



SPDT, Electromechanical Relay Latching Switch,
 DC to 43 GHz, 28VDC, 5W, Indicators, TTL, Diodes,
 Self Cut-Off, Solder Terminals, 2.92mm

Electromechanical Relay Switches Technical Data Sheet

PE71S7285

Features

- SPDT Electromechanical Relay Switch
- DC to 43 GHz Frequency Range
- Latching Actuator with Self Cut-Off
- TTL Logic Control
- Indicators
- Suppression Diodes
- 2M Lifecycle Rating
- Insertion Loss 0.6 dB typ
- Isolation > 85 dB typ
- VSWR as low as 1.15:1 max
- 2.92mm Female Connectors
- +28 Volt DC Bias
- Solder Terminal Pins for DC Command Control Functions
- -25°C to +65°C Operating Temperature
- Up to 5 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 PE71S7285 is a Single Pole Double Throw (SPDT) electromechanical relay switch that operates across an ultra wide frequency range from DC to 43 GHz and can handle up to 5W of Average Power in a break before make condition. The 50 Ohm design has a Latching Actuator with Self Cut-Off that magnetically latches in place after the control voltage is removed. For power sensitive applications, this is the best actuator option. Additional features include TTL logic control, Indicators to monitor the switch position, and Suppression Diodes which limit voltage spikes or reverse current. Impressive typical performance includes 0.6 dB insertion loss and isolation greater than 85 dB. This switch requires +28Vdc bias voltage, operates over a temperature range of -25°C to +65°C, and is rated for 2 million lifecycles. The rugged and compact package assembly supports 2.92mm female connectors and solder terminal pins for DC 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	Latching
Actuator Options	Indicators, TTL Logic, Diodes, Self Cut Off
TTL Control	on: 2.4 to 5 Volts off: 0 to 0.8 Volts

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		43	GHz
Operating Voltage	26	28	30	Volts
Actuating Set Current			65	mA
VSWR		1.4:1	1.9:1	
Insertion Loss		0.6	1.2	dB

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SPDT, Electromechanical Relay Latching Switch, DC to 43 GHz, 28VDC, 5W, Indicators, TTL, Diodes, Self Cut-Off, Solder Terminals, 2.92mm PE71S7285](#)



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Isolation	40	85	dB
Input Power		5	Watts
Switching Time		20	ms

Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC to 6	6 to 12.4	12.4 to 18	18 to 26.5	26.5 to 40	GHz
VSWR, Max	1.15:1	1.35:1	1.4:1	1.45:1	1.5:1	
Insertion Loss, Max	0.2	0.3	0.4	0.5	0.7	dB
Isolation, Min	85	80	80	75	60	dB

Performance by Frequency

Description	F6	F7	F8	F9	F10	Units
Frequency Range	40 to 43					GHz
VSWR, Max	1.9:1					
Insertion Loss, Max	1.2					dB
Isolation, Min	40					dB

Mechanical Specifications

Size

Length	2.2 in [55.88 mm]
Width/Diameter	1.5 in [38.1 mm]
Height	0.52 in [13.21 mm]
Weight	0.1 lbs [45.36 g]
Finish	Electroless Nickel

Connectors

RF Connector Type	2.92mm Female
Control Connector	Solder Terminals

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 operational)
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Vibration

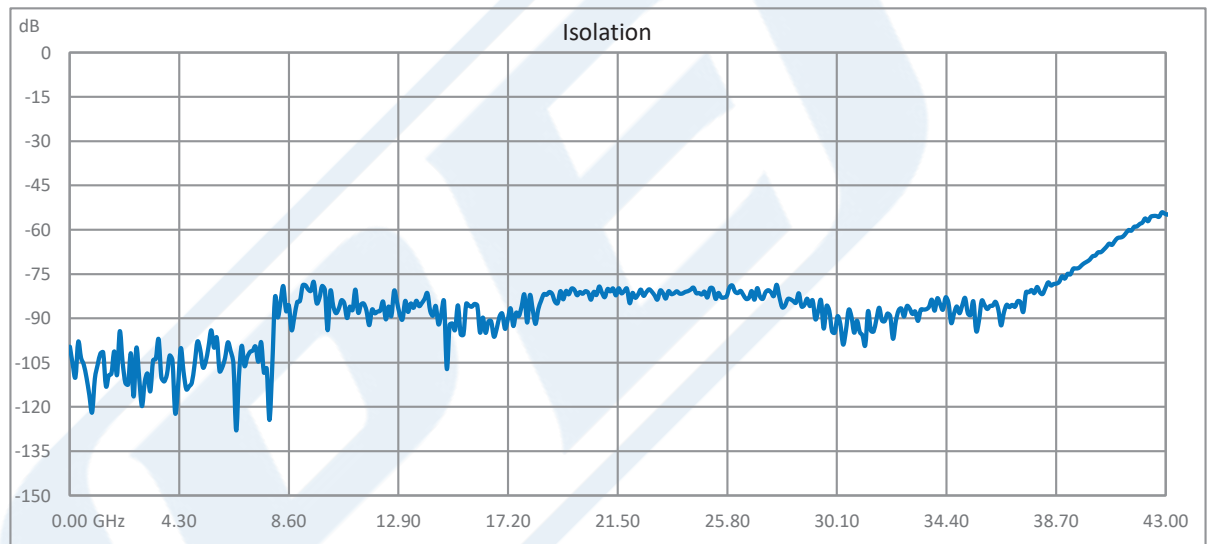
MIL-STD-202 Method 204, Condition D, 10G RMS (non operational)

