



SPDT, IP64 Rated Electromechanical Relay Failsafe Switch,
 DC to 18 GHz, 600W, TTL, Diodes, 12VDC, SMA

Electromechanical Relay Switches Technical Data Sheet

PE71S6522

Features

- Single Pole Double Throw (SP2T) Ruggedized Electromechanical Relay Switch
- IP64 Level 1 Rated
- DC to 18 GHz Frequency Range
- Failsafe Actuator
- TTL Logic
- Suppression Diodes
- 2M Lifecycle Rating
- Insertion Loss 0.2 dB typ
- Isolation > 85 dB typ
- VSWR as low as 1.2:1 max
- 9 Pin D-Sub Connector for DC and Command 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 PE71S6522 is a Ruggedized Single Pole Double Throw (SP2T) electromechanical relay switch that operates across a frequency range from DC to 18 GHz and can handle up to 600 Watts 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 Failsafe actuator and is rated for 2 million lifecycles. Additional features include TTL control logic, and suppression diodes which limit voltage spikes or reverse current. Impressive typical performance includes 0.2 dB insertion loss and isolation greater than 85 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 and 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 = 12 Vdc)

Switch Type	SPDT
Actuator Type	Failsafe
Actuator Options	Diodes, TTL Logic
TTL Control	on: 2.4 to 5.5 Volts off: 0 to 0.8 Volts

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		18	GHz
Impedance		50		Ohms
Operating Voltage	11	12	13	Volts
Actuating Set Current			200	mA

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 Failsafe Switch, DC to 18 GHz, 600W, TTL, Diodes, 12VDC, SMA PE71S6522](#)



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VSWR		1.1:1	1.4:1	
Insertion Loss		0.2	0.4	dB
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	1.95 in [49.53 mm]
Width/Diameter	2.75 in [69.85 mm]
Height	0.92 in [23.37 mm]
Weight	0.056 lbs [25.4 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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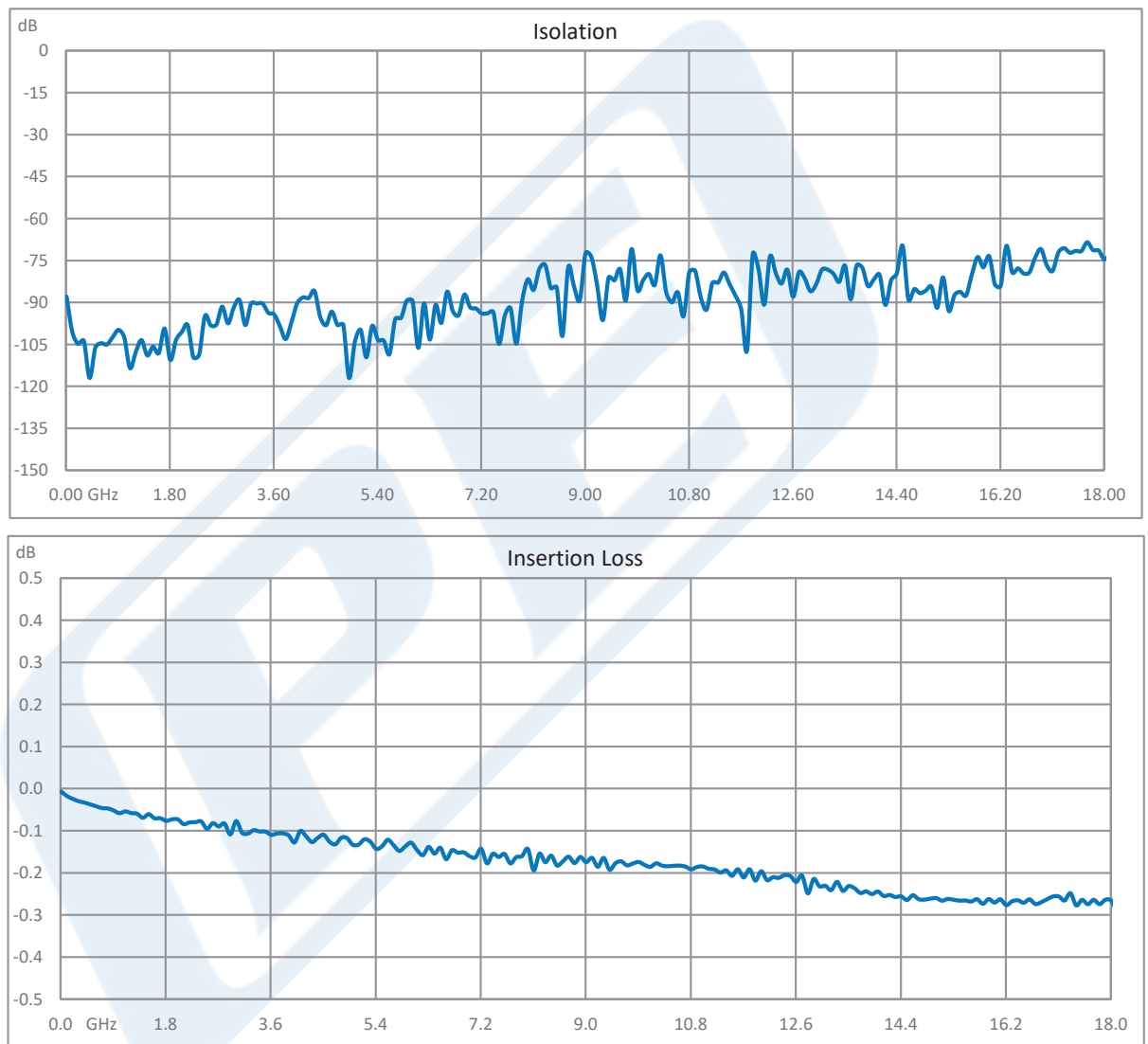


