



Transfer Electromechanical Relay Latching Switch,
+COM, DC to 52 GHz, 5W, 12VDC, 2.4mm

Electromechanical Relay Switches Technical Data Sheet

PE71S6581

Features

- Transfer Electromechanical Relay Switch
- DC to 52 GHz Frequency Range
- Latching Actuator
- Positive Common (+COM) Configuration
- 1M Lifecycle Rating
- Insertion Loss 1.2 dB typ
- Isolation > 70 dB typ
- VSWR as low as 1.3:1 max
- Solder Terminal Pins for DC Control
- 12 Volt DC Bias
- 2.4mm Female Connectors
- -25°C to +65°C Operating Temperature
- 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 PE71S6581 is a Transfer electromechanical relay switch that operates across an ultra wideband frequency range from DC to 52 GHz and can handle 5W of average power in a break before make condition. The 50 Ohm design supports a positive common (+COM) biasing configuration and features a Latching Actuator with a 1 million lifecycle rating. The Latching Actuator magnetically latches in place after the control voltage is removed. For power sensitive applications, this is the best actuator option. Impressive typical performance includes 1.2 dB insertion loss and isolation greater than 70 dB. This switch requires 12 Vdc bias voltage and operates over a temperature range of -25°C to +65°C. The rugged and compact package assembly supports 2.4mm 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 (TA = 25°C, DC Voltage = 12 Vdc)

Switch Type
Actuator Type

Transfer
Latching

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		52	GHz
Operating Voltage	11	12	13	Volts
Actuating Set Current @		300		mA
VSWR		1.9:1	2.8:1	
Insertion Loss		1.2	2.3	dB
Isolation	50	80		dB
Switching Time		<20		ms Typ

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 Latching Switch, +COM, DC to 52 GHz, 5W, 12VDC, 2.4mm PE71S6581](#)



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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 18	18 to 26.5	26.5 to 40	GHz
VSWR, Max	1.3:1	1.4:1	1.5:1	1.7:1	1.9:1	
Insertion Loss, Max	0.3	0.4	0.5	0.7	1	dB
Isolation, Min	70	60	60	55	50	dB

Performance by Frequency

Description	F6	F7	F8	F9	F10	Units
Frequency Range	40 to 50	50 to 52				GHz
VSWR, Max	2.2:1	2.8:1				
Insertion Loss, Max	1.3	2.3				dB
Isolation, Min	50	50				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	0.114 lbs [51.71 g]

Connectors

RF Connector Type	2.4mm 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 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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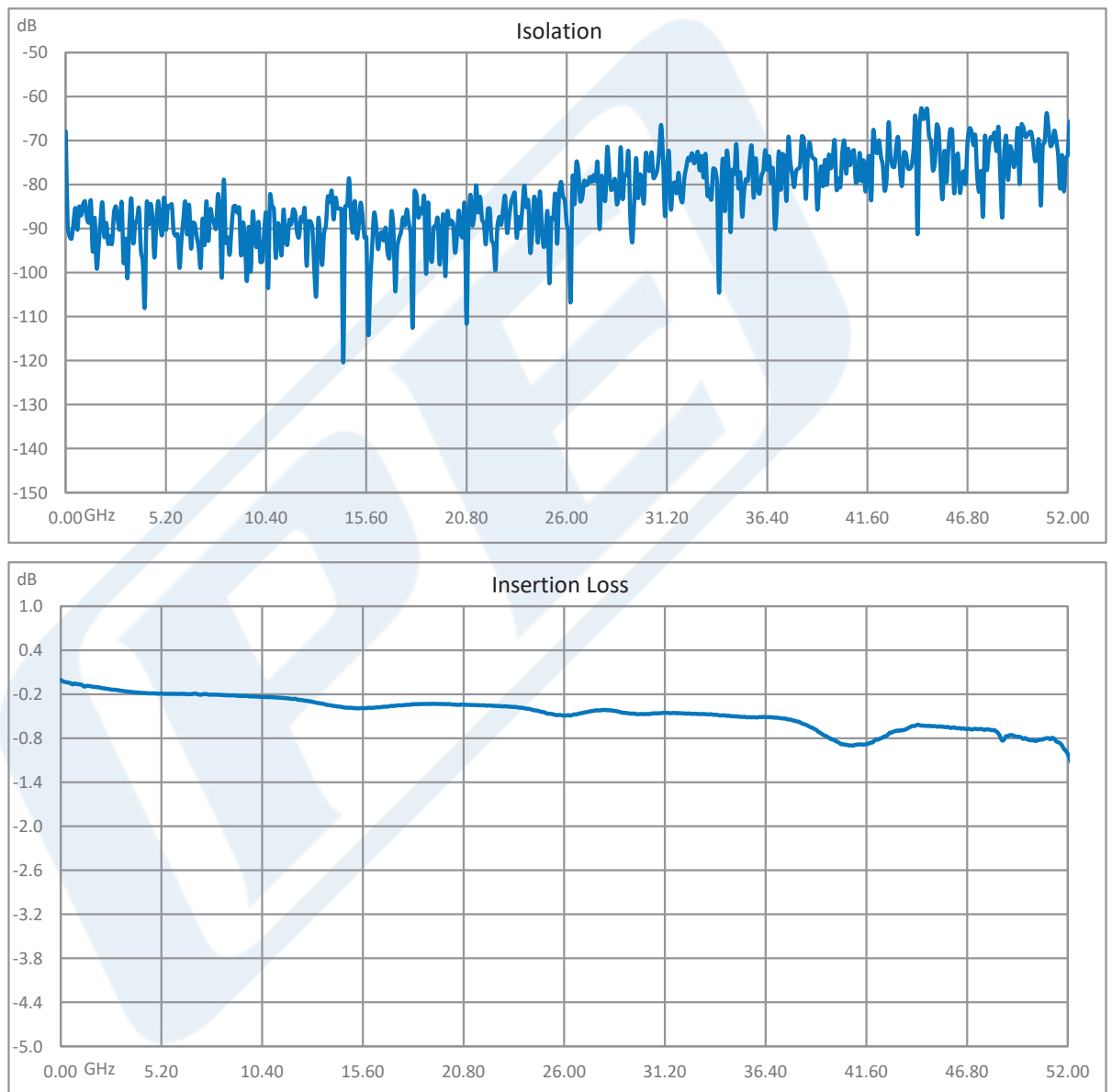


