

## Transfer Electromechanical Relay Latching Switch, +COM, DC to 52 GHz, 5W, 28VDC, 2.4mm

The FMSW6582 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 28 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 = 28 Vdc)

Switch Type Transfer  
 Actuator Type Latching

| Description                  | Min | Typ   | Max   | Units |
|------------------------------|-----|-------|-------|-------|
| Frequency Range              | DC  |       | 52    | GHz   |
| Operating Voltage            | 26  | 28    | 30    | Volts |
| Actuating Current @ 28 Volts |     | 250   |       | mA    |
| VSWR                         |     | 1.9:1 | 2.8:1 |       |
| Insertion Loss               |     | 1.2   | 2.3   | dB    |
| Isolation                    | 50  | 80    |       | dB    |
| Switching Time               |     | 20    |       | ms    |

### Performance by Frequency

| Description         | F1     | F2       | F3        | F4        | F5        | Units |
|---------------------|--------|----------|-----------|-----------|-----------|-------|
| Frequency Range     | DC - 6 | 6 - 12.4 | 12.4 - 18 | 18 - 26.5 | 26.5 - 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 - 50    | 50 - 52 |    |    |     | GHz   |
| VSWR, Max           | 2.2:12.8:1 |         |    |    |     |       |
| Insertion Loss, Max | 1.3        | 2.3     |    |    |     | dB    |
| Isolation, Min      | 50         | 50      |    |    |     | dB    |



### 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
- 28 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

Fairview Microwave  
 301 Leora Ln., Suite 100  
 Lewisville, TX 75056  
 Tel: 1-800-715-4396 / (972) 649-6678  
 Fax: (972) 649-6689  
[www.fairviewmicrowave.com](http://www.fairviewmicrowave.com)  
[sales@fairviewmicrowave.com](mailto:sales@fairviewmicrowave.com)

**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 0.122 lbs [55.34 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

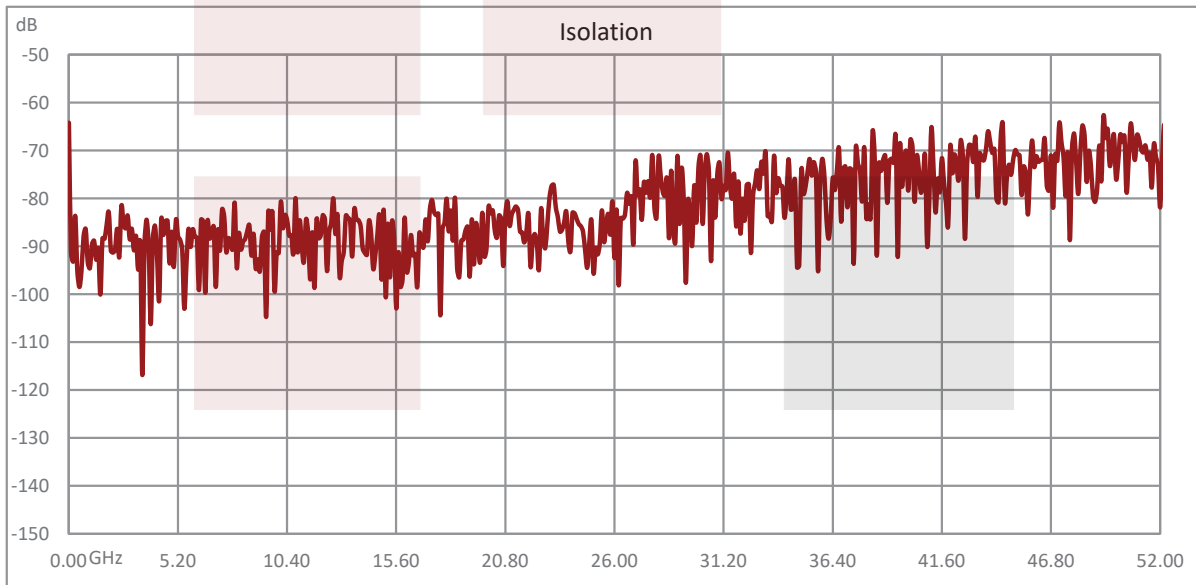
Shock MIL-STD-202 Method 213, Condition D, 500G (non oper)  
 Vibration MIL-STD-202 Method 204, Condition D, 10G RMS (non oper)

