

Product Datasheet - Technical Specifications



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Your contact

**Technical and commercial sales, price information,
quotations, demo/test equipment, consulting:**

Tel.: **+49 - 81 41 - 52 71-0**

FAX: **+49 - 81 41 - 52 71-129**

E-Mail: sales@meilhaus.com

Downloads:

www.meilhaus.com/en/infos/download.htm

Meilhaus Electronic GmbH | Tel. **+49 - 81 41 - 52 71-0**
Am Sonnenlicht 2 | Fax **+49 - 81 41 - 52 71-129**
82239 Alling/Germany | E-Mail sales@meilhaus.com

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Electronic solid state switches

- The products include PIN and FET switch
- Broadband, small VSWR, high isolation
- Fast Switching
- Perfect protection of circuit, high reliability

Millimeter-wave WG switches

- Broad bandwidth, working frequency up to 110GHz
- DPDT switches, can be used as SPDT
- Low insertion loss, high isolation, good standing wave

Electronic solid state switches

FET Series

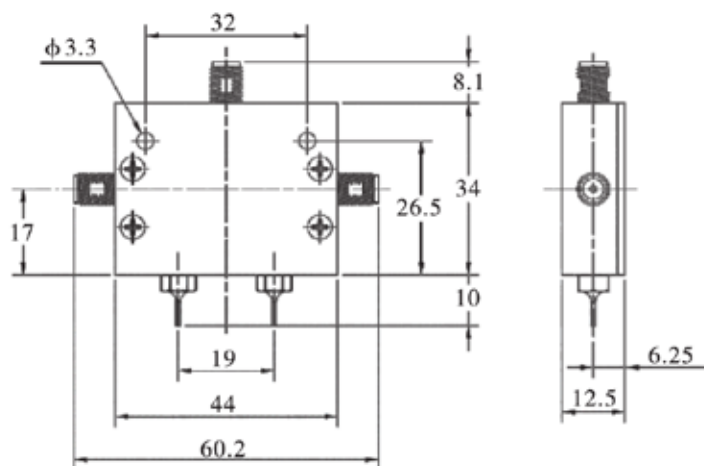
Model	AV70103	AV70104	AV70105
Type	SPDT (Reflective)	SPDT (Absorptive)	SPDT (Absorptive)
Frequency Range	300kHz...20GHz	300kHz...6GHz	300kHz...20GHz
Insertion Loss (dB Max)	3 (300kHz... 6GHz) 4.5 (6GH...20GHz)	4.8	5.5 (300kHz...6GHz) 9 (6GHz...20GHz)
Isolation (dB Min)	40 (300kHz...6GHz) 30 (6GHz...20GHz)	90	90 (300kHz...6GHz) 75 (6GHz...20GHz)
VSWR(Max)	2.0	1.4 (Off State) 1.6(On State)	1.6 (Off State) 2.0 (On State)
P-1 dB (dBm Typ >500MHz)	25	27	25
Switching time (µs Typ)	0.1	20	20
RF Connector Type	3.5mm (f)	3.5mm (f)	3.5mm (f)

Pin Series

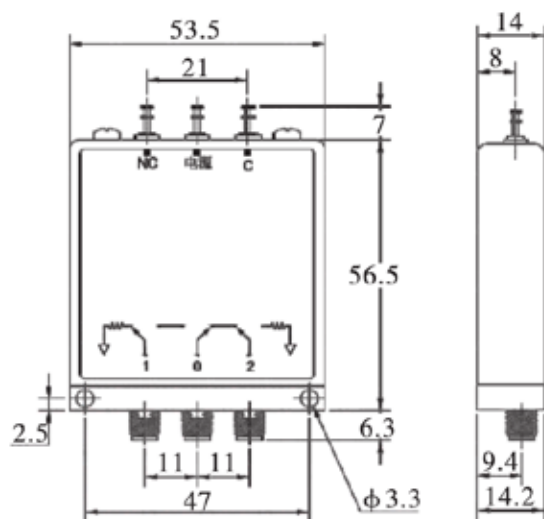
Model	Type	Frequency range (GHz)	Insertion Loss (dB Max)	Isolation (dBm Typ)	On State	Off State	Connector Type
AV80106	SP4T (Reflective)	10MHz...10GHz	2.8	30	1.7	-	3.5mm (f)
		10GHz...20GHz	3.5		2	-	
AV80109	SP16T (Reflective)	10MHz...20GHz	7	30	2	-	3.5mm (f)
AV80107	SP4T (Absorptive)	10MHz...10GHz	4.5	110	1.9	1.7	3.5mm (f)
		10GHz...20GHz			2.0	1.7	
AV80108	SP4T (Absorptive)	10MHz...10GHz	4.5	110	1.9	1.7	2.4mm (f)
		10GHz...20GHz			2.2	1.7	
		20GHz...40GHz	8	90	2.5	2.2	
AV80110	SP3T (Absorptive)	1MHz...18GHz	6	50	1.8	-	3.5mm (f)