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Electromechanical Relay Switches Technical Data

PE71S6581

Typical Performance Data



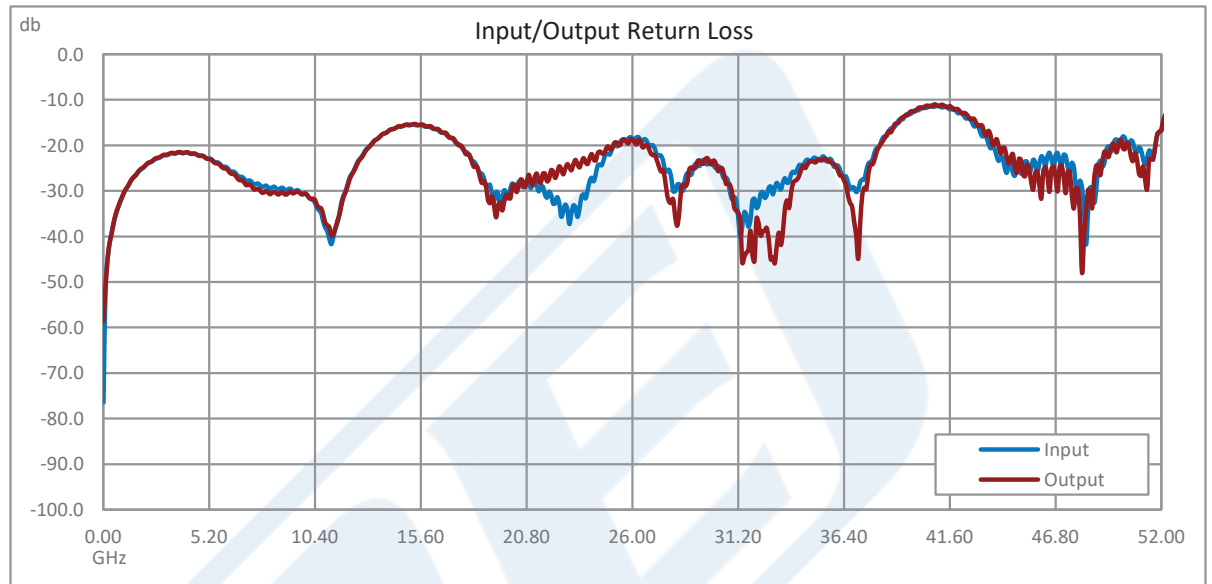
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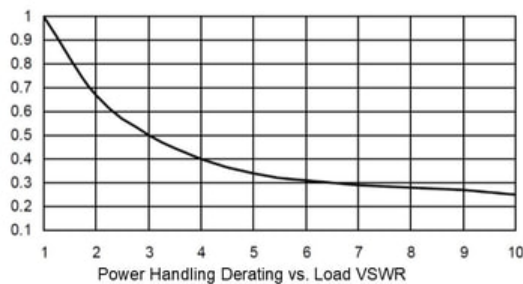
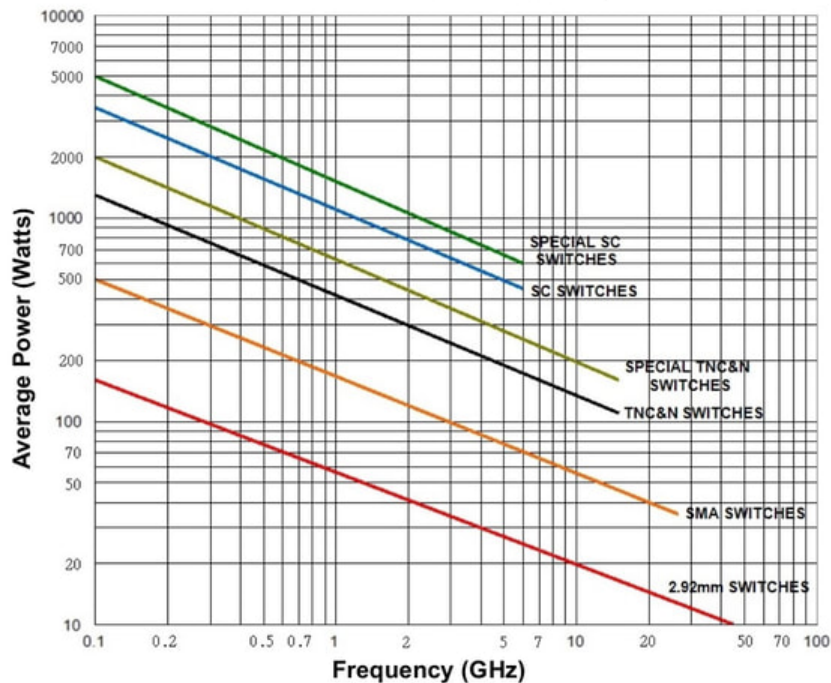