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Typical Performance Data



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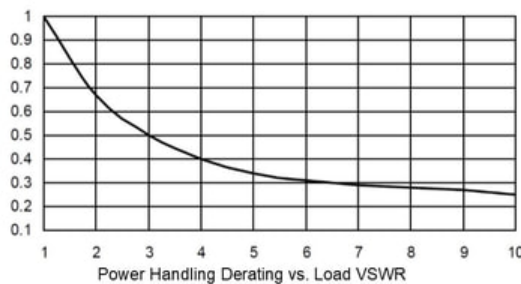
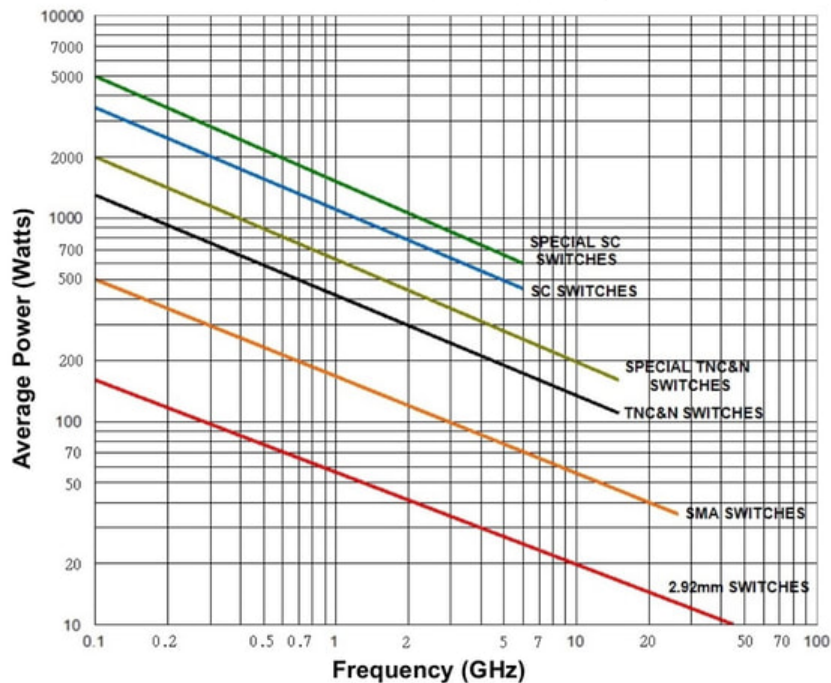


