



Transfer Electromechanical Relay Failsafe Switch, DC
to 40 GHz, up to 10W, 2M Lifecycles, 28V, 2.92mm

Electromechanical Relay Switches Technical Data Sheet

PE71S6450

Features

- Transfer 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 1.2:1 max
- +28 Volt DC Bias
- Solder Terminal Pins for DC Control
- 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 PE71S6450 is a Transfer electromechanical relay switch that operates across a wide frequency range of DC to 40 GHz and can handle up to 10 Watts of Average power in a break before make condition. The 50 Ohm design features a Failsafe Actuator and is rated for 2 million lifecycles. 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 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

Switch Type
Actuator Type
Switching Sequence

DPDT
Failsafe
Break Before Make

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		40	GHz
Impedance		50		Ohms
Operating Voltage	24	28	30	Volts
Actuating Set Current @ 28 Volts			400	mA
VSWR		1.4:1	1.8:1	
Insertion Loss		0.4	1	dB
Isolation	50	80		dB
Switching Time			20	ms Max

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 40 GHz, up to 10W, 2M Lifecycles, 28V, 2.92mm PE71S6450](#)



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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 26.5	26.5 to 40		GHz
VSWR, Max	1.2:1	1.3:1	1.4:1	1.8:1		
Insertion Loss, Max	0.2	0.4	0.7	1		dB
Isolation, Min	85	80	65	50		dB

Mechanical Specifications

Size

Length	1.75 in [44.45 mm]
Width/Diameter	1.26 in [32 mm]
Height	1.26 in [32 mm]
Finish	NICKEL
Package Type	Connectorized
Operating Life	2,000,000 Cycles

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

Humidity	Moisture resistant or immersion sealing available
Shock	MIL-STD-202 Method 213, Condition D, 500G (non oper)
Vibration	MIL-STD-202 Method 214, Condition D, 10G RMS (non oper)

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

Plotted and Other Data

Notes:

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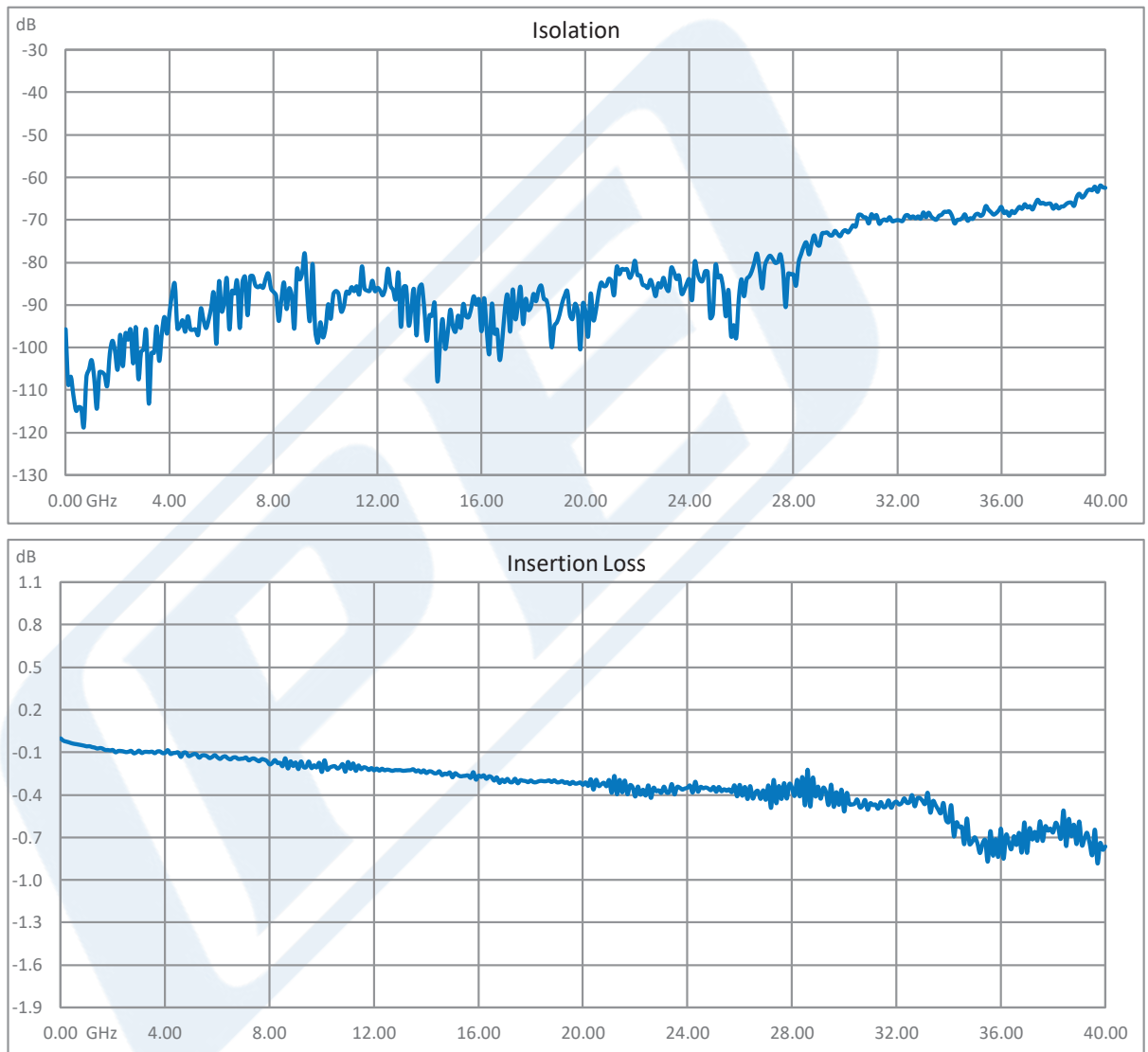