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

Plotted and Other Data

Notes:

Typical Performance Data



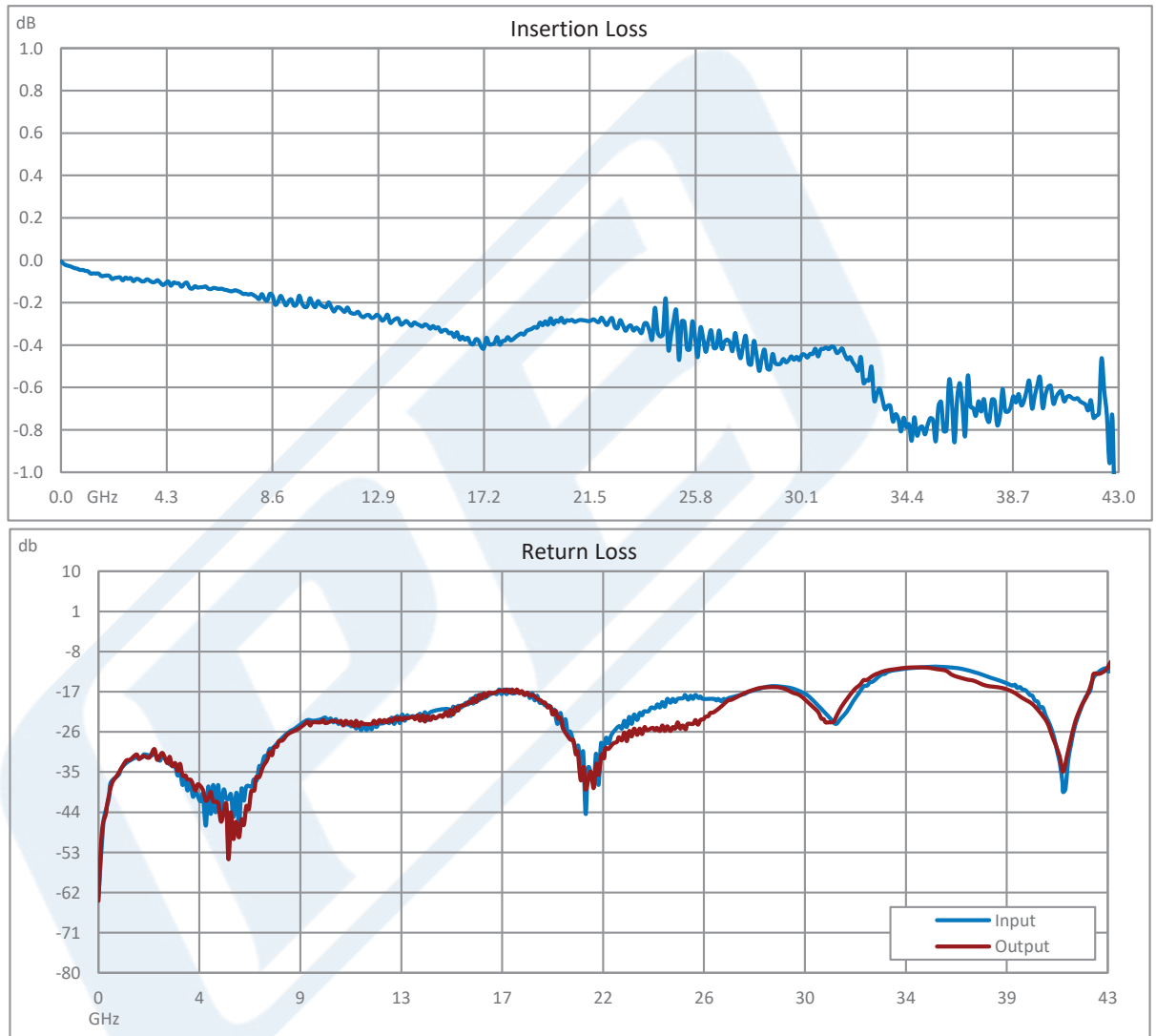
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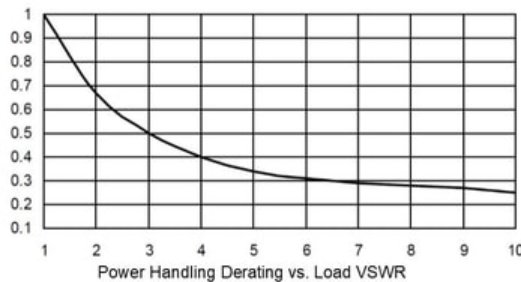
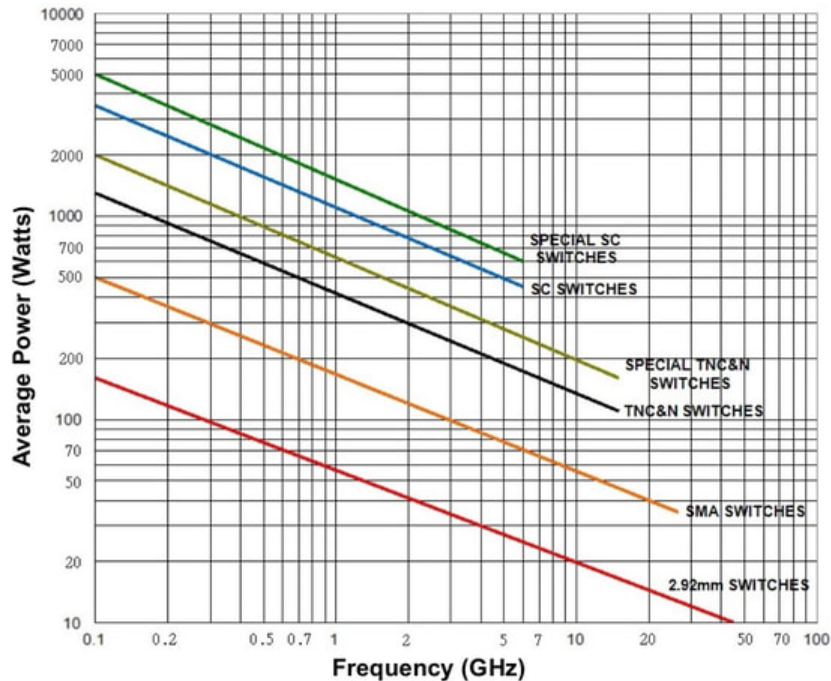
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Power Handling vs. Frequency