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Power Handling vs. Frequency



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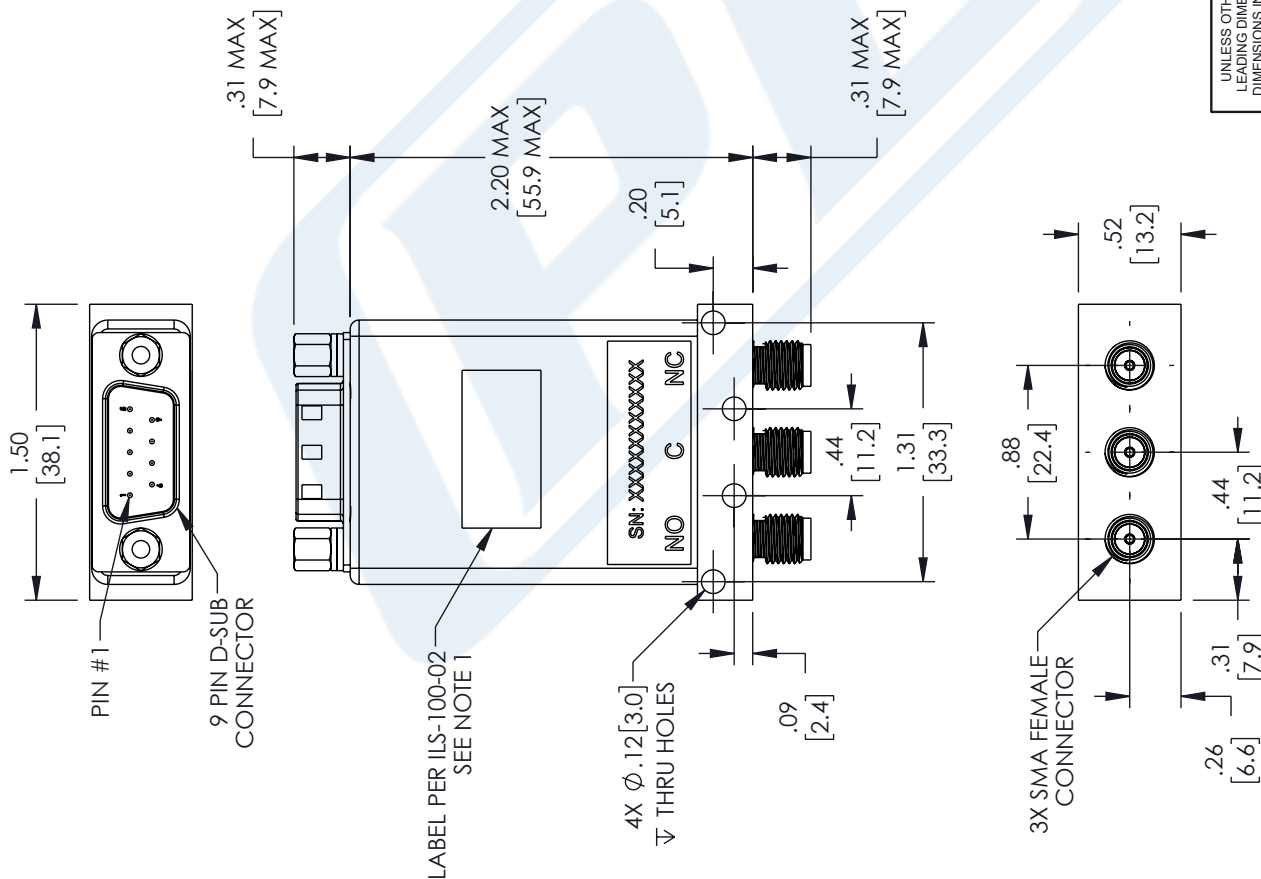
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REVISION					
ZONE	REV.	DESCRIPTION	DATE	CHANGED BY	APPROVED BY
	A	INITIAL RELEASE	02/02/2023	DMAY	TGALLA