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Typical Performance Data



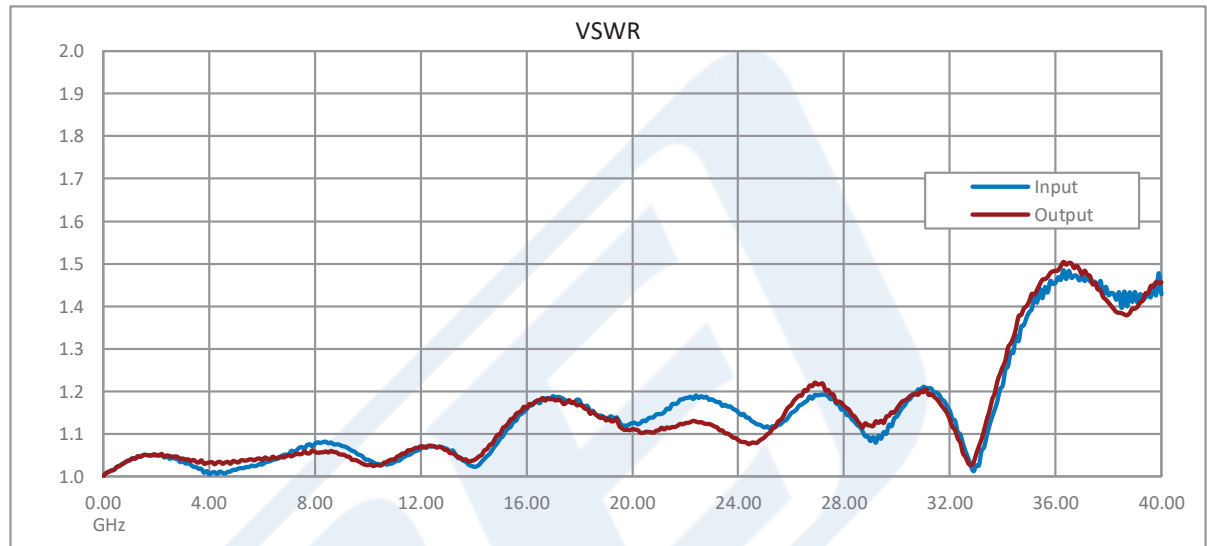
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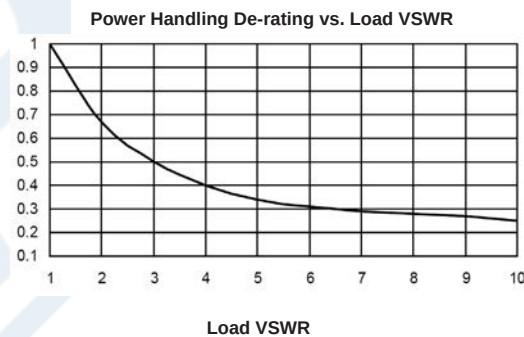
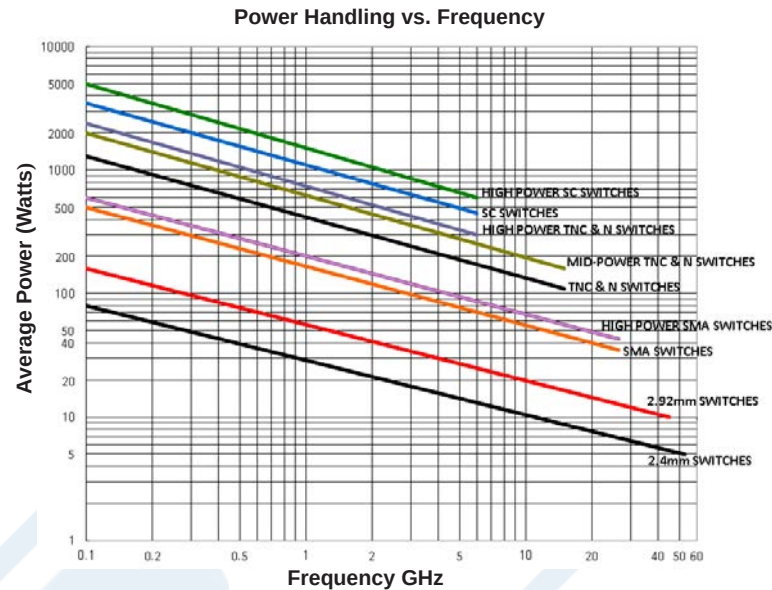
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Power Handling Chart and Derating Curves based on the following Test and Environmental Conditions:
 Ambient temperature: 20 - 25°C
 Altitude: Sea Level to 1,000 feet
 Relative Humidity: 50 - 55%
 Load VSWR: $\leq 1.20:1$
 Operation: Cold Switching

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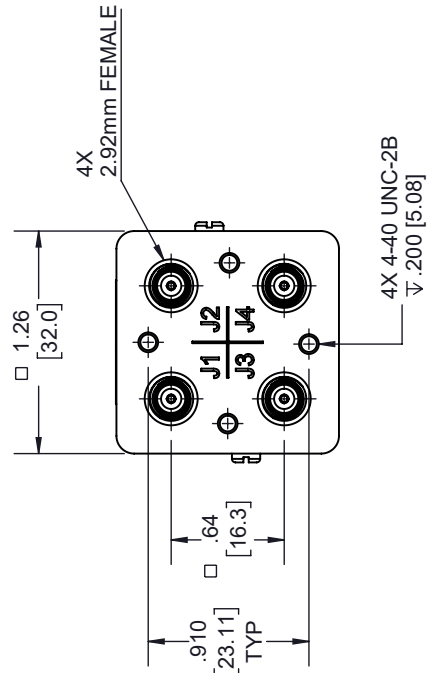
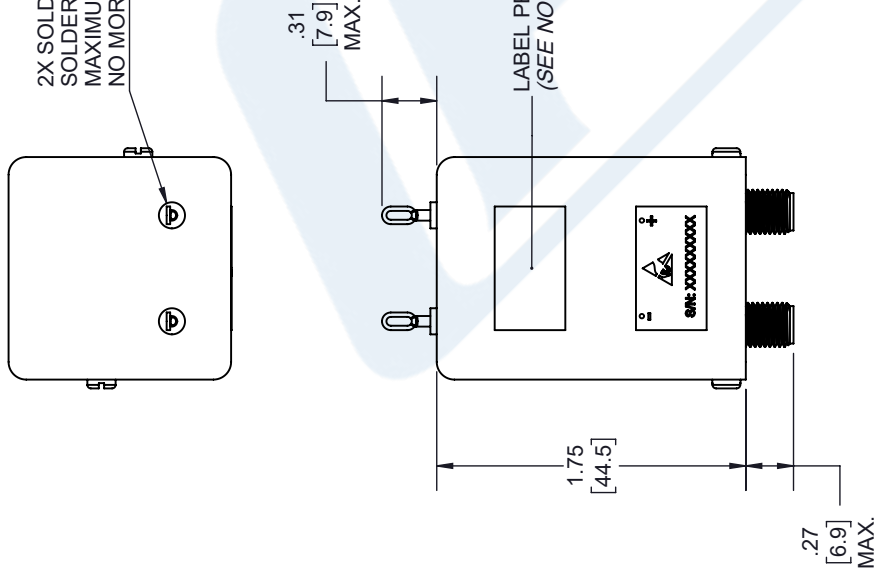
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PE71S6450 CAD Drawing