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Power Handling vs. Frequency



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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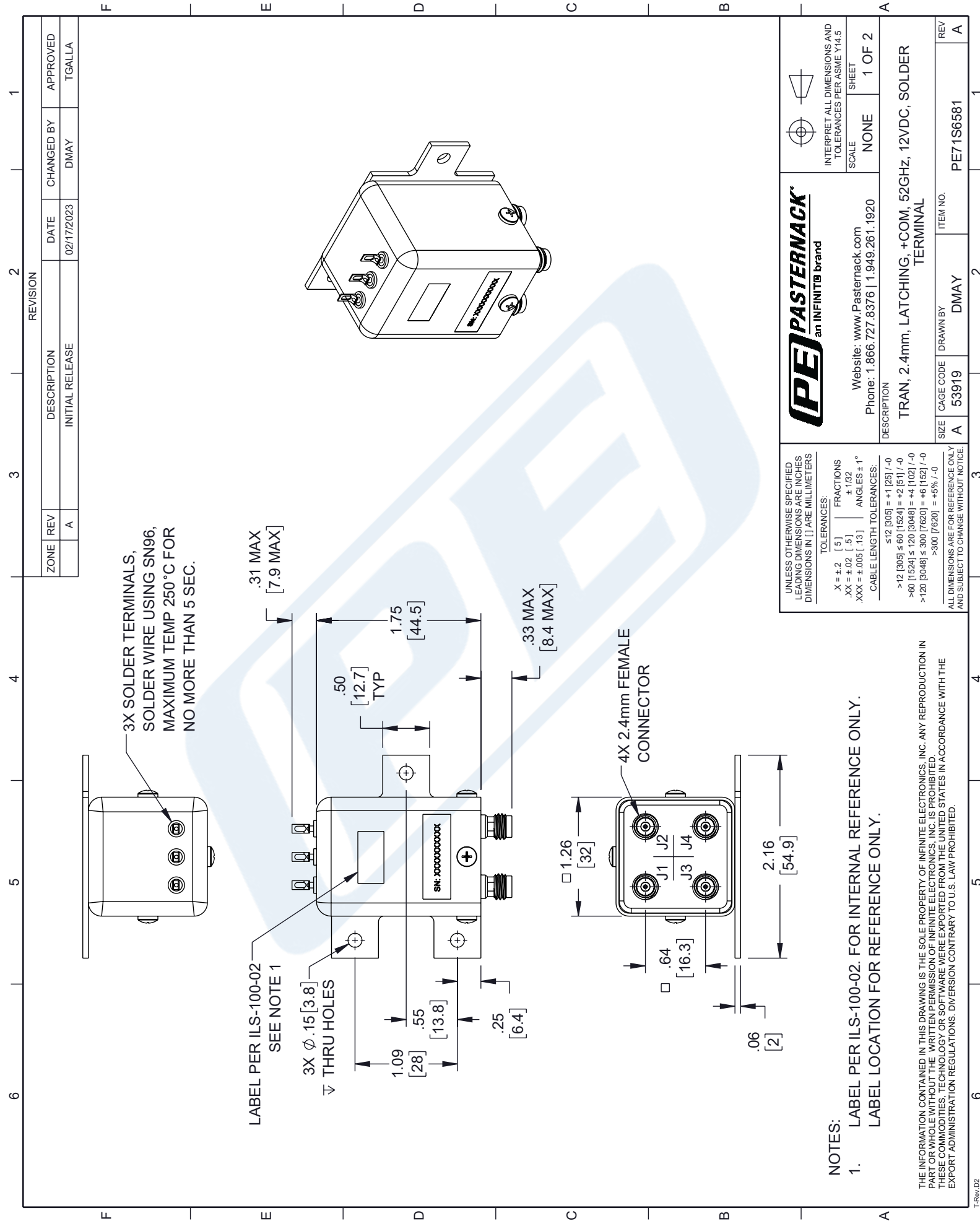
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PE71S6581 CAD Drawing

