



Transfer, IP64 Rated Electromechanical Relay Latching Switch, DC to 18 GHz, 90W, 28VDC, SMA

Electromechanical Relay Switches Technical Data Sheet

PE71S6556

Features

- Single Pole Double Throw (SP2T) Ruggedized Electromechanical Relay Switch
- IP64 Level 1 Rated
- DC to 18 GHz Frequency Range
- Latching Actuator
- 5M Lifecycle Rating
- Insertion Loss 0.2 dB typ
- Isolation > 80 dB typ
- VSWR as low as 1.2:1 max
- Solder Terminal Pins for DC 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 PE71S6556 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 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 is rated for 5 million lifecycles and has a Latching Actuator that magnetically latches in place after the control voltage is removed. For power sensitive applications, this is the best actuator option. Impressive typical performance includes 0.2 dB insertion loss and isolation greater than 80 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 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 = 28 Vdc)

Switch Type
Actuator Type

Transfer
Latching

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		18	GHz
Impedance		50		Ohms
Operating Voltage	26	28	30	Volts
Actuating Set Current			250	mA
VSWR		1.1:1	1.4:1	
Insertion Loss		0.2	0.5	dB
Isolation	65	90		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 Latching Switch, DC to 18 GHz, 90W, 28VDC, SMA PE71S6556](#)



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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 0.106 lbs [48.08 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 IP64

Shock 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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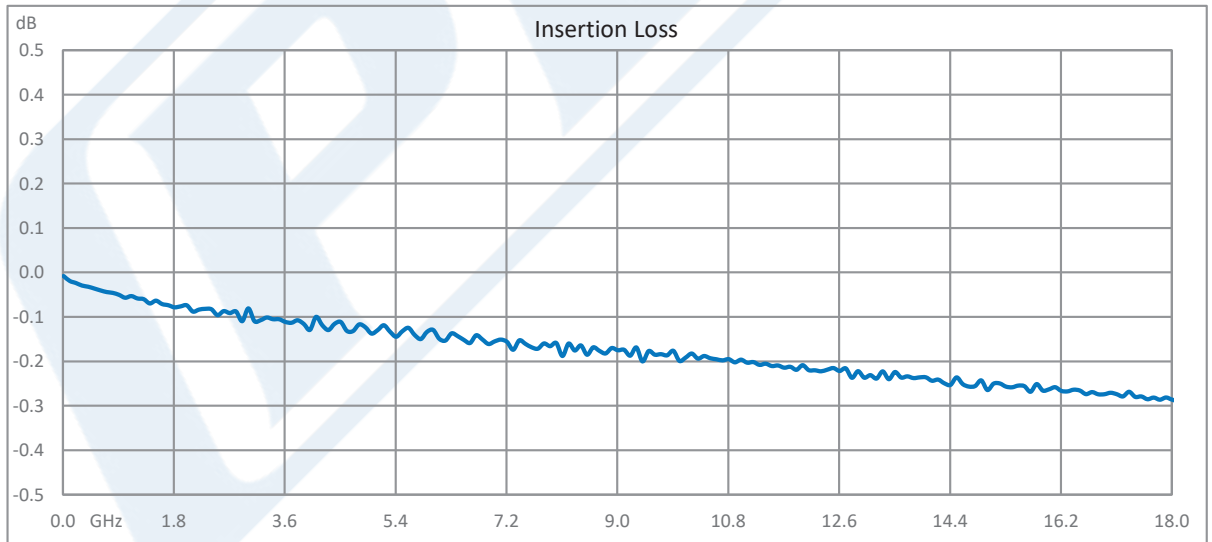
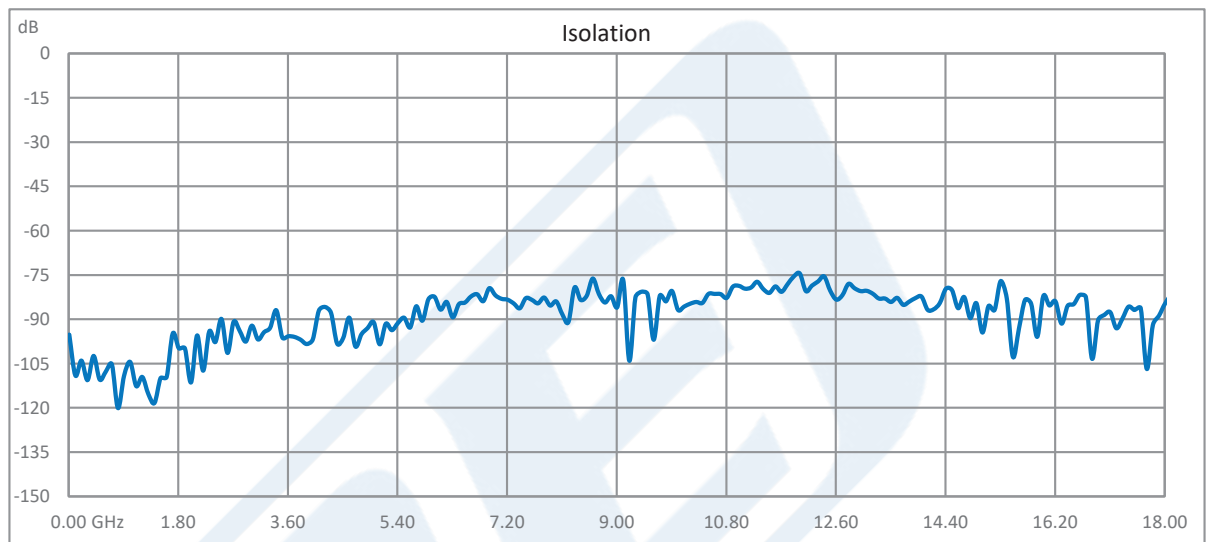