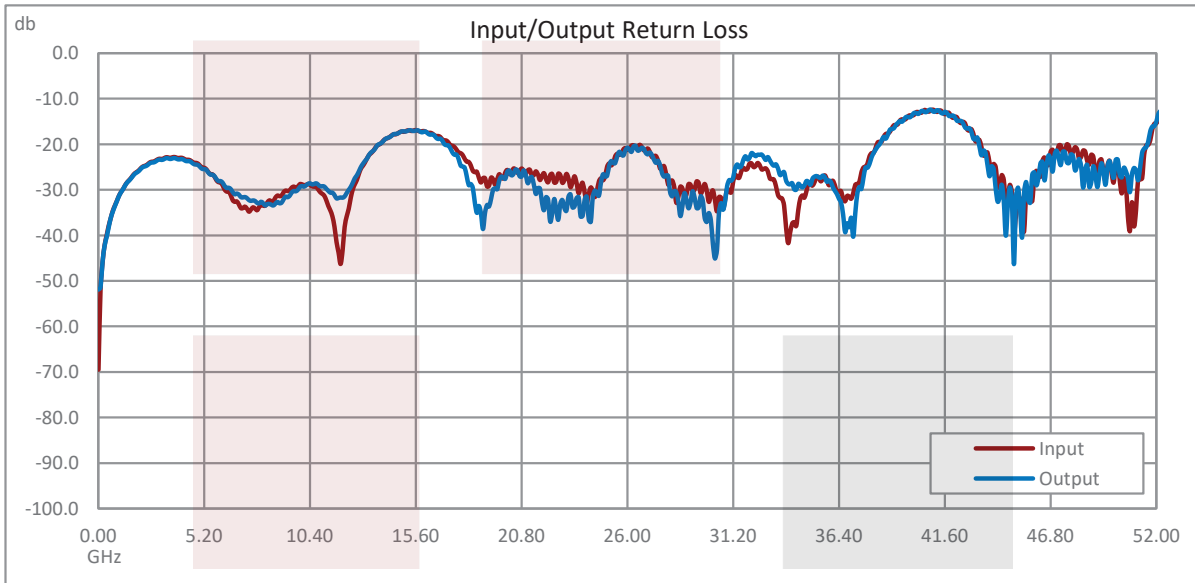
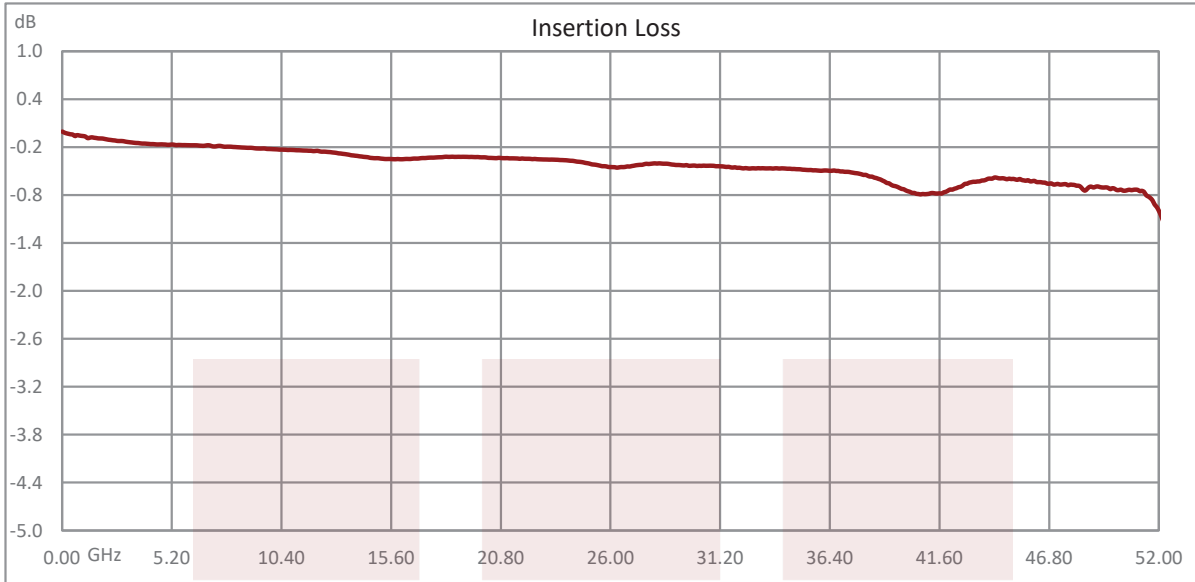
**Compliance Certifications** (see [product page](#) for current document)

**Plotted and Other Data**

Notes:

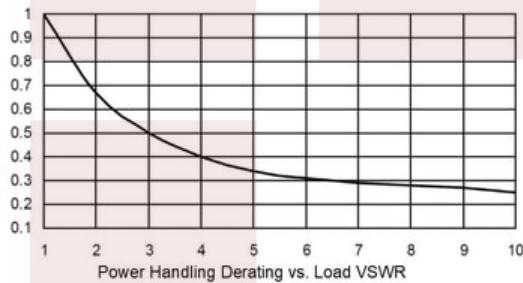
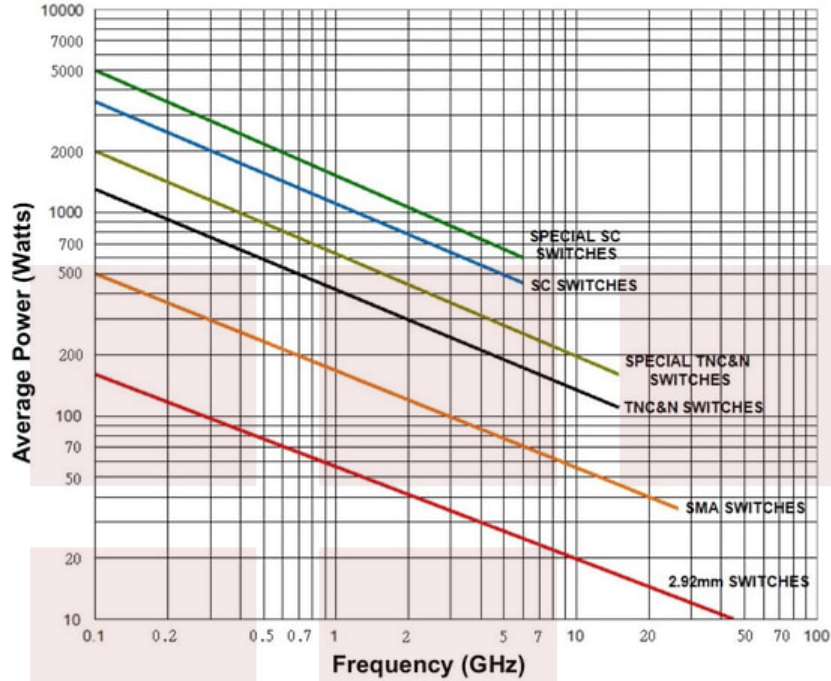
**Typical Performance Data**





**Power Handling vs. Frequency**

**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

Transfer Electromechanical Relay Latching Switch, +COM, DC to 52 GHz, 5W, 28VDC, 2.4mm from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

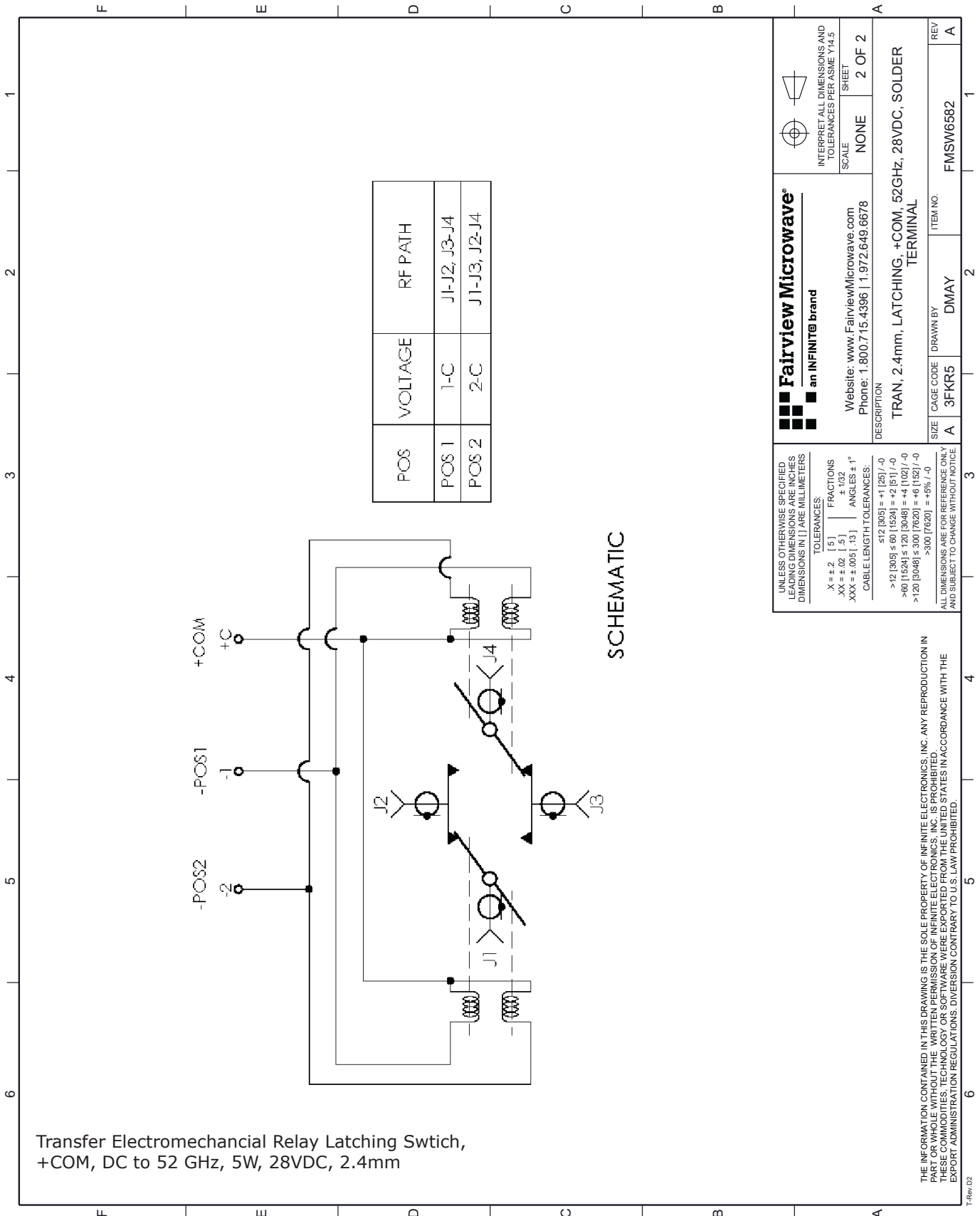
For additional information on this product, please click the following link: [Transfer Electromechanical Relay Latching Switch, +COM, DC to 52 GHz, 5W, 28VDC, 2.4mm FMSW6582](#)