Electronic solid state switches

AV70103

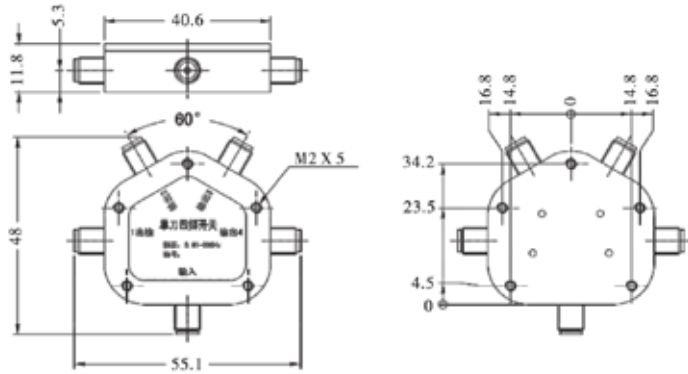


AV70104/AV70105

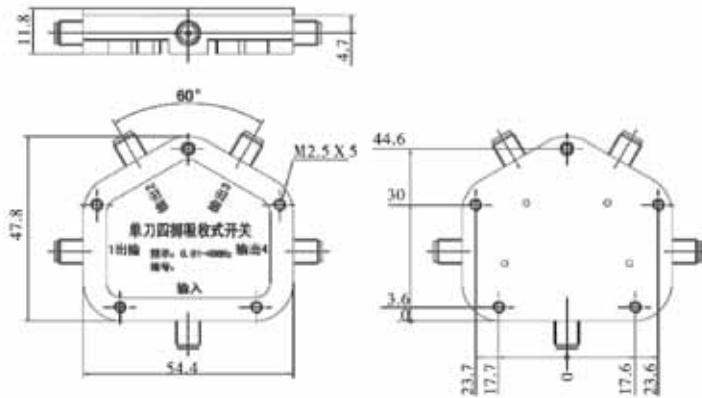


Dimensions

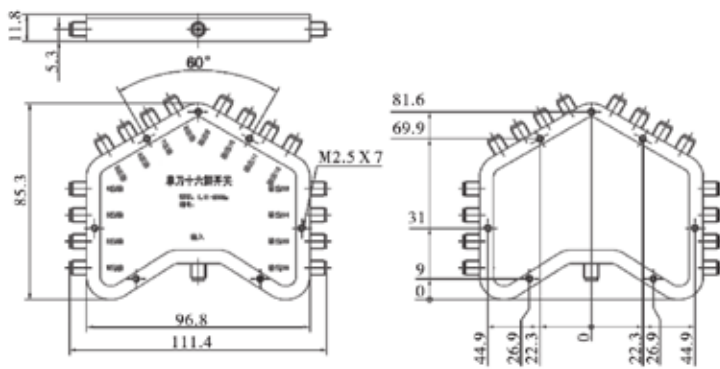
AV80106



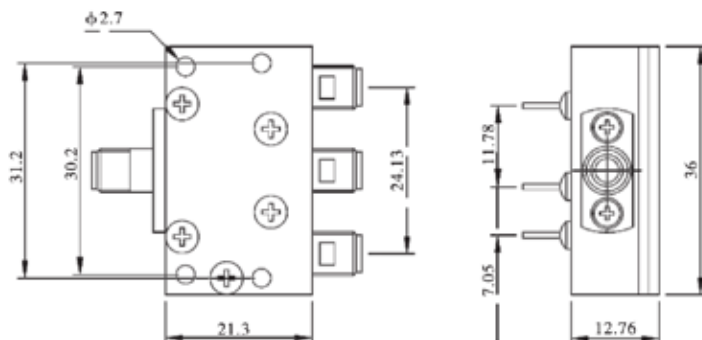
AV80107/AV80108



AV80109



AV80110

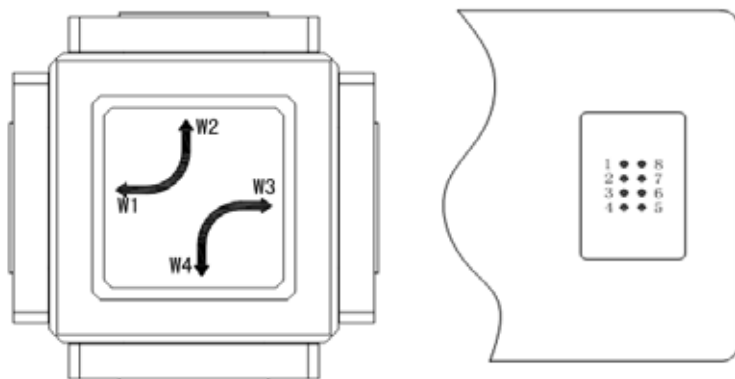


Millimeter-wave switches

Model	Frequency range (GHz)	Connector Type	Flange standard (UG)	Switching speed (Max ms)	Insertion loss (dB Max)	SWR (Max)	Isolation (dB Max)	Weight (g Max)
AV82101	50~75	WR15	UG-385/U-M	100	0.8	1.3	30	842±50
AV82102	75~110	WR10	UG-387/U-M	100	1	1.3	30	842±50
AV82103	40~60	WR19	UG-383/U-M	100	0.6	1.3	30	-
AV82104	26.5~40	WR28	UG-599/U	100	0.6	1.3	30	-
JH-BJ140/01-001S	12~17	WR62	UBR140	40	0.1	1.1	60	220±15
JH-BJ220-003S	18~26.5	WR42	UBR220	50	0.2	1.1	60	220±15
JH-BJ320-002S	18~26.5	WR28	UG-599/U	50	0.2	1.1	60	220±15

Millimeter-wave switches