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Typical Performance Data



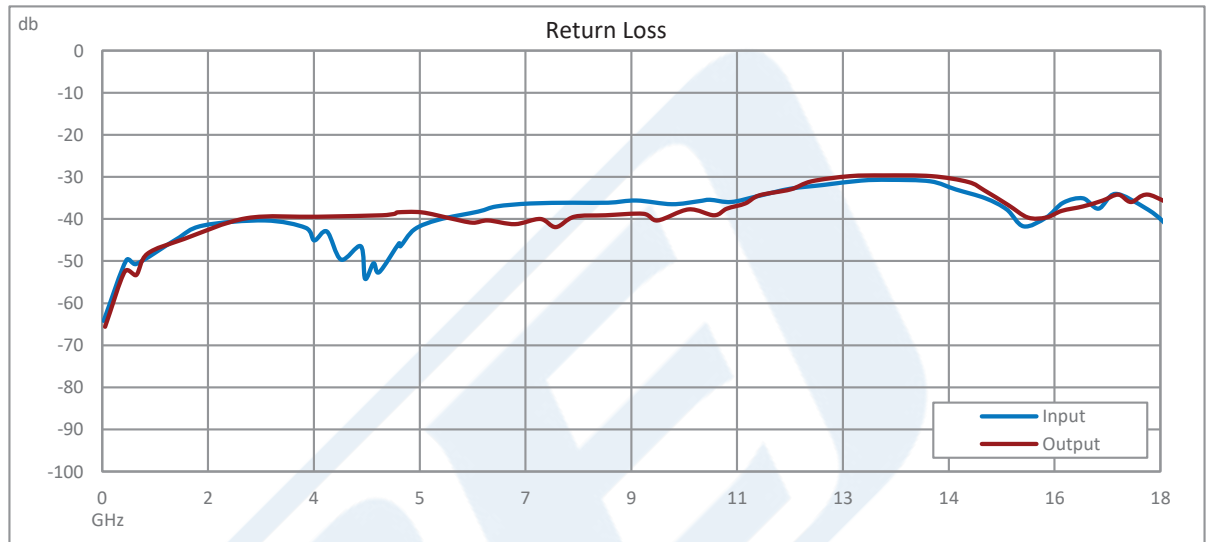
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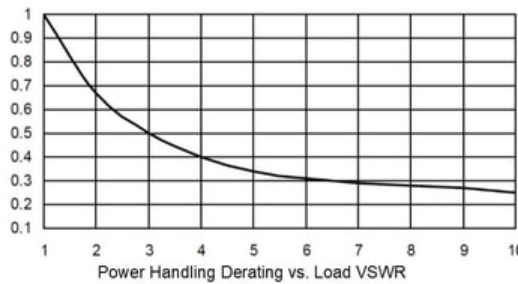
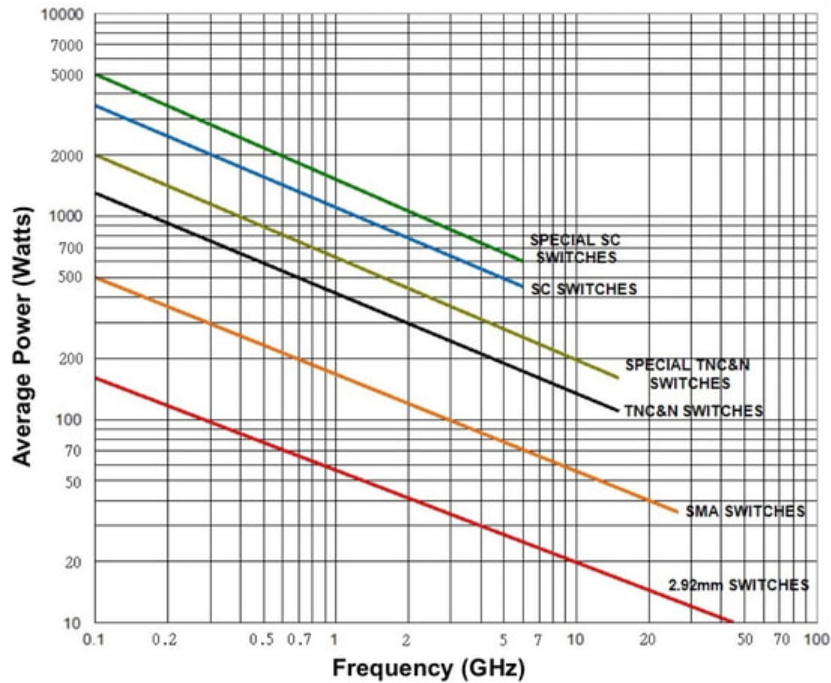