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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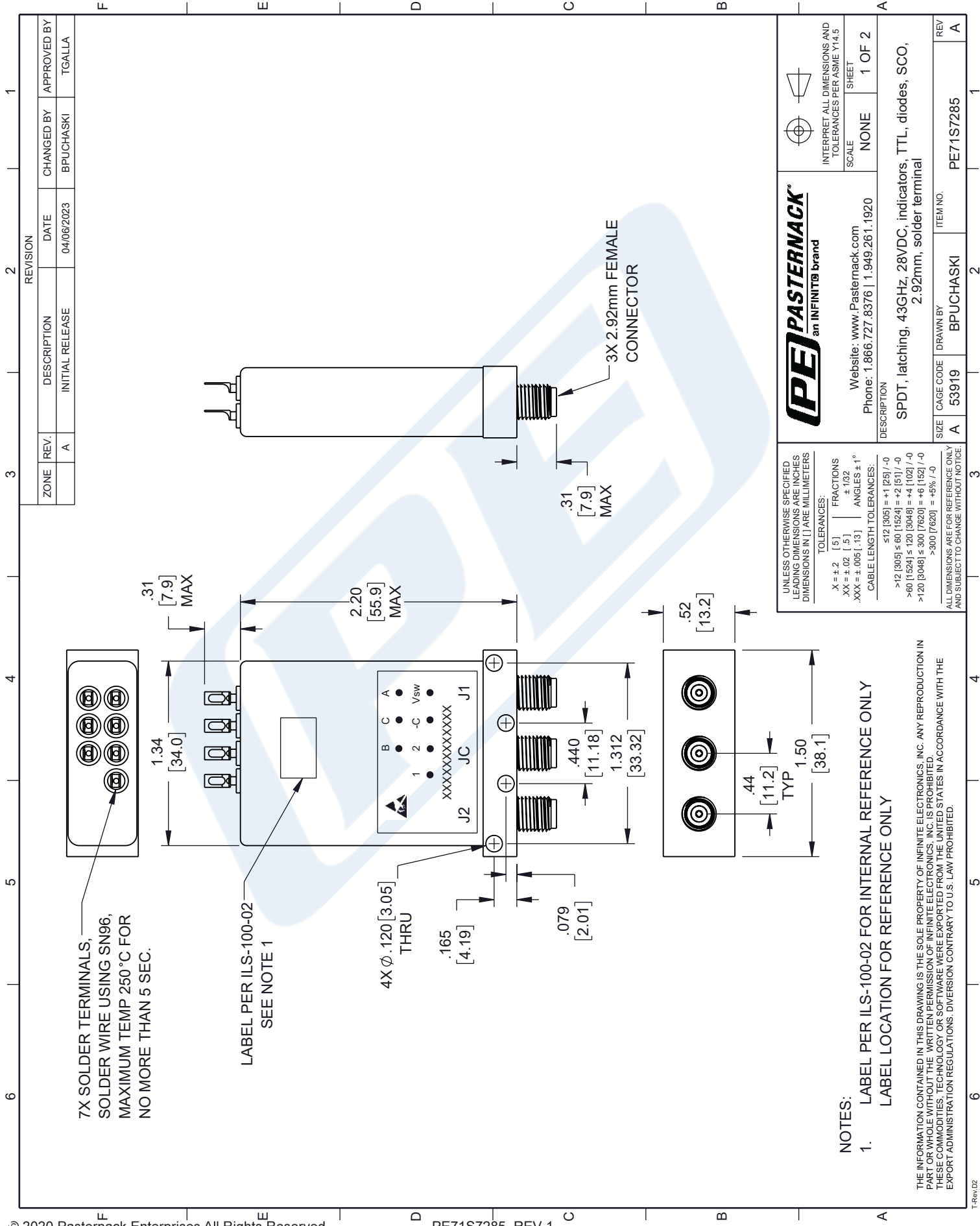
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The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. 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.