Transfer Electromechanical Relay Failsafe Switch, DC to 40 GHz, up to 10W, 2M Lifecycles, 28V, 2.92mm

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	1/25/2021	T.GALLA

2X SOLDER TERMINALS,
SOLDER WIRE USING SN96,
MAXIMUM TEMP 250°C FOR
NO MORE THAN 5 SEC.



NOTES:

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

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LEADING DIMENSIONS ARE INCHES
DIMENSIONS IN [] ARE MILLIMETERS

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



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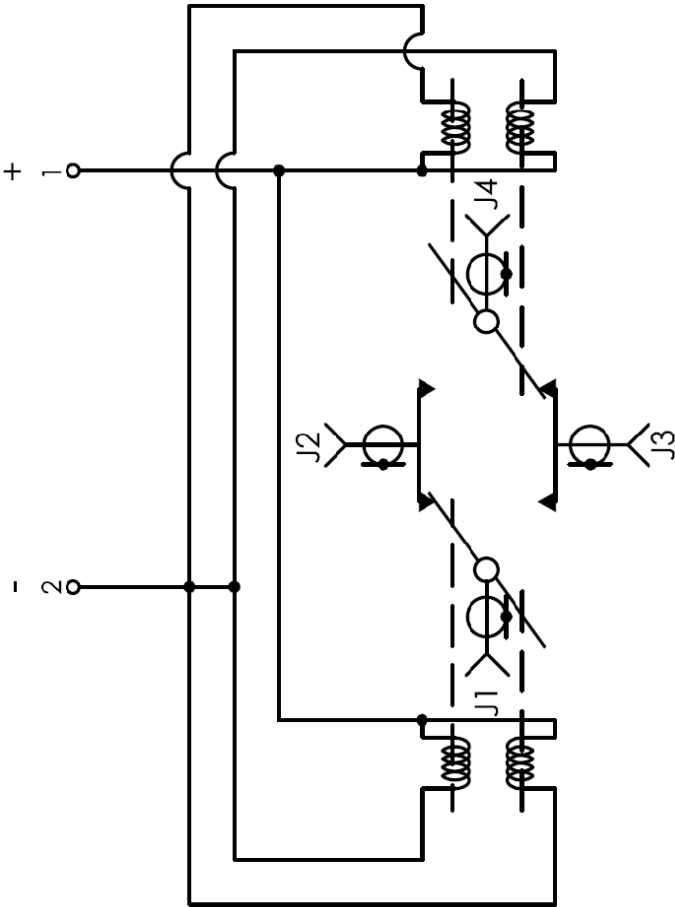
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PE71S6450 CAD Drawing

Transfer Electromechanical Relay Failsafe Switch, DC to 40 GHz, up to 10W, 2M Lifecycles, 28V, 2.92mm



VOLTAGE	RF PATH
DE-ENERGIZED	J1-J2, J3-J4
ENERGIZED	J1-J3, J2-J4

SCHEMATIC

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DIMENSIONS IN [] ARE MILLIMETERS

TOLERANCES:

X = ± .2	[.008]	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% / -0

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