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Power Handling vs. Frequency



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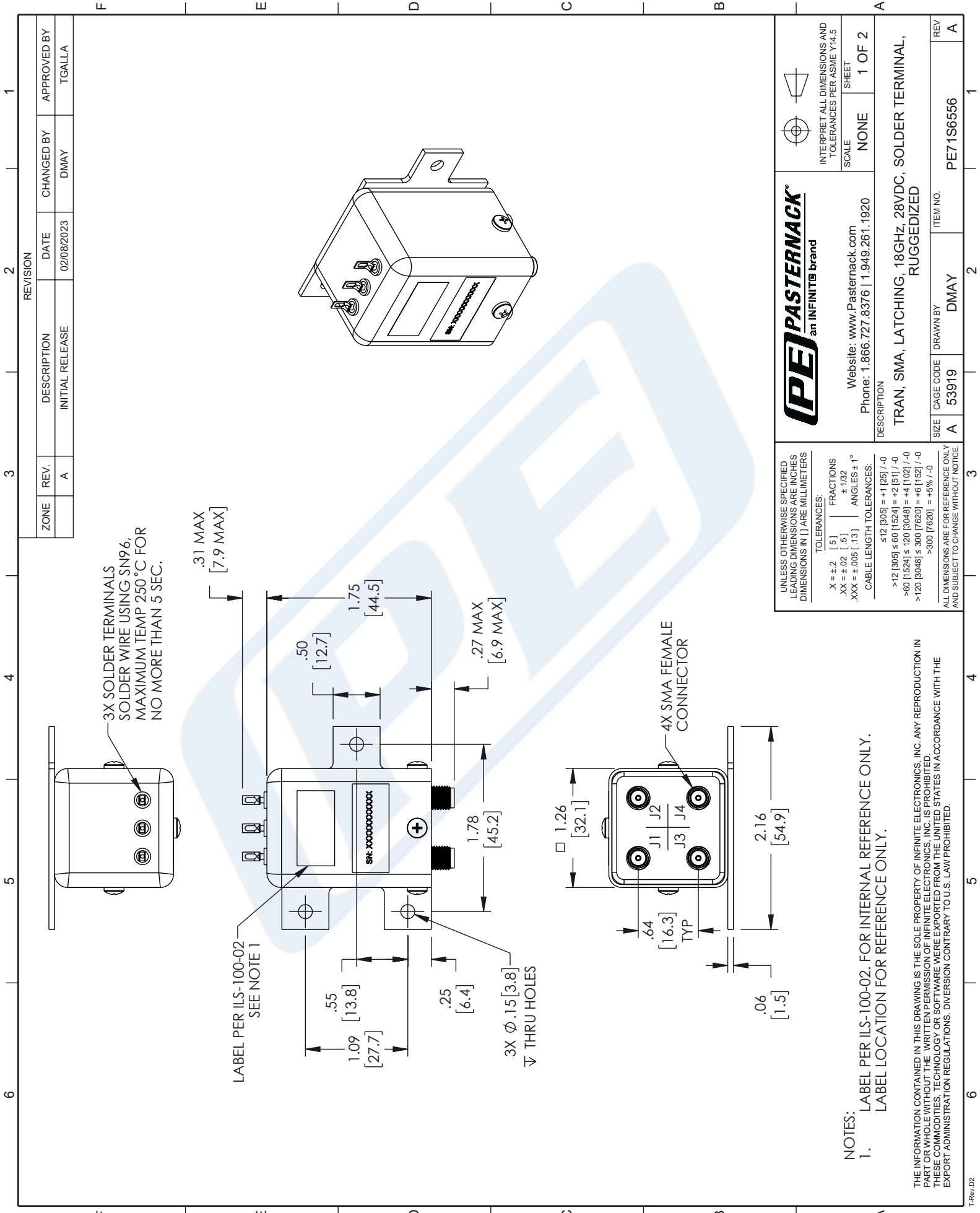
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The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements.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

