



Transfer, IP64 Rated Electromechanical Relay Failsafe
Switch, DC to 18 GHz, 90W, 12VDC, SMA

Electromechanical Relay Switches Technical Data Sheet

PE71S6536

Features

- Single Pole Double Throw (SP2T) Ruggedized Electromechanical Relay Switch
- IP64 Level 1 Rated
- DC to 18 GHz Frequency Range
- Failsafe Actuator
- 2M Lifecycle Rating
- Insertion Loss 0.2 dB typ
- Isolation > 70 dB typ
- VSWR as low as 1.2:1 max
- 9 Pin D-SUB Connector for DC Control
- +12 Volt DC Bias
- SMA Female Connectors
- -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 PE71S6536 is a Ruggedized Transfer electromechanical relay switch that operates across a frequency range from DC to 18 GHz and can handle up to 90 Watts of average power in a break before make condition. The 50 Ohm design is IP64 compliant with a Level 1 moisture seal and specially 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 Failsafe actuator and is rated for 2 million lifecycles. Impressive typical performance includes 0.2 dB insertion loss and isolation greater than 70 dB. The switch requires + 12 Vdc bias voltage and operates over a wide temperature range of -54°C to +85°C. The rugged and compact package assembly supports female SMA connectors and 9 Pin D-Sub connector 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)

Switch Type
Actuator Type

Transfer
Failsafe

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		18	GHz
Impedance		50		Ohms
Operating Voltage			12	Volts
Actuating Set Current			160	mA
VSWR		1.1:1	1.4:1	
Insertion Loss		0.2	0.5	dB
Isolation	65	85		dB

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Transfer, IP64 Rated Electromechanical Relay Failsafe Switch, DC to 18 GHz, 90W, 12VDC, SMA PE71S6536](#)



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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	0.2	0.3	0.5			dB
Isolation, Min	80	70	65			dB

Mechanical Specifications

Size

Length	1.95 in [49.53 mm]
Width/Diameter	2.75 in [69.85 mm]
Height	0.92 in [23.37 mm]
Weight	0.124 lbs [56.25 g]