Transfer Electromechanical Relay Latching Switch, +COM, DC to 52 GHz, 5W, 12VDC, 2.4mm



LABEL PER ILS-100-02
SEE NOTE 1

NOTES:

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

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

TOLERANCES:
X = ±.2 [5] FRACTIONS
.XX = ±.02 [.5] ±.1/32
.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
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Website: www.Pasternack.com
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DESCRIPTION

TRAN, 2.4mm, LATCHING, +COM, 52GHz, 12VDC, SOLDER TERMINAL

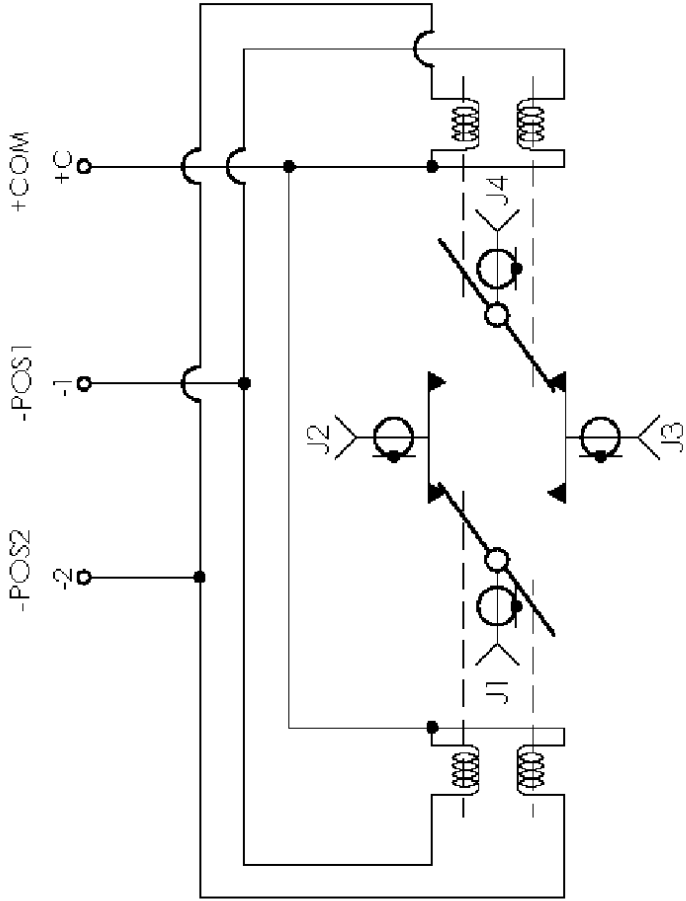


INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5
SCALE NONE
SHEET 1 OF 2

SIZE	CAGE CODE	DRAWN BY	ITEM NO.	REV
A	53919	DMAY	PE71S6581	A

PE71S6581 CAD Drawing

Transfer Electromechanical Relay Latching Switch, +COM, DC to 52 GHz, 5W, 12VDC, 2.4mm



POS	VOLTAGE	RF PATH
POS 1	1-C	J1-J2, J3-J4
POS 2	2-C	J1-J3, J2-J4

SCHEMATIC

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DESCRIPTION
TRAN, 2.4mm, LATCHING, +COM, 52GHz, 12VDC, SOLDER
TERMINAL



SCALE NONE
SHEET 2 OF 2

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