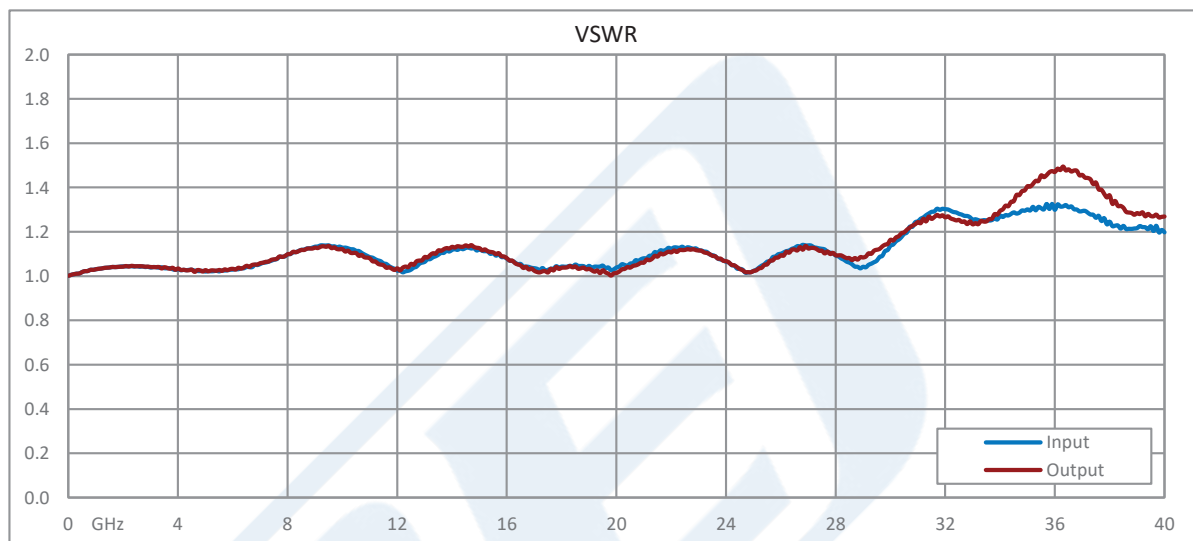
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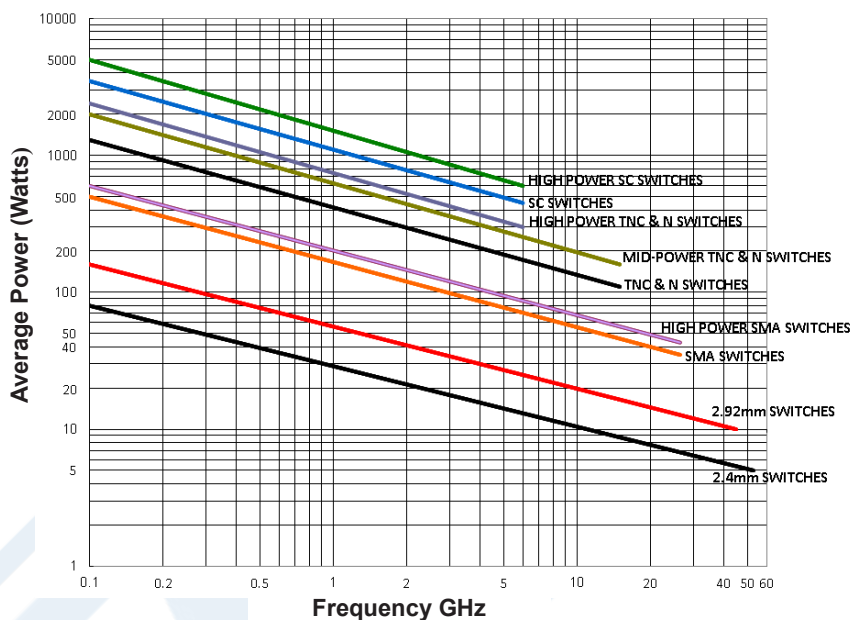
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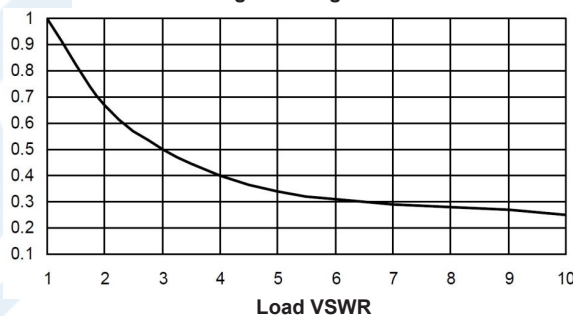
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Power Handling vs. Frequency



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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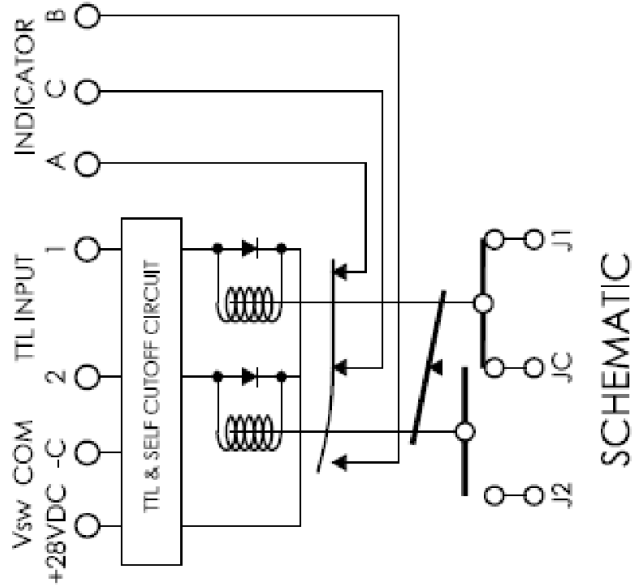
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PE71S6481 CAD Drawing

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Lifecycles, 10W, 28V, TTL, Self Cut Off, Diodes, 2.92mm, Solder Pins



OPERATIONAL					
LOGIC TABLE					
TERMINALS		RF PORTS		INDICATOR	
1	2	J1	J2	A-C	B-C
0	0	NO CHANGE		NO CHANGE	
0	1	OFF	ON	OFF	ON
1	0	ON	OFF	ON	OFF
1	1	FORBIDDEN		FORBIDDEN	

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

TOLERANCES:
X = ±.2 [.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

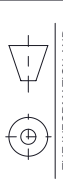
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Pasternack Enterprises, Inc.
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Phone: 1.949.261.1920 | 1.866.727.8376
Fax: 1.949.261.7451
Website: www.pasternack.com
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SIZE	CAGE CODE	DRAWN BY	ITEM NO.
A	53919	KGLEBOVA	PE71S6481



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REV	A		