URL: <https://www.fairviewmicrowave.com/transfer-latching-52-ghz-electro-mechanical-relay-switch-28v-2.4mm-fm-sw6582-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. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability arising out of the use of any part or documentation.







|  |  |                 |        |           |           |        |        |             |         |             |           |             |                |            |              |                 |             |              |                 |             |  |            |   |
|--|--|-----------------|--------|-----------|-----------|--------|--------|-------------|---------|-------------|-----------|-------------|----------------|------------|--------------|-----------------|-------------|--------------|-----------------|-------------|--|------------|---|
| <p><b>Fairview Microwave®</b><br/>an INFINITE® brand</p> <p>Website: <a href="http://www.FairviewMicrowave.com">www.FairviewMicrowave.com</a><br/>Phone: 1.800.715.4396   1.972.649.6678</p> | <p>UNLESS OTHERWISE SPECIFIED, LEADING DIMENSIONS ARE INCHES AND DIMENSIONS IN [ ] ARE MILLIMETERS</p> <p>TOLERANCES:</p> <table style="font-size: small;"> <tr> <td>.X ± .2</td> <td>[ .5 ]</td> <td>FRACTIONS</td> </tr> <tr> <td>.XX ± .02</td> <td>[ .5 ]</td> <td>± 1/32</td> </tr> <tr> <td>.XXX ± .005</td> <td>[ .13 ]</td> <td>ANGLES ± 1°</td> </tr> </table> <p>CABLE LENGTH TOLERANCES:</p> <table style="font-size: small;"> <tr> <td>&gt;12 [305]</td> <td>± 60 [1524]</td> <td>= +2 [51] / -0</td> </tr> <tr> <td>&gt;60 [1524]</td> <td>± 120 [3048]</td> <td>= +4 [102] / -0</td> </tr> <tr> <td>&gt;120 [3048]</td> <td>± 300 [7620]</td> <td>= +6 [152] / -0</td> </tr> <tr> <td>&gt;300 [7620]</td> <td></td> <td>= +5% / -0</td> </tr> </table> <p>ALL DIMENSIONS ARE FOR REFERENCE ONLY AND SUBJECT TO CHANGE WITHOUT NOTICE</p> | .X ± .2         | [ .5 ] | FRACTIONS | .XX ± .02 | [ .5 ] | ± 1/32 | .XXX ± .005 | [ .13 ] | ANGLES ± 1° | >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 | <p>INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5 SHEET</p> <p>SCALE: NONE</p> <p>SHEET: 2 OF 2</p> <p>DESCRIPTION:<br/>TRAN, 2.4mm, LATCHING, +COM, 52GHZ, 28VDC, SOLDER TERMINAL</p> <p>SIZE: A</p> <p>CAGE CODE: 3FKR5</p> <p>DRAWN BY: DMAY</p> <p>ITEM NO.: FMSW6582</p> <p>REV: A</p> |
| .X ± .2  | [ .5 ]   | FRACTIONS       |        |           |           |        |        |             |         |             |           |             |                |            |              |                 |             |              |                 |             |  |            |   |
| .XX ± .02  | [ .5 ]   | ± 1/32          |        |           |           |        |        |             |         |             |           |             |                |            |              |                 |             |              |                 |             |  |            |   |
| .XXX ± .005  | [ .13 ]  | ANGLES ± 1°     |        |           |           |        |        |             |         |             |           |             |                |            |              |                 |             |              |                 |             |  |            |   |
| >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      |        |           |           |        |        |             |         |             |           |             |                |            |              |                 |             |              |                 |             |  |            |   |