



SPDT, IP64 Rated Electromechanical Relay Latching
 Switch, DC to 18 GHz, 90W, Indicators, 28VDC, SMA

Electromechanical Relay Switches Technical Data Sheet

PE71S6545

Features

- SPDT Electromechanical Relay Switch
- DC to 18 GHz Frequency Range
- Latching Actuator
- Indicators
- 2M Lifecycle Rating
- Insertion Loss 0.2 dB typ
- Isolation > 85 dB typ
- VSWR as low as 1.2:1 max
- SMA Female Connectors
- +28 Volt DC Bias
- Solder Terminal Pins for DC Command Control
- -54°C to +85°C Operating Temperature
- Up to 90 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 PE71S6545 is a Ruggedized SPDT electromechanical relay switch that operates across a broadband frequency range from DC to 18 GHz and can handle up to 90W of average power in a break before make condition. The 50 Ohm design is IP64 compliant with a Level 1 moisture seal and specifically designed to operate reliably in harsh usage environments and conditions, such as over extreme temperatures and wet or dusty environments. Intrusion protection offers full protection against dust and other particulates. Moisture protection enables resistance to splashes in all directions. The switch has a Latching 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 indicators to monitor the switch position. Impressive typical performance includes 0.2 dB insertion loss and isolation greater than 85 dB. This switch requires +28Vdc bias voltage, operates over a temperature range of -54°C to +85°C, and is rated for 2 million lifecycles. The rugged and compact package assembly supports SMA female connectors and solder terminal 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 Indicators

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		18	GHz
Impedance		50		Ohms
Operating Voltage	26	28	30	Volts
Actuating Set Current			65	mA
VSWR		1.1:1	1.4:1	
Insertion Loss		0.2	0.4	dB

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SPDT, IP64 Rated Electromechanical Relay Latching Switch, DC to 18 GHz, 90W, Indicators, 28VDC, SMA PE71S6545](#)



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Isolation	65	90	dB
Switching Time		<20	ms Typ

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	85	70	65			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	0.054 lbs [24.49 g]

Connectors

RF Connector Type	SMA Female
Control Connector	Solder Terminals

Environmental Specifications

Temperature

Operating Range	-54 to +85 deg C
Storage Range	-55 to +100 deg C

Ingress Protection (IP) Rating	IP64
Shock	MIL-STD-202 Method 213, Condition D, 500 G (non oper)
Vibration	MIL-STD-202 Method 204, Condition D, 10G RMS (non oper)

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

Plotted and Other Data

Notes:

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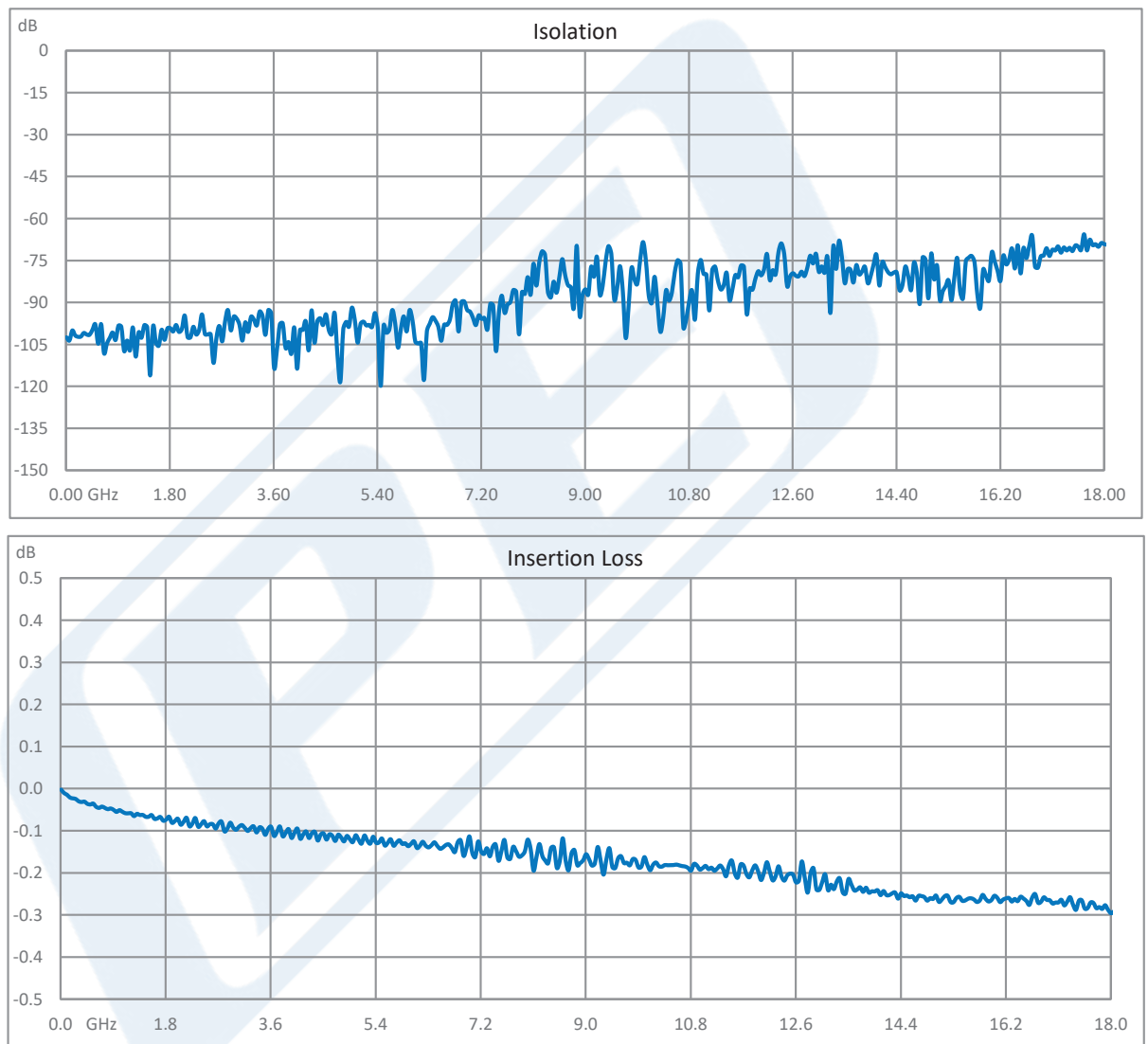


