



SPDT, IP64 Rated Electromechanical Relay Failsafe Switch,
 DC to 26.5 GHz, 90W, TTL, Indicators, Diodes, 28VDC, SMA

Electromechanical Relay Switches Technical Data Sheet

PE71S6540

Features

- Single Pole Double Throw (SP2T) Ruggedized Electro-mechanical Relay Switch
- IP64 Level 1 Rated
- DC to 18 GHz Frequency Range
- Failsafe
- 2M Lifecycle Rating
- TTL Logic Control
- Indicators
- Supppression Diodes
- Insertion Loss 0.3 dB typ
- Isolation >70 dB typ
- VSWR as low as 1.2:1 max
- Solder Terminal Pins for DC and Command Control
- +28 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 PE71S6540 is a Ruggedized Single Pole Double Throw (SP2T) electromechanical relay switch that operates across a frequency range from DC to 26.5 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 particulants. 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, indicators to monitor the switch position, and suppression diodes which limit voltage spikes or reverse current. Impressive typical performance includes 0.3 dB insertion loss and isolation greater than 70 dB. The switch requires + 28 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 Solder Pins 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 = 28 Vdc)

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

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		26.5	GHz
Impedance		50		Ohms
Operating Voltage	26	28	30	Volts

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 26.5 GHz, 90W, TTL, Indicators, Diodes, 28VDC, SMA PE71S6540](#)



SPDT, IP64 Rated Electromechanical Relay Failsafe Switch,
DC to 26.5 GHz, 90W, TTL, Indicators, Diodes, 28VDC, SMA

Electromechanical Relay Switches Technical Data

PE71S6540

Actuating Set Current	90	mA
VSWR	1.3:1	1.7:1
Insertion Loss	0.3	0.6
Isolation	50	80
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	18 to 26.5		GHz
VSWR, Max	1.2:1	1.3:1	1.4:1	1.7:1		
Insertion Loss, Max	0.2	0.4	0.5	0.6		dB
Isolation, Min	70	60	60	50		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	0.048 lbs [21.77 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
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)

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 26.5 GHz, 90W, TTL, Indicators, Diodes, 28VDC, SMA PE71S6540](#)



SPDT, IP64 Rated Electromechanical Relay Failsafe Switch,
DC to 26.5 GHz, 90W, TTL, Indicators, Diodes, 28VDC, SMA

