# SK6-0232434035-KFKF-R1

Rev. 1.0

## 2 to 24 GHz, SP6T PIN Switch with TTL Driver, Reflective

### Description:

**Model SK6-0232434035-KFKF-R1** is a PIN diode based, reflective single pole, six throw switch with a TTL driver that operates from 2 to 24 GHz. The switch requires a separate -5 V and +5 V biasing in addition to the TTL control. This model offers a small form factor, 4.0 dB typical insertion loss, 35 dB typical isolation, and a switching speed up to 50 microseconds. The switch has female K connectors for all RF ports and a 10-pin male Molex connector for DC biasing and TTL controlling.


### Features:

- High Isolation
- Low Insertion Loss

### Applications:

- Radar Systems
- Communication Systems
- Automatic Test Set
- Switching Network

### Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|---|---|---|---|
| RF Frequency | 2 GHz | | 24 GHz |
| Insertion Loss | | 4.0 dB | 5.5 dB |
| Isolation | 30 dB | 35 dB | |
| Bias Voltage, Positive | | +5.0 $V_{DC}$ /100 mA | +6.0 $V_{DC}$ |
| Bias Voltage, Negative | | -5.0 $V_{DC}$ /100 mA | -6.0 $V_{DC}$ |
| Control | | TTL | |
| Switching Speed | | 50 µs | |
| Power Handling | | +20 dBm | +23 dBm |
| Specification Temperature | | + 25 °C | |
| Operation Temperature | 0 °C | | +50 °C |

### Mechanical Specifications:

| Parameter | Specifications |
|---|---|
| RF Input Port | K(F) |
| PF Output Ports | K(F) |
| DC Bias and TTL | Molex Connector #87833-1020 |
| Material | Aluminum |
| Finish | Gold Plated |
| Weight | 2 Oz |
| Size | 2.06” (L) x 1.12” (W) x 0.60” (H) |
| Outline | K6-RC-P |


