



Transfer Electromechanical Relay Failsafe Switch DC to 12.4 GHz, 2M Lifecycles, TNC, 50 Watts, 12V, Solder Pins

Electromechanical Relay Switches Technical Data Sheet

PE71S6510

Features

- Transfer Electromechanical Relay Switch
- DC to 12 GHz Frequency Range
- Failsafe Actuator with Self Cut-Off
- 2M Lifecycle Rating
- Insertion Loss 0.2 dB typ
- Isolation > 80 dB typ
- VSWR as low as 1.25:1 max
- +12 Volt DC Bias
- Solder Terminal Pins for DC Control
- TNC Female Connectors
- -25°C to +65°C Operating Temperature
- Up to 50 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 PE71S6510 is a Transfer electromechanical relay switch that operates across a wide frequency range of DC to 12 GHz and can handle up to 50W of average power in a break before make condition. The design is rated for 2 million lifecycles and features a Failsafe Actuator. Impressive typical performance includes 0.2 dB insertion loss and isolation greater than 80 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 TNC 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 = +12 Vdc)

Switch Type Actuator Type		Transfer Failsafe		
Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		12.4	GHz
Operating Voltage		+12		Volts
Actuating Set Current @ +12 Volts			380	mA
VSWR		1.3:1	1.7:1	
Insertion Loss		0.2	0.6	dB
Isolation	60	80		dB
Input Power (CW) (at 12.4 GHz)			50	Watts

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Transfer Electromechanical Relay Failsafe Switch DC to 12.4 GHz, 2M Lifecycles, TNC, 50 Watts, 12V, Solder Pins PE71S6510](#)



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Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC to 2	2 to 4	4 to 8	8 to 12		GHz
VSWR, Max	1.2:1	1.3:1	1.5:1	1.7:1		
Insertion Loss, Max	0.2	0.4	0.5	0.6		dB
Isolation, Min	80	80	70	60		dB

Mechanical Specifications

Size

Length	2.52 in [64.01 mm]
Width/Diameter	3.12 in [79.25 mm]
Height	1.75 in [44.45 mm]
Weight	0.1 lbs [45.36 g]

Connectors

RF Connector Type	TNC 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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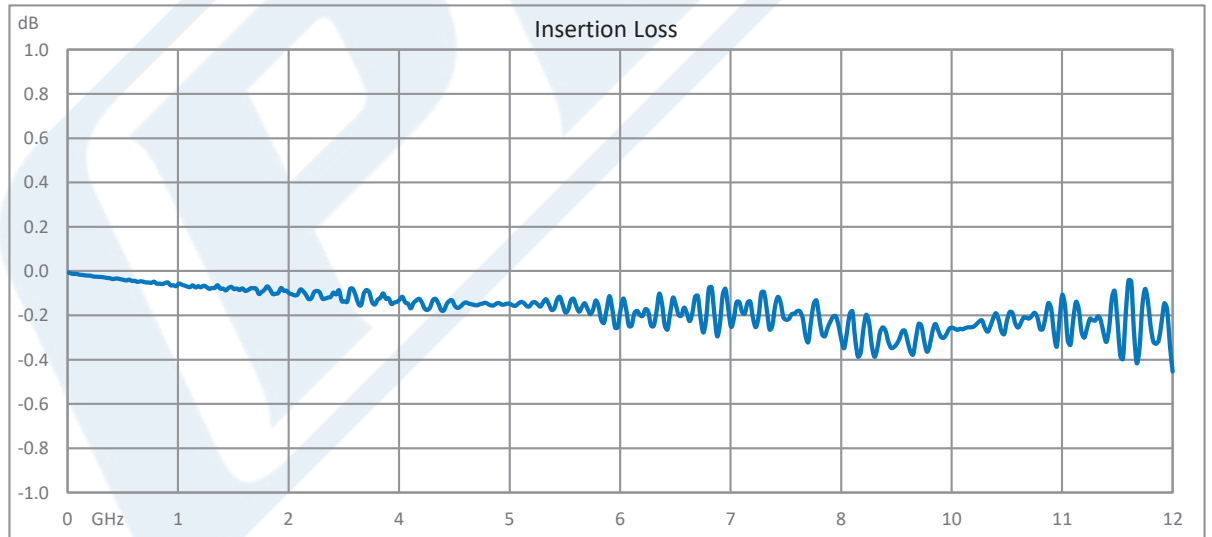
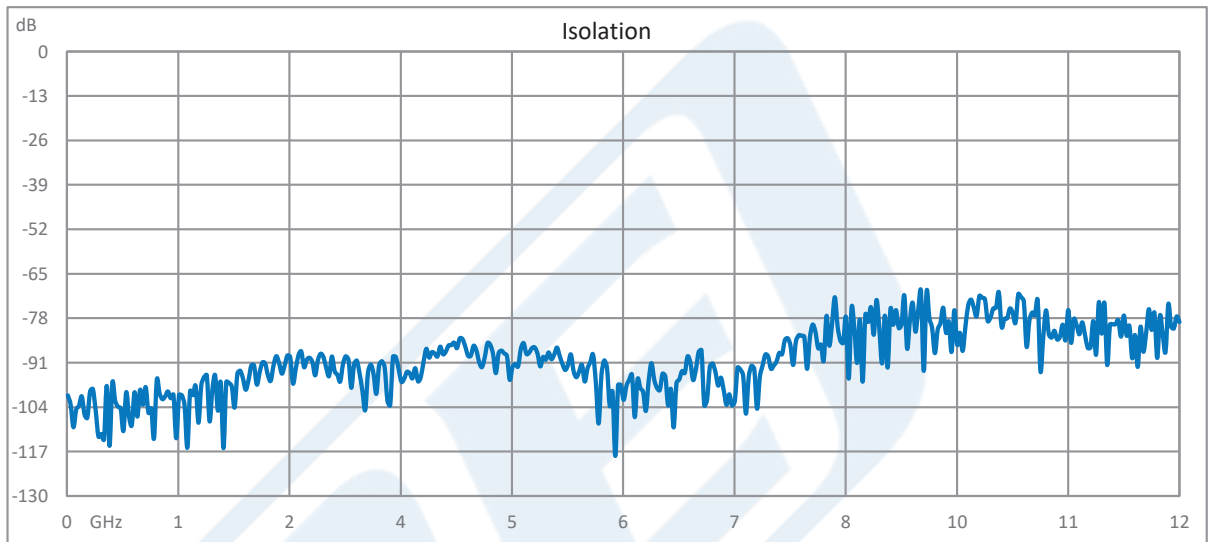