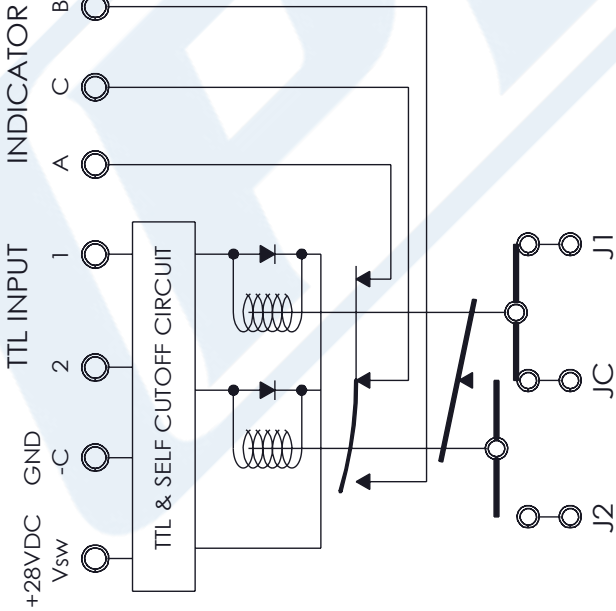
PE71S7285 CAD Drawing

SPDT, Electromechanical Relay Latching Switch, DC to 43 GHz, 28VDC, 5W, Indicators, TTL, Diodes, Self Cut-Off, Solder Terminals, 2.92mm



PE71S7285 CAD Drawing

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OPERATIONAL					
LOGIC TABLE					
TERMINALS		RF PORTS		INDICATOR	
1	2	J1	J2	A-C	B-C
0	0	NO CHANGE		NO CHANGE	
0	1	OFF	ON	OFF	ON
1	0	ON	OFF	ON	OFF
1	1	FORBIDDEN		FORBIDDEN	



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

DESCRIPTION

SPDT, latching, 43GHz, 28VDC, indicators, TTL, diodes, SCO,
2.92mm, solder terminal

SIZE A CAGE CODE 53919 DRAWN BY BPUCHASKI ITEM NO. PE71S7285 REV A

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

TOLERANCES:

X = ±.2 [.5] FRACTIONS
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

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