

**Performance Characteristics:**

- Frequency band: DC~18GHz
- Insertion loss: 1.7dB
- Isolation: 40dB
- Input/output return loss: 17dB /17dB
- Control voltage: 0/-5V
- Chip size: 1.38mm×1.4mm×0.1mm

**Product Description:**

CW-SW30018 is a GaAs MMIC reflective single-pole three-throw switch chip with a frequency range covering DC~18GHz, the entire band insertion loss is less than 1.7dB, and the isolation is greater than 40dB. The CW-SW30018 is powered by 0/-5V.

**Electrical parameters:** ( $T_A=25^{\circ}\text{C}$ )

Indicators	Minimum	Typical value	Maximum value	Units
Frequency range	DC~18			GHz
Insertion loss	-	-	1.7	dB
isolation	40	-	-	dB
Input return loss	17	-	-	dB
Output return loss	17	-	-	dB

**Use limit parameters:** (Exceeding any of the above maximum limits risks permanent damage.)

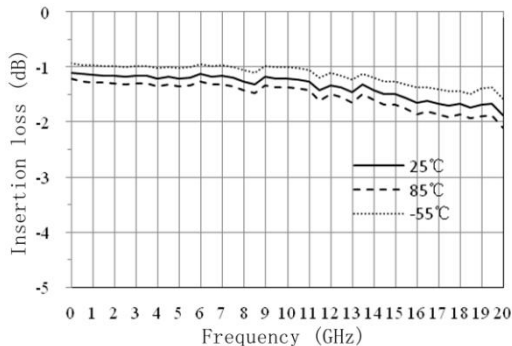
Input power	+30dBm
Control voltage	-8~+1V
Storage temperature	-65°C~150°C
Service temperature	-55°C~125°C

**Switch truth table:**

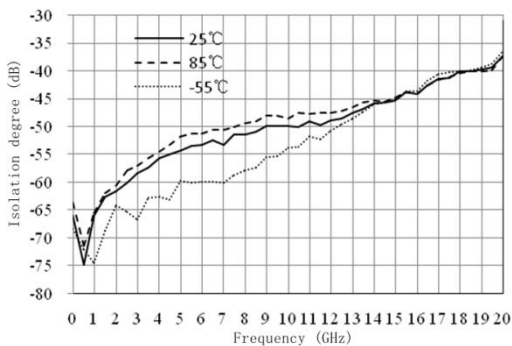
V1	V2	V3	V4	V5	V6	IN-OUT1	IN-OUT2	IN-OUT3
0	-5	-5	-5	0	0	ON	OFF	OFF
-5	0	0	-5	-5	0	OFF	ON	OFF
-5	-5	0	0	0	-5	OFF	OFF	ON

**Typical curves:**

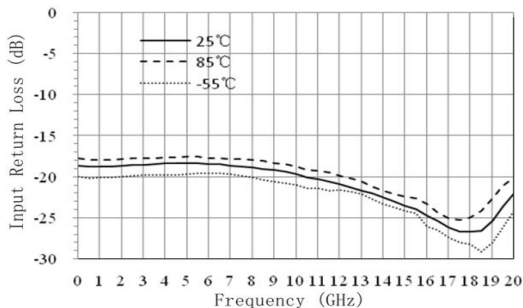
Insertion loss Vs temperature



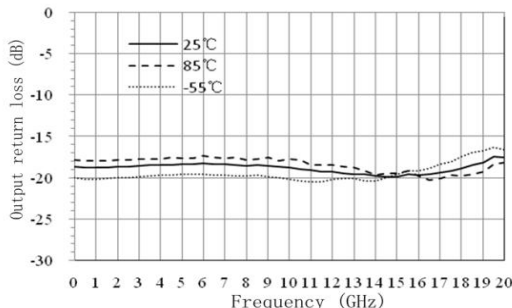
isolation Vs temperature



Input return loss Vs temperature

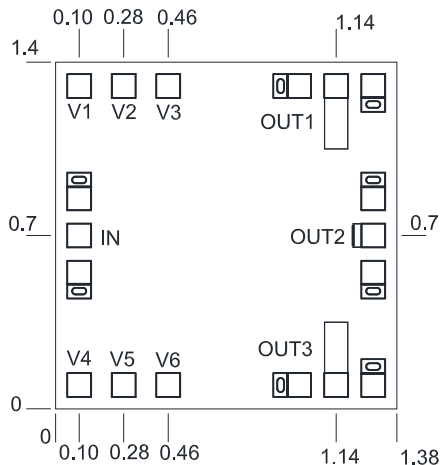


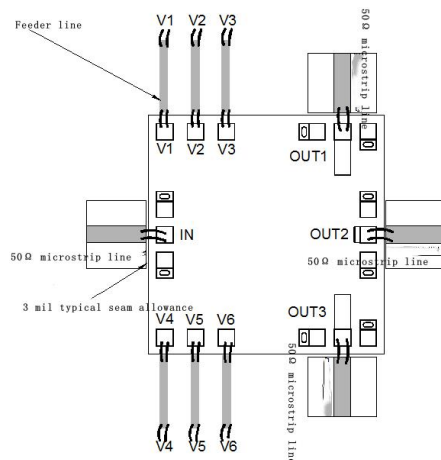
output return loss Vs temperature



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**Size diagram: (unit mm)**



**Suggested assembly drawing:****Instructions:**

**Note:** I/O no straight capacitance

**Storage:** The chip must be placed in a container with electrostatic protection and stored in a nitrogen environment.

**Cleaning treatment:** The bare chip must be operated and used in a purified environment. It is forbidden to use liquid cleaning agent to clean the chip.

**Electrostatic protection:** Strictly comply with the ESD protection requirements to avoid electrostatic damage to the components.

**General operation:** Use vacuum chuck or precision pointed tweezers to pick up the chip. Avoid touching the surface of the chip with tools or fingers during handling.

**Mounting operation:** The chip can be installed using AuSn solder eutectic welding or conductive adhesive bonding process. The mounting surface must be clean and flat.

**Bonding operation:** Input and output with 2 (recommended diameter of 25um gold wire) bonding wire, bonding wire length less than 250um is optimal. It is recommended to use the smallest possible ultrasonic energy. Bonding begins at the pressure point on the chip and ends at the package (or substrate).