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Typical Performance Data



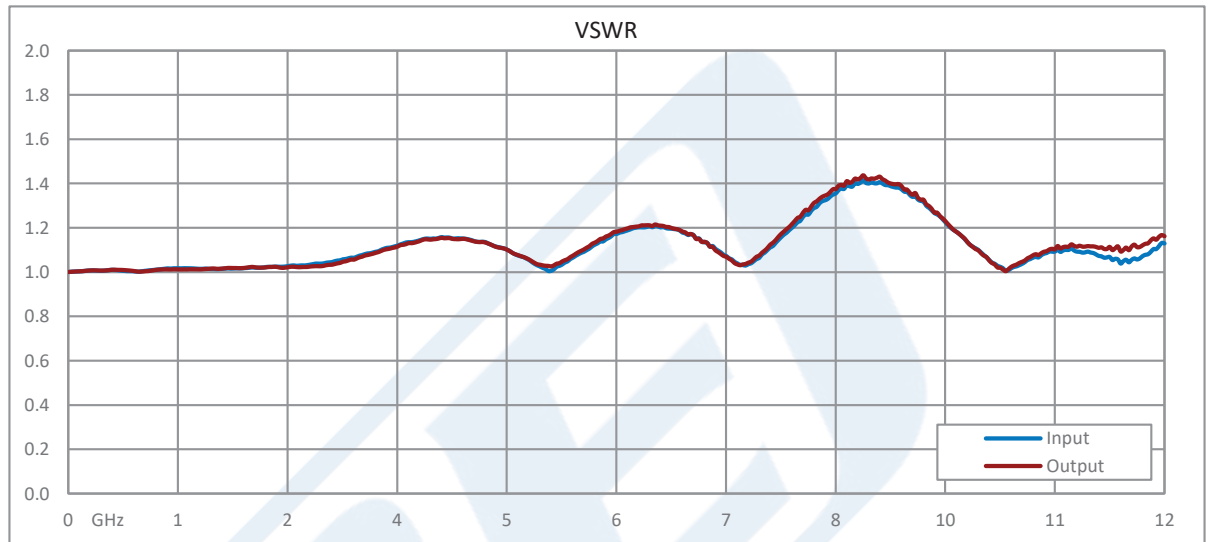
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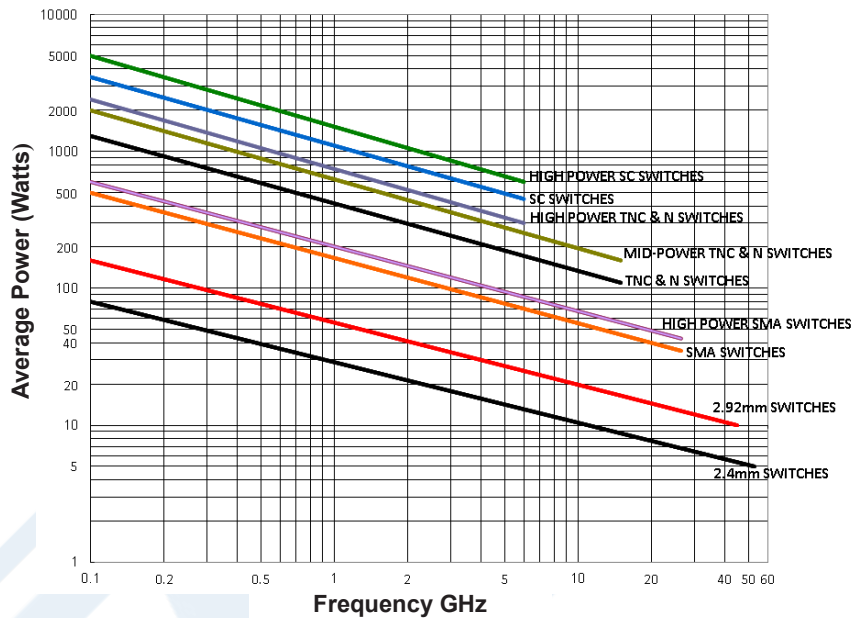