Connectors

RF Connector Type	SMA Female
Control Connector	D-Subminiature

Environmental Specifications

Temperature

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

Ingress Protection (IP) Rating
Shock

IP64
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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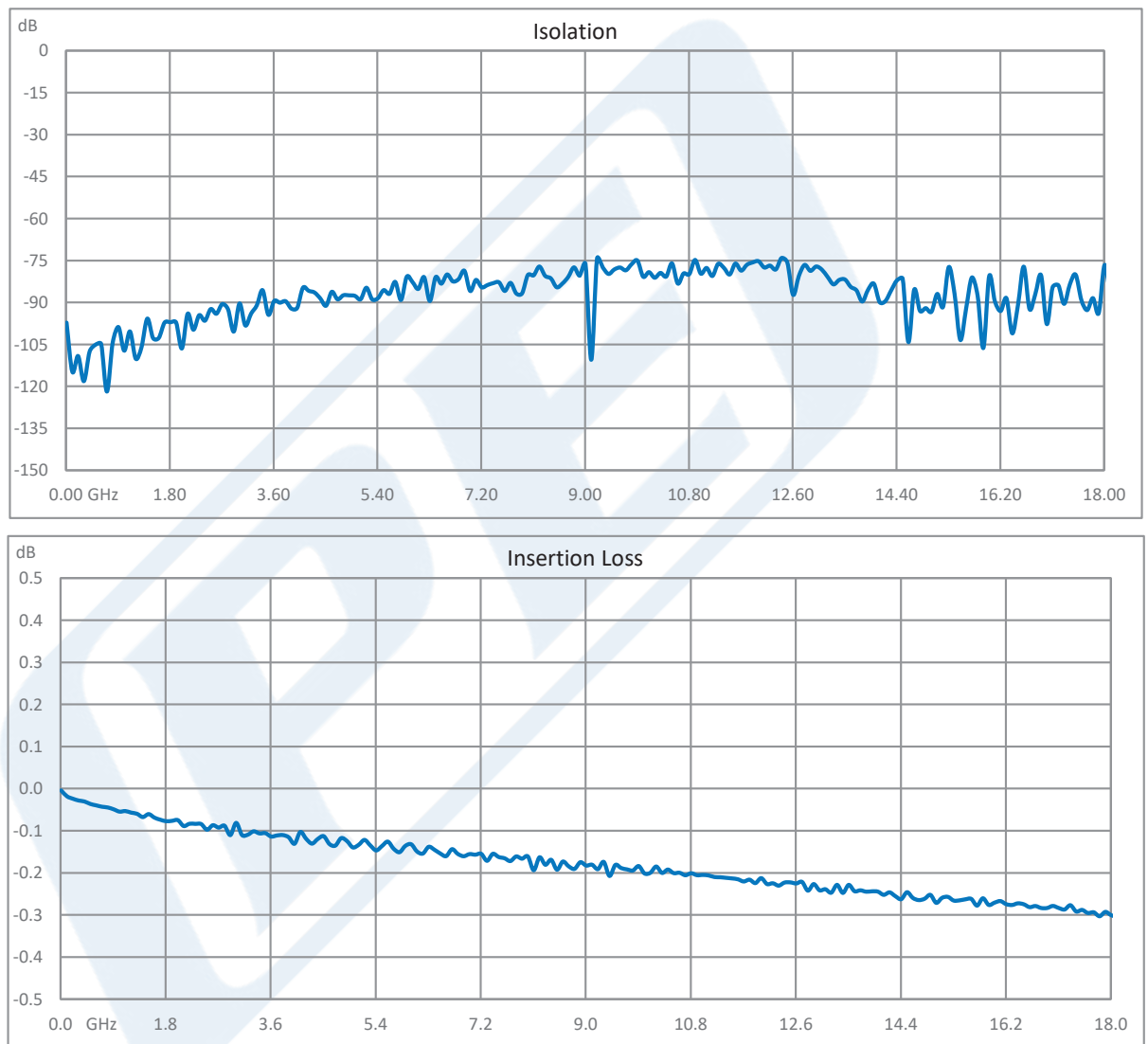


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Typical Performance Data



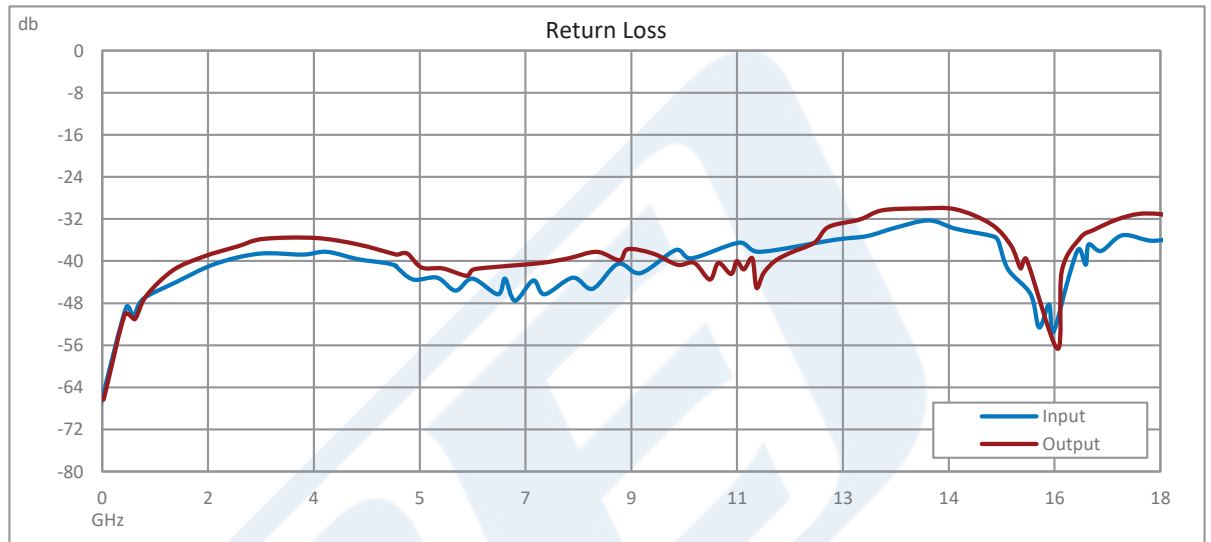
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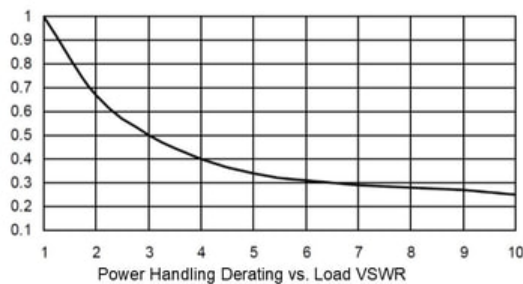