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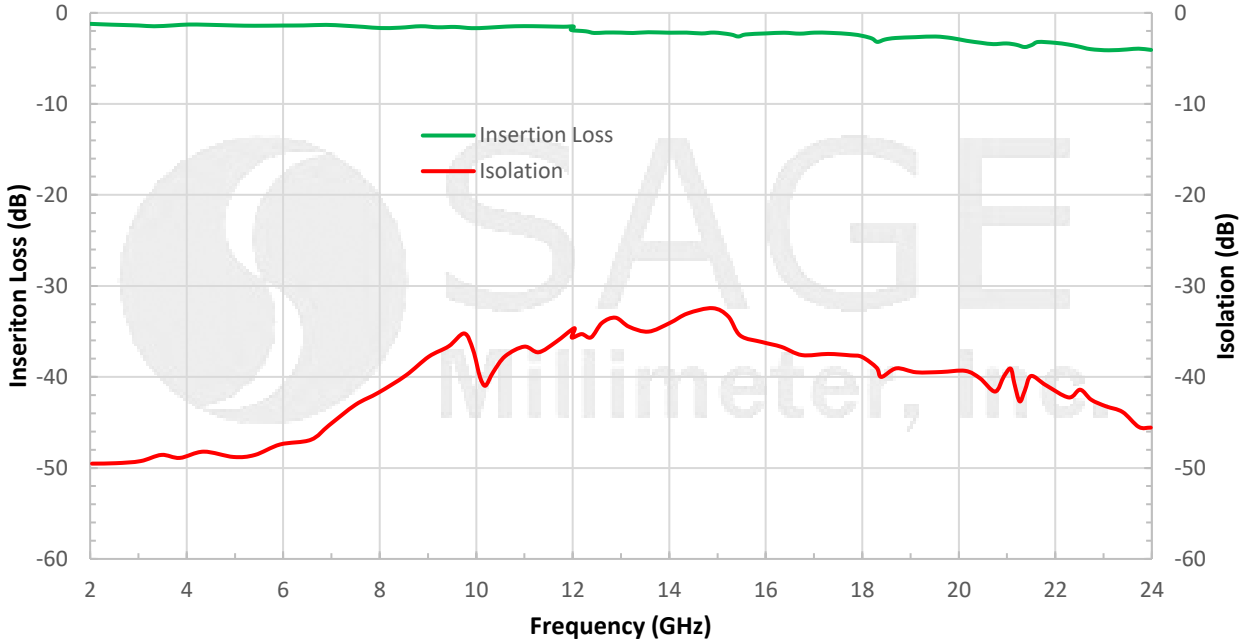
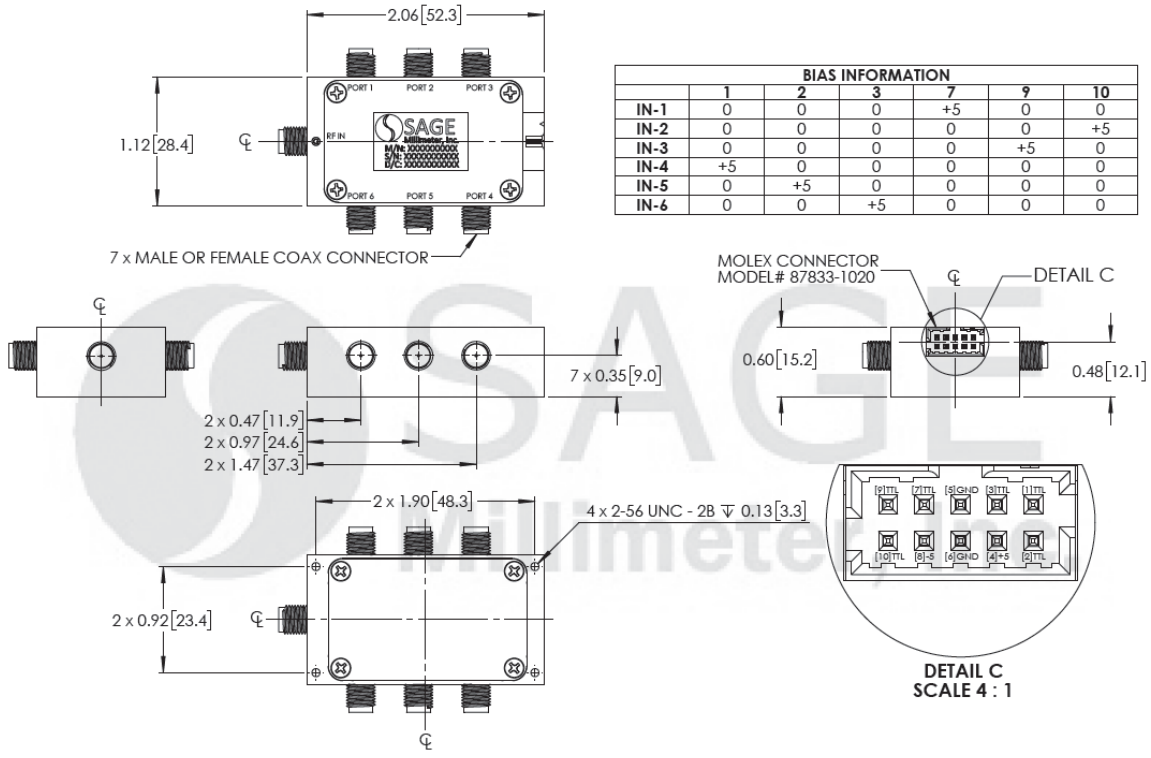
### Typical Insertion Loss and Isolation vs Frequency




### Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])




| BIAS INFORMATION | | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 7 | 9 | 10 |
| IN-1 | 0 | 0 | 0 | +5 | 0 | 0 |
| IN-2 | 0 | 0 | 0 | 0 | 0 | +5 |
| IN-3 | 0 | 0 | 0 | 0 | +5 | 0 |
| IN-4 | +5 | 0 | 0 | 0 | 0 | 0 |
| IN-5 | 0 | +5 | 0 | 0 | 0 | 0 |
| IN-6 | 0 | 0 | +5 | 0 | 0 | 0 |

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**Note:**

- All data presented is collected from a sample lot, actual data may vary unit to unit.
- All testing was performed under +25 ˚C case temperature.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

**Caution:**

- Exceeding absolute maximum ratings shown will damage the device.
- The device is static sensitive. Always follow ESD rules when working with the device.
- Reversing polarity will destroy the device.
- Proper torque, 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**









SAGE Millimeter, Inc.