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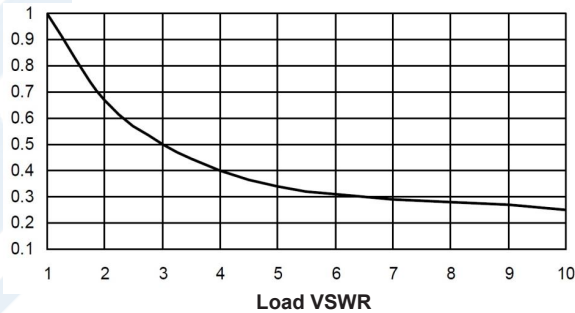
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Power Handling vs. Frequency



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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Transfer Electromechanical Relay Failsafe Switch DC to 12.4 GHz, 2M Lifecycles, TNC, 50 Watts, 12V, 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.

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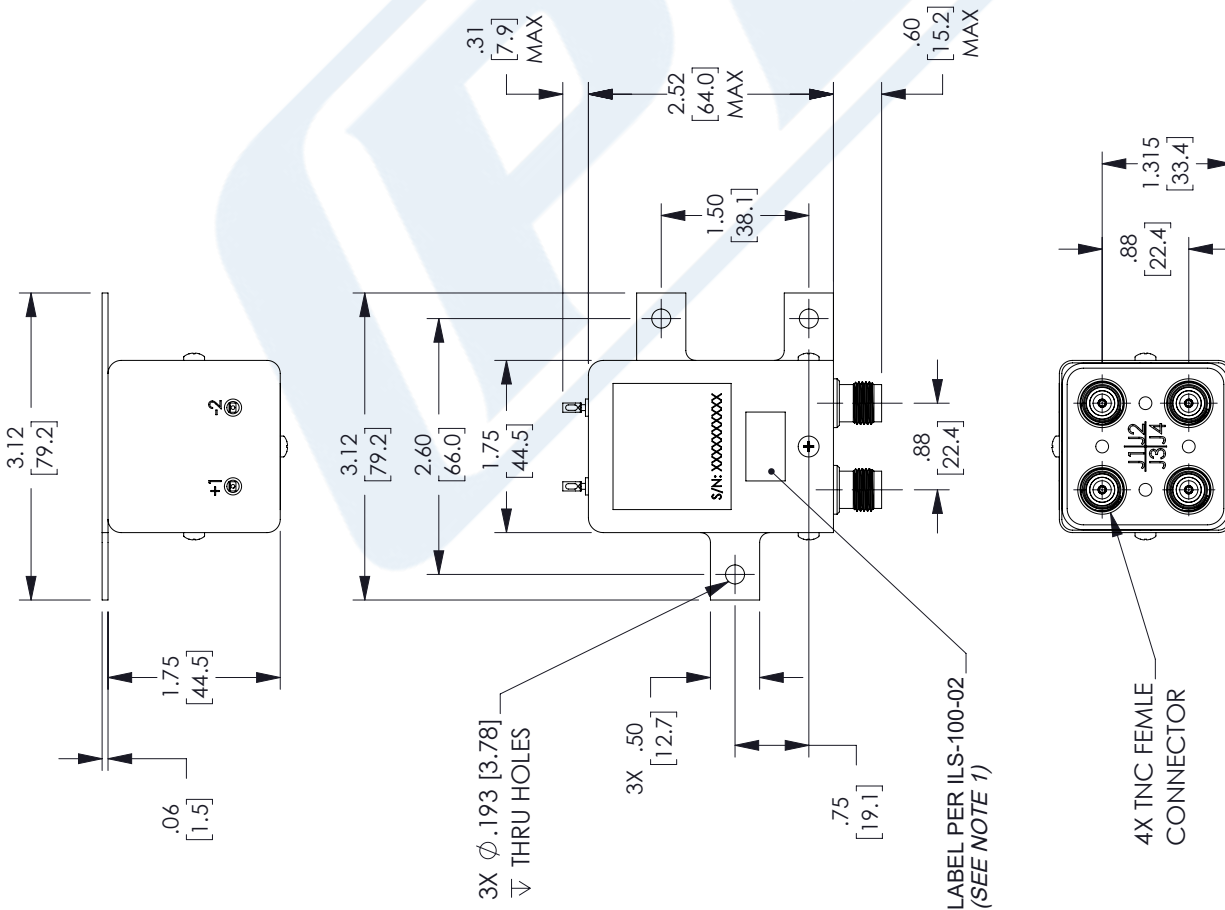
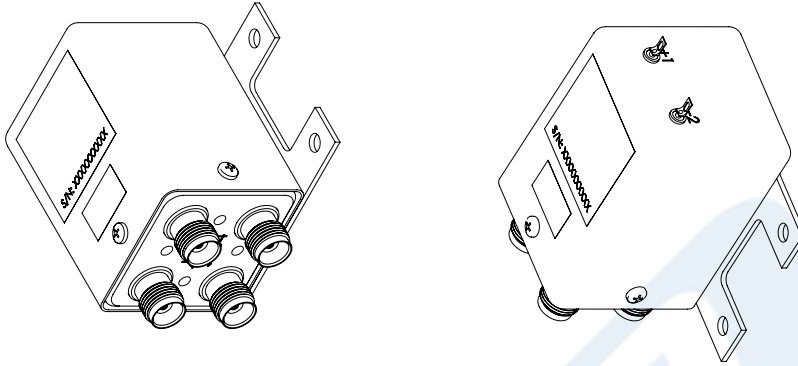
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PE71S6510 CAD Drawing