Electromechanical Relay Switches Technical Data

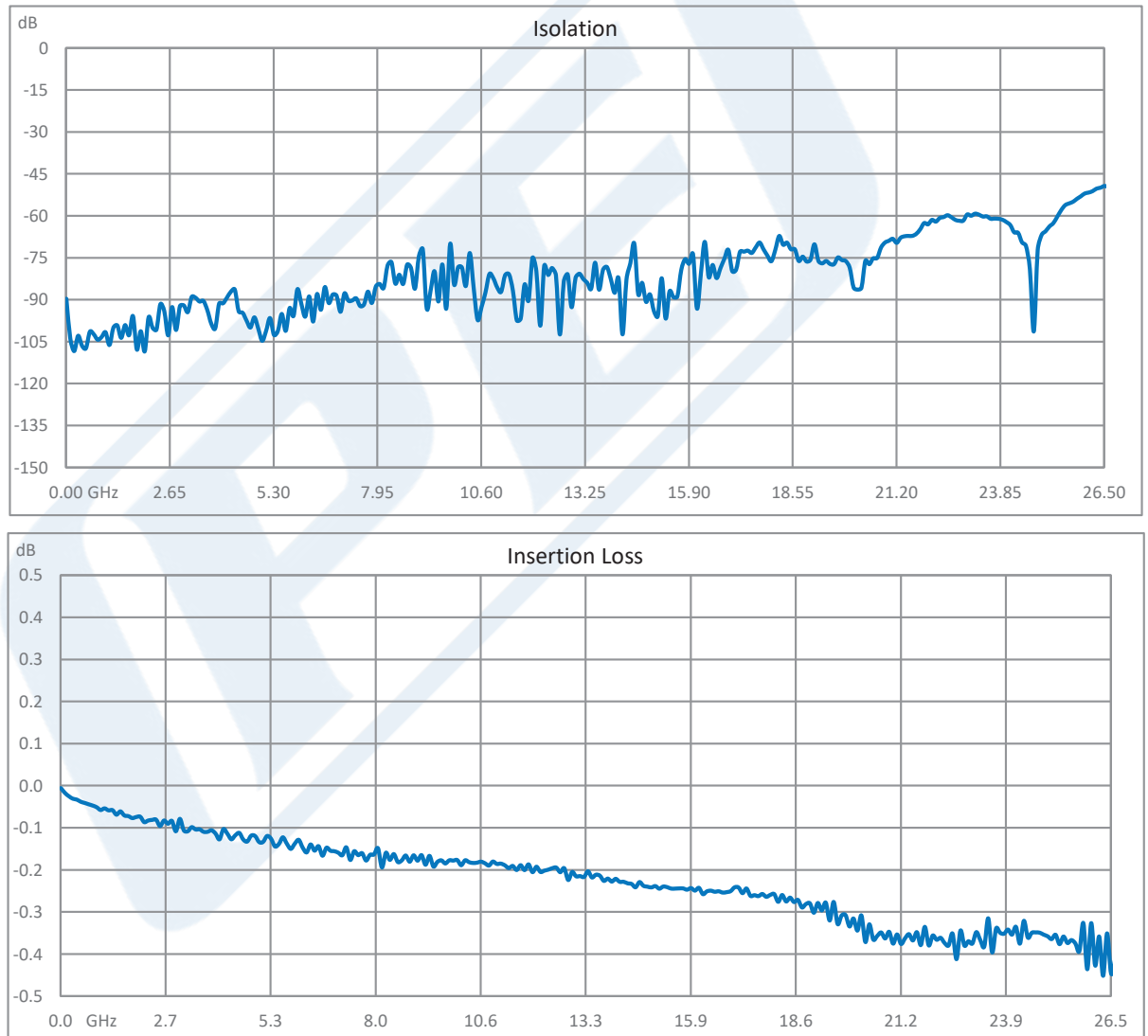
PE71S6540

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

Plotted and Other Data

Notes:

Typical Performance Data



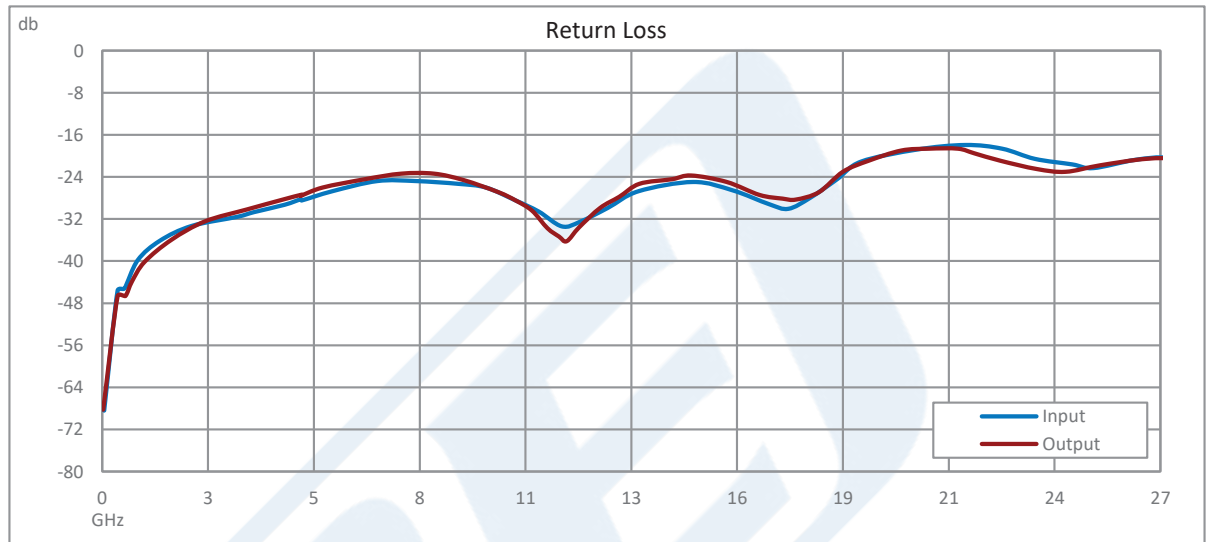
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SPDT, IP64 Rated Electromechanical Relay Failsafe Switch, DC to 26.5 GHz, 90W, TTL, Indicators, Diodes, 28VDC, SMA PE71S6540](#)