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Typical Performance Data



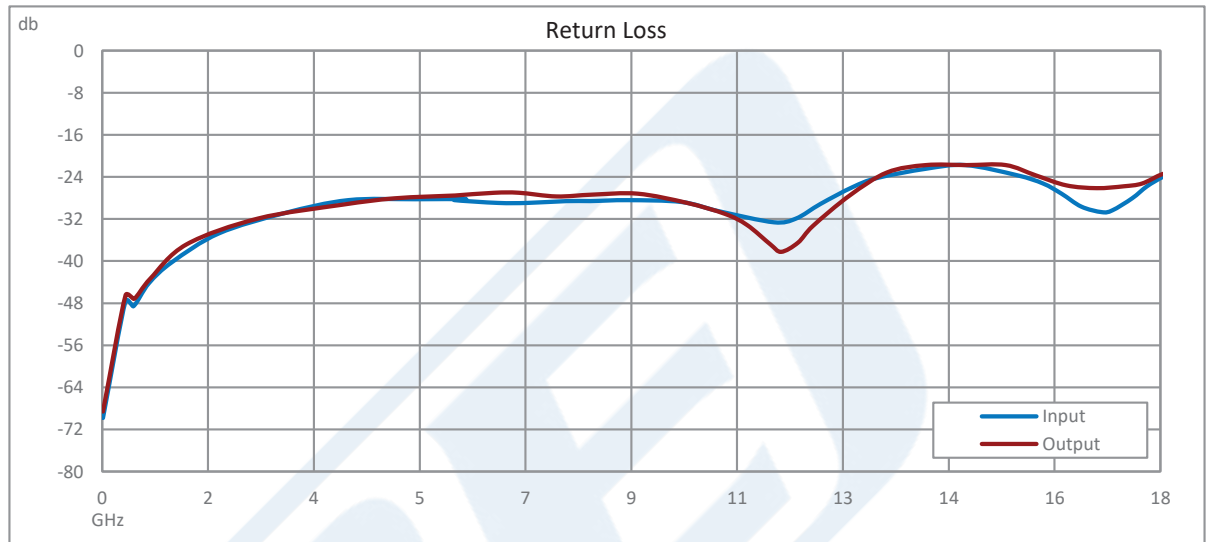
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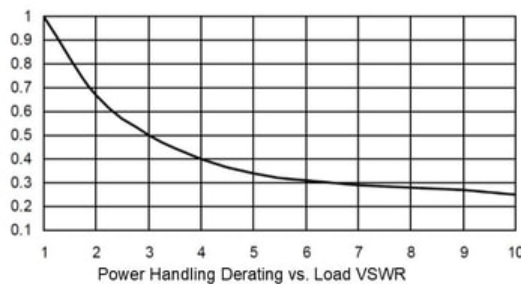


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Power Handling vs. Frequency



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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SPDT, IP64 Rated Electromechanical Relay Latching Switch, DC to 18 GHz, 90W, Indicators, 28VDC, 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, IP64 Rated Electromechanical Relay Latching Switch, DC to 18 GHz, 90W, Indicators, 28VDC, SMA PE71S6545](https://www.pasternack.com/spdt-electromechanical-relay-latching-switch-18-ghz-indicators-sma-pe71s6545-p.aspx)

URL: <https://www.pasternack.com/spdt-electromechanical-relay-latching-switch-18-ghz-indicators-sma-pe71s6545-p.aspx>

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.

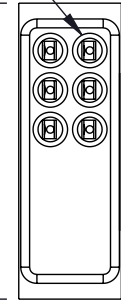
PE71S6545 CAD Drawing

SPDT, IP64 Rated Electromechanical Relay Latching Switch, DC to 18 GHz, 90W, Indicators, 28VDC, SMA

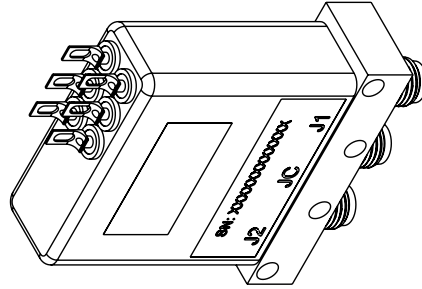
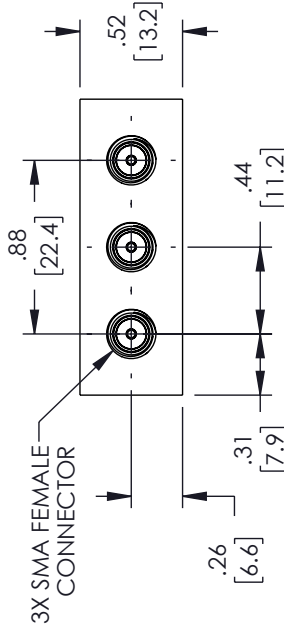
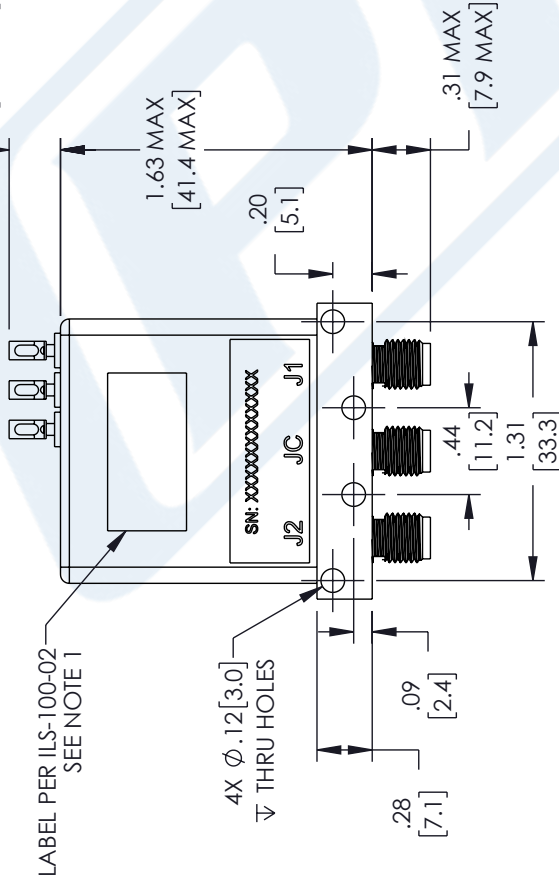
ZONE	REV.	DESCRIPTION	DATE	CHANGED BY	APPROVED BY
	A	INITIAL RELEASE	02/07/2023	DMAY	TGALLA