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Power Handling vs. Frequency



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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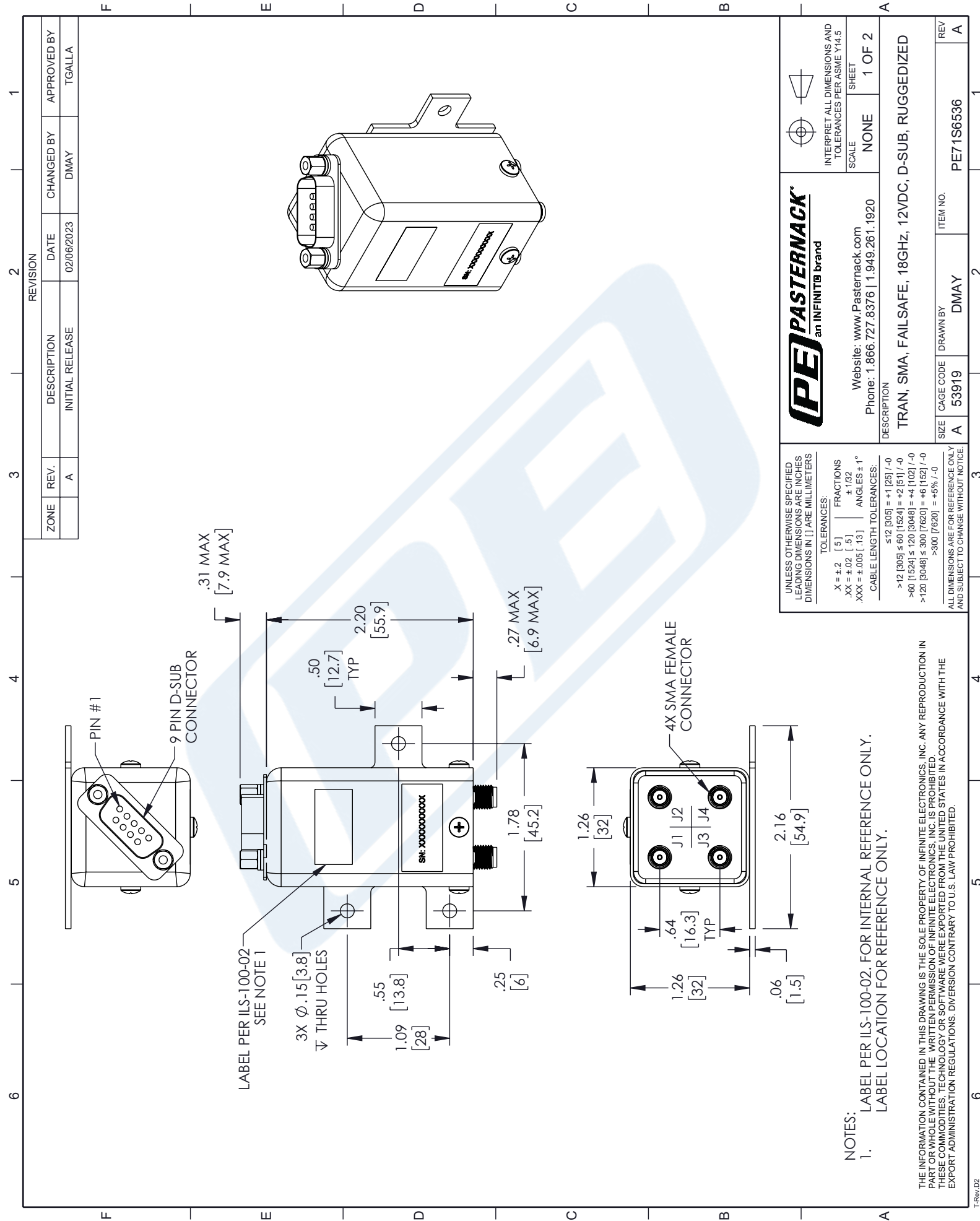
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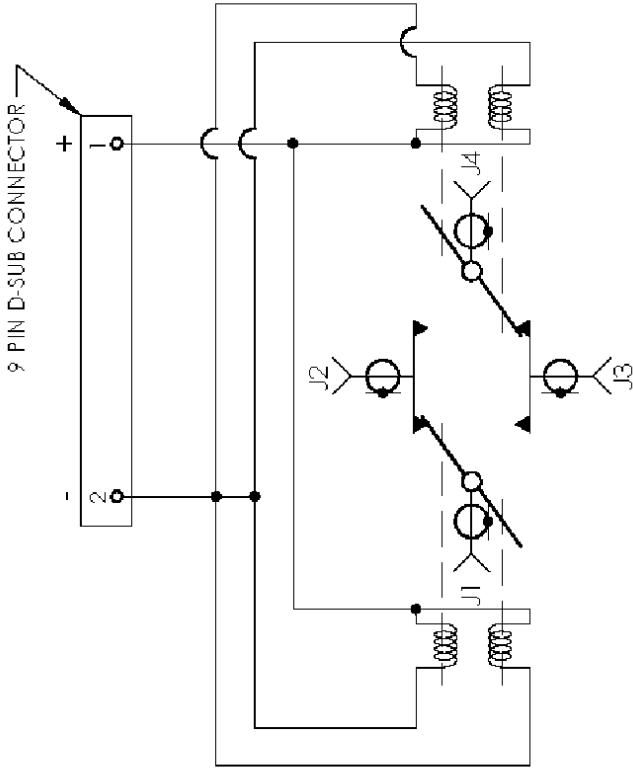
PE71S6536 CAD Drawing

Transfer, IP64 Rated Electromechanical Relay Failsafe Switch, DC to 18 GHz, 90W, 12VDC, SMA



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SCHEMATIC

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

TOLERANCES:

X = ±.2 [.5] FRACTIONS
.XX = ±.02 [.5] ±.132
.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

ALL DIMENSIONS ARE FOR REFERENCE ONLY
AND SUBJECT TO CHANGE WITHOUT NOTICE

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Phone: 1.866.727.8376 | 1.949.261.1920

DESCRIPTION

TRAN, SMA, FAILSAFE, 18GHZ, 12VDC, D-SUB, RUGGEDIZED

SIZE A CAGE CODE 53919 DRAWN BY DMAY ITEM NO. PE71S6536 REV A

INTERPRET ALL DIMENSIONS AND
TOLERANCES PER ASME Y14.5

SCALE NONE SHEET 2 OF 2

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