SPDT, IP64 Rated Electromechanical Relay Failsafe Switch,
DC to 26.5 GHz, 90W, TTL, Indicators, Diodes, 28VDC, SMA

Electromechanical Relay Switches Technical Data

PE71S6540



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 26.5 GHz, 90W, TTL, Indicators, Diodes, 28VDC, SMA PE71S6540](#)

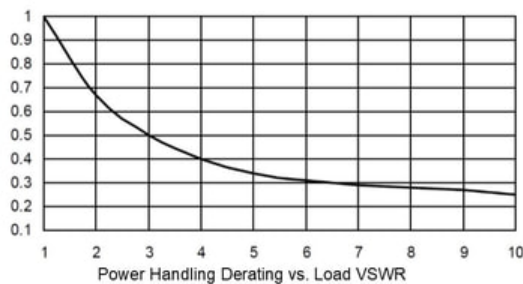
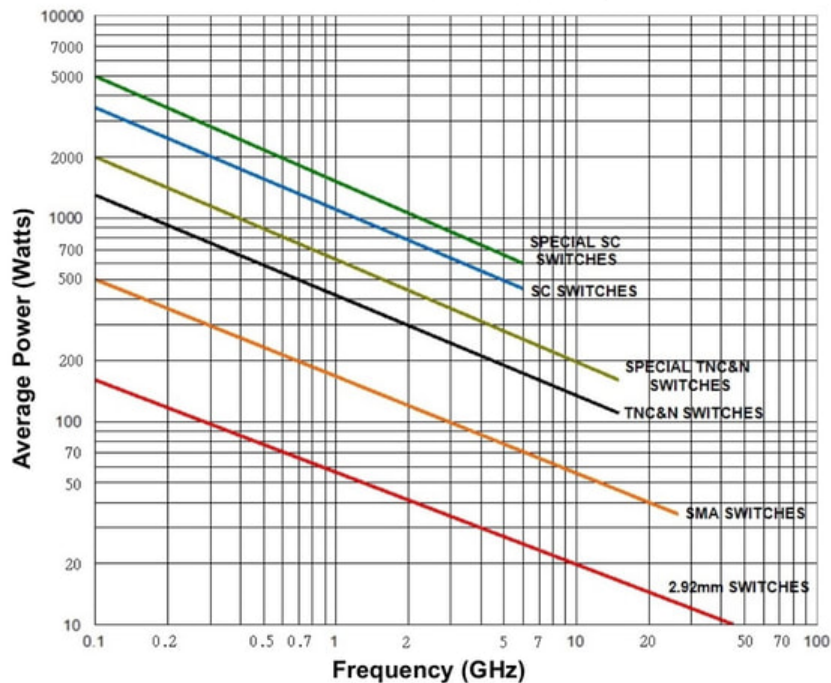
SPDT, IP64 Rated Electromechanical Relay Failsafe Switch,
DC to 26.5 GHz, 90W, TTL, Indicators, Diodes, 28VDC, SMA



Electromechanical Relay Switches Technical Data

PE71S6540

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

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 26.5 GHz, 90W, TTL, Indicators, Diodes, 28VDC, SMA PE71S6540](#)



SPDT, IP64 Rated Electromechanical Relay Failsafe Switch,
DC to 26.5 GHz, 90W, TTL, Indicators, Diodes, 28VDC, SMA

Electromechanical Relay Switches Technical Data

PE71S6540

SPDT, IP64 Rated Electromechanical Relay Failsafe Switch, DC to 26.5 GHz, 90W, TTL, Indicators, Diodes, 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.