PE71S6556 CAD Drawing

Transfer, IP64 Rated Electromechanical Relay Latching Switch, DC to 18 GHz, 90W, 28VDC, SMA



ZONE	REV.	DESCRIPTION	DATE	CHANGED BY	APPROVED BY
A	1	INITIAL RELEASE	02/08/2023	DMAY	TGALLA

REVISION	2	3	4	5	6
DESCRIPTION					
DATE					
CHANGED BY					
APPROVED BY					

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

TOLERANCES:
 X = ±.2 [5] | FRACTIONS ±.132
 .XX = ±.02 [.5] | .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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an INFINITI[®] brand

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

DESCRIPTION
TRAN, SMA, LATCHING, 18GHz, 28VDC, SOLDER TERMINAL, RUGGEDIZED

SCALE NONE SHEET 1 OF 2

INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5

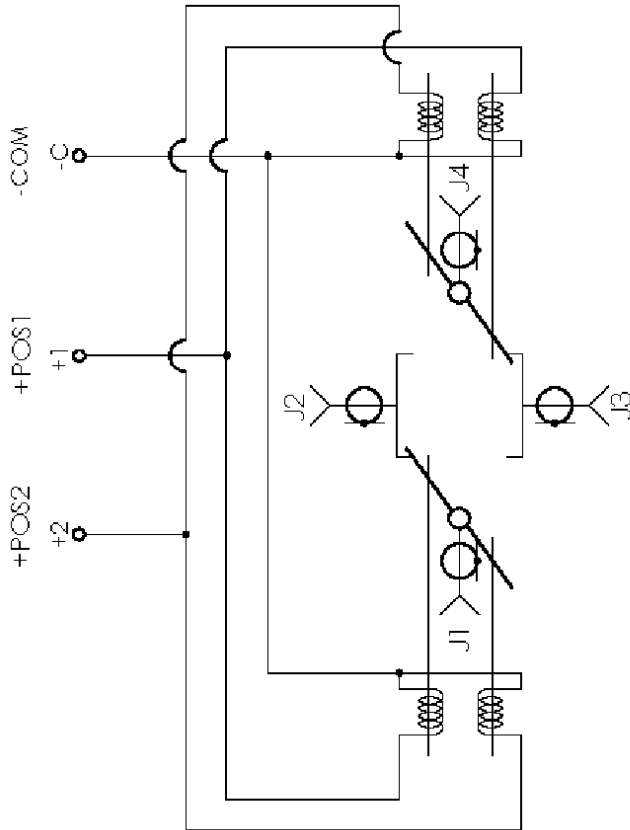
SIZE A CABE CODE A 53919 DRAWN BY DMAY ITEM NO. PE71S6556 REV A

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

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PE71S6556 CAD Drawing

Transfer, IP64 Rated Electromechanical Relay Latching Switch, DC to 18 GHz, 90W, 28VDC, SMA



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, SMA, LATCHING, 18GHz, 28VDC, SOLDER TERMINAL, RUGGEDIZED

SIZE A CAGE CODE 53919 DRAWN BY DMAY ITEM NO. PE71S6556

REV A



SCALE NONE SHEET 2 OF 2

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