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	05/17/2022	T. GALLA



NOTES:

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

UNLESS OTHERWISE SPECIFIED
LEADING DIMENSIONS ARE IN 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
ARE FOR REFERENCE ONLY.

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THIRD-ANGLE PROJECTION

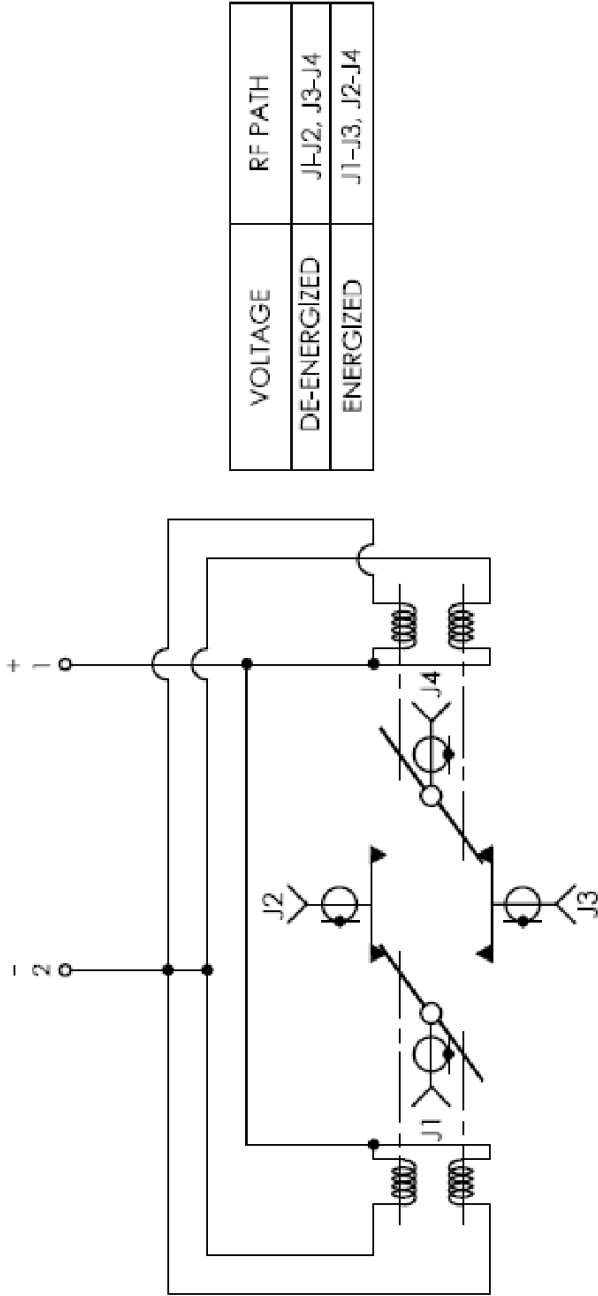
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PE71S6510 CAD Drawing

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ITEM NO. PE71S6510

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THIRD-ANGLE PROJECTION

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SHEET 2 OF 2

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