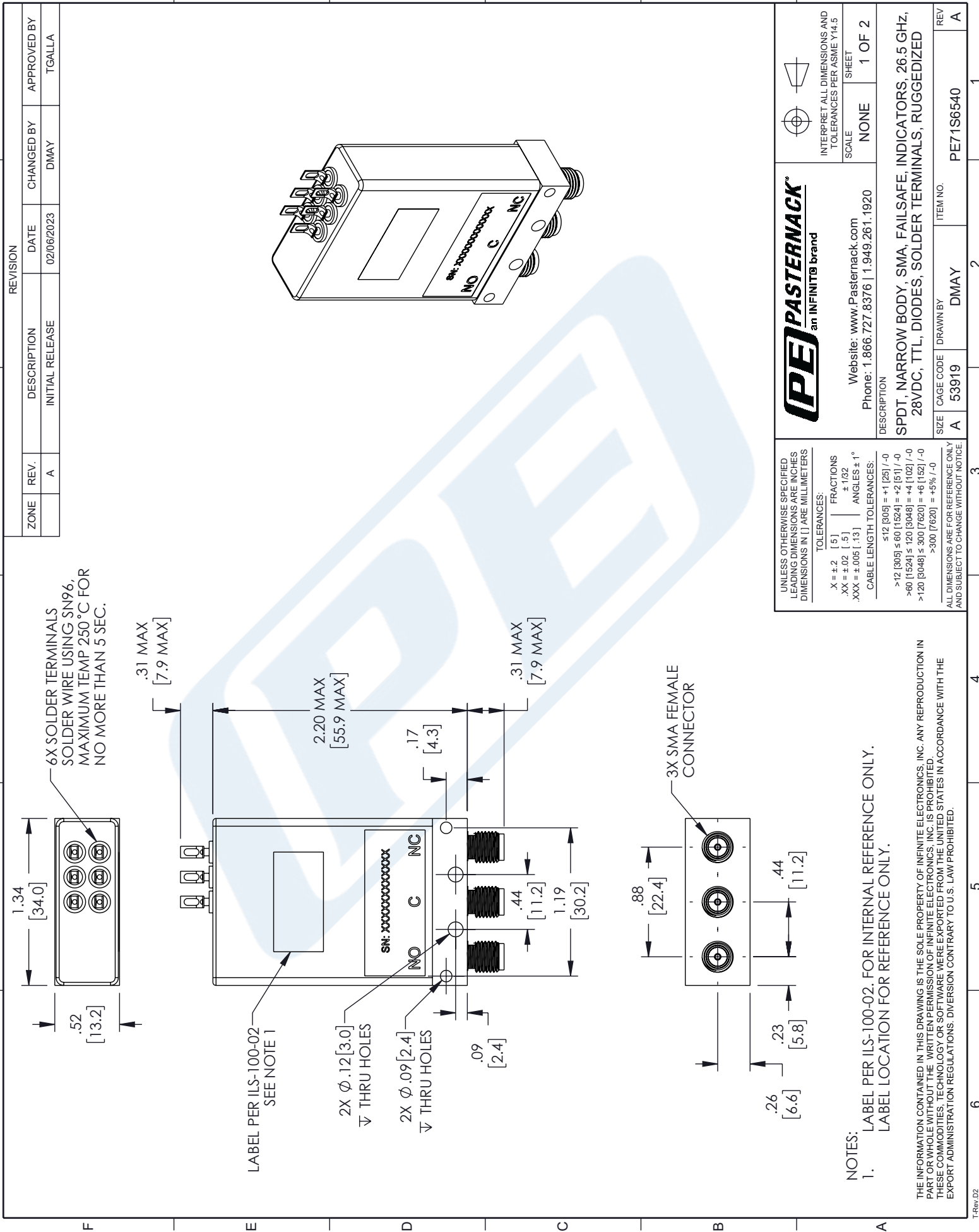
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SPDT, IP64 Rated Electromechanical Relay Failsafe Switch, DC to 26.5 GHz, 90W, TTL, Indicators, Diodes, 28VDC, SMA PE71S6540](https://www.pasternack.com/spdt-electromechanical-relay-failsafe-switch-26.5-ghz-indicators-ttl-diodes-sma-pe71s6540-p.aspx)

URL: <https://www.pasternack.com/spdt-electromechanical-relay-failsafe-switch-26.5-ghz-indicators-ttl-diodes-sma-pe71s6540-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.