REVISION	1
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6X SOLDER TERMINALS
SOLDER WIRE USING SN96,
MAXIMUM TEMP 250 °C FOR
NO MORE THAN 5 SEC.



.31 MAX
[7.9 MAX]



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 ± 1°

CABLE LENGTH TOLERANCES:
≤12 [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

NOTES:
1. LABEL PER ILS-100-02. FOR INTERNAL REFERENCE ONLY.
LABEL LOCATION FOR REFERENCE ONLY.

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DESCRIPTION

SPDT, SMA, LATCHING, INDICATORS, 18GHz, 28VDC, SOLDER
TERMINAL, RUGGEDIZED



INTERPRET ALL DIMENSIONS AND
TOLERANCES PER ASME Y14.5

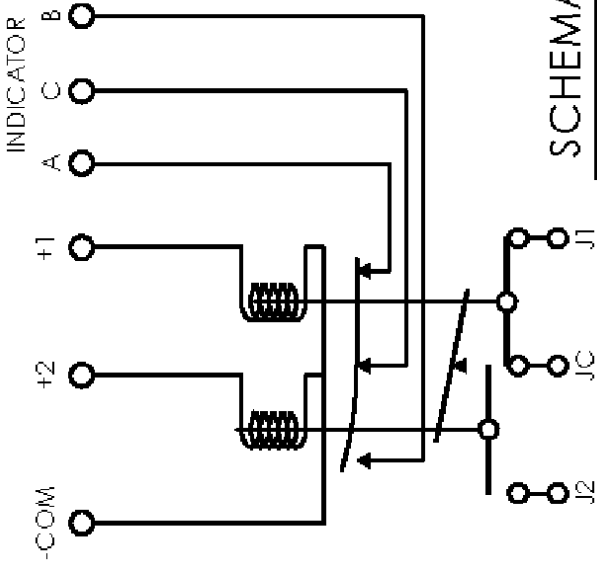
SCALE
NONE

SHEET
1 OF 2

SIZE	CAGE CODE	DRAWN BY	ITEM NO.	REV
A	53919	DMAY	PE71S6545	A

PE71S6545 CAD Drawing

SPDT, IP64 Rated Electromechanical Relay Latching Switch, DC to 18 GHz, 90W, Indicators, 28VDC, SMA



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

UNLESS OTHERWISE SPECIFIED
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DIMENSIONS IN [] ARE MILLIMETERS

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TERMINAL, RUGGEDIZED

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A	53919	DMAY	PE71S6545

INTERPRET ALL DIMENSIONS AND
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SCALE NONE

SHEET 2 OF 2

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