NOTES:

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

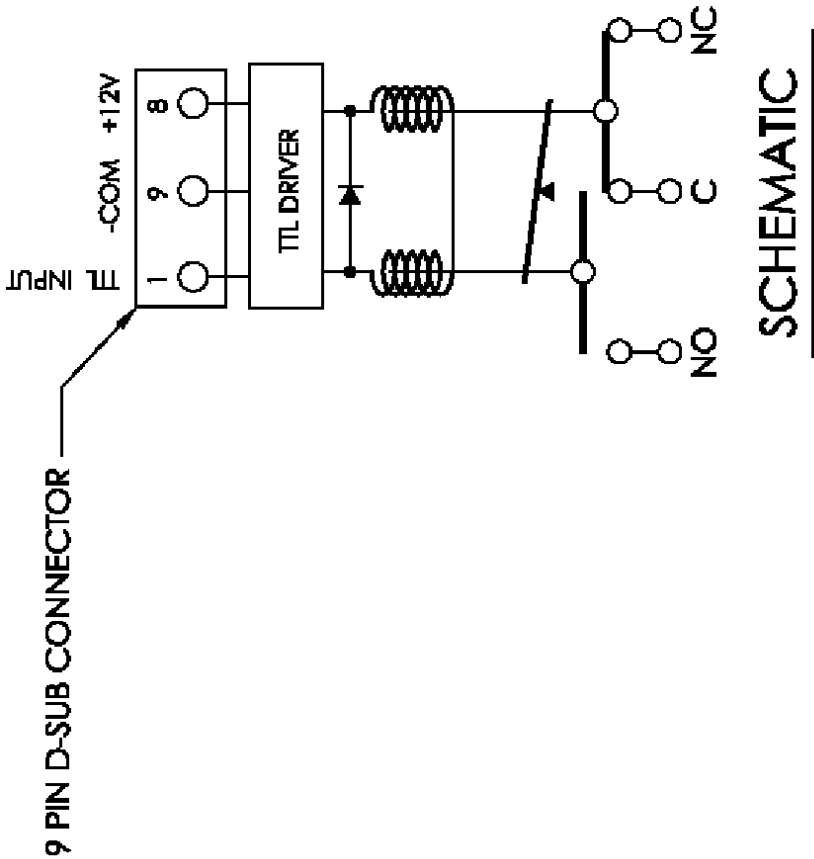
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PE PASTERNAK® an INFINITI® brand		Website: www.Pasternack.com Phone: 1.866.727.8376 1.949.261.1920		SCALE NONE	SHEET 1 OF 2
DESCRIPTION SPDT, SMA, FAILSAFE, 18GHz, 12VDC, TTL, DIODES, D-SUB, RUGGEDIZED					
SIZE A	CAGE CODE 53919	DRAWN BY DMAY	ITEM NO.	REV A	PE71S6522
ALL DIMENSIONS ARE FOR REFERENCE ONLY AND SUBJECT TO CHANGE WITHOUT NOTICE.					

PE71S6522 CAD Drawing

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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

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DESCRIPTION
SPDT, SMA, FAILSAFE, 18GHz, 12VDC, TTL, DIODES, D-SUB,
RUGGEDIZED

SIZE A CASE CODE 53919 DRAWN BY DMAY ITEM NO. PE71S6522 REV A

INTERPRET ALL DIMENSIONS AND
TOLERANCES PER ASME Y14.5

SCALE NONE SHEET 2 OF 2

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