PE71S6540 CAD Drawing

SPDT, IP64 Rated Electromechanical Relay Failsafe Switch, DC to 26.5 GHz, 90W, TTL, Indicators, Diodes, 28VDC, SMA



REVISION				1			
ZONE	REV.	DESCRIPTION	DATE	CHANGED BY	APPROVED BY		
	A	INITIAL RELEASE	02/06/2023	DMAY	TGALLA		

UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [] ARE MILLIMETERS			
TOLERANCES:		FRACTIONS	
X = ±.2		[5]	
.XX = ±.02		[.5]	
.XXX = ±.005		[.13]	
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			

PE PASTERNAK an INFINITI® brand Website: www.Pasternack.com Phone: 1.866.727.8376 1.949.261.1920				INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5			
DESCRIPTION SPDT, NARROW BODY, SMA, FAILSAFE, INDICATORS, 26.5 GHz, 28VDC, TTL, DIODES, SOLDER TERMINALS, RUGGEDIZED							
SIZE A	CAGE CODE A 53919	DRAWN BY DMAY	ITEM NO. A	SCALE NONE	SHEET 1 OF 2	REV A	REV A

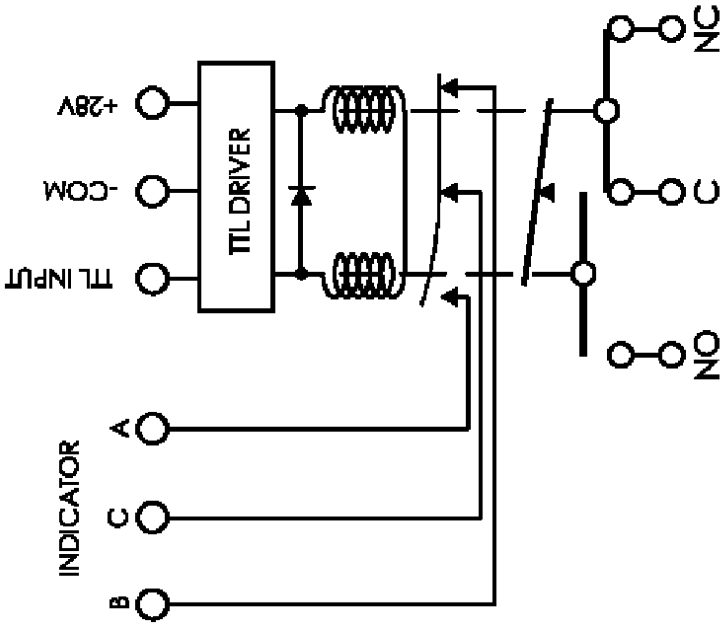
NOTES:

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

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF INFINITE ELECTRONICS, INC. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF INFINITE ELECTRONICS, INC. IS PROHIBITED. THESE COMMODITIES, TECHNOLOGY OR SOFTWARE WERE EXPORTED FROM THE UNITED STATES IN ACCORDANCE WITH THE EXPORT ADMINISTRATION REGULATIONS. DIVERSION CONTRARY TO U.S. LAW PROHIBITED.

PE71S6540 CAD Drawing

SPDT, IP64 Rated Electromechanical Relay Failsafe Switch, DC to 26.5 GHz, 90W, TTL, Indicators, Diodes, 28VDC, SMA



SCHEMATIC

UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [] ARE MILLIMETERS	
X = ±.2 [.5]	FRACTIONS ± 1/32
.XX = ±.02 [.5]	ANGLES ± 1°
.XXX = ±.005 [.13]	
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	



Website: www.Pasternack.com
Phone: 1.866.727.8376 | 1.949.261.1920

DESCRIPTION

SPDT, NARROW BODY, SMA, FAILSAFE, INDICATORS, 26.5 GHz,
28VDC, TTL, DIODES, SOLDER TERMINALS, RUGGEDIZED

INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5	
SCALE	NONE
SHEET	2 OF 2

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF INFINITE ELECTRONICS, INC. ANY REPRODUCTION IN
PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF INFINITE ELECTRONICS, INC. IS PROHIBITED.
THESE COMMODITIES, TECHNOLOGY OR SOFTWARE WERE EXPORTED FROM THE UNITED STATES IN ACCORDANCE WITH THE
EXPORT ADMINISTRATION REGULATIONS. DIVERSION CONTRARY TO U.S. LAW PROHIBITED.