AV80101/AV80102/AV80103/AV80104 Working conditions:



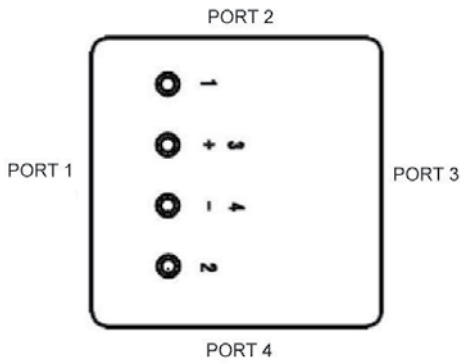
Logical definition

Control state	Control level
Low	0V±1V @ 0mA
High	+12V±1V @ 230mA

Pin	Control state	Switch state
5	High	W1 and W2 breakover, W3 and W4 breakover
6		
7	Low	W1 and W2 breakover, W1 and W4 cut-off
8		
5	High	W1 and W2 cut-off, W3 and W4 cut-off
6		
7	Low	W1 and W4 breakover, W1 and W2 cut-off
8		

Millimeter-wave switches

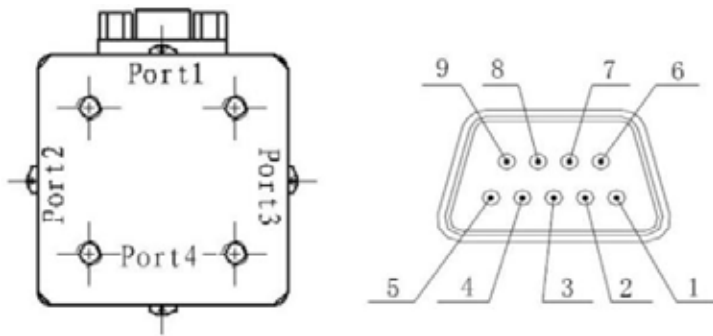
JH-BJ140/01-001S Working conditions:



Pin 1	Pin 2	Pin 3	Pin 4	Microwave conducting channel
TTL high level	TTL low level	DC 28 V.	Negative polarity (needs grounding)	Port 1 → Port 2
				Port 3 → Port 4
TTL low level	TTL high level			Port 1 → Port 4
				Port 2 → Port 3

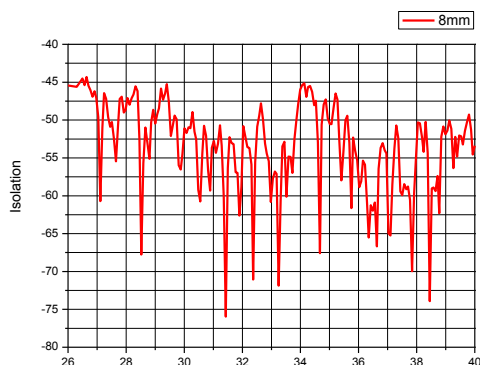
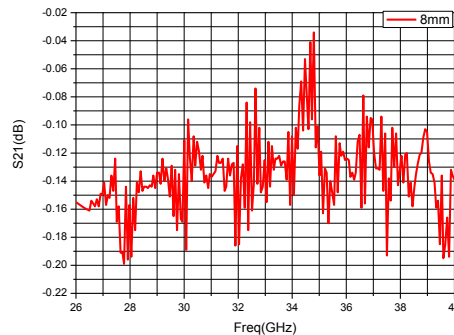
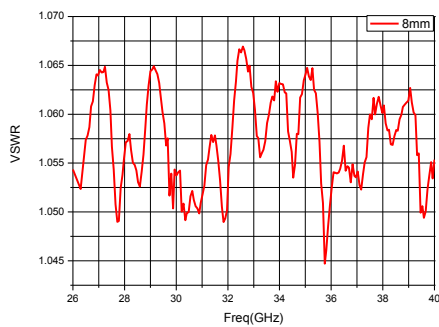
Millimeter-wave switches

JH-BJ220-003S/JH-BJ320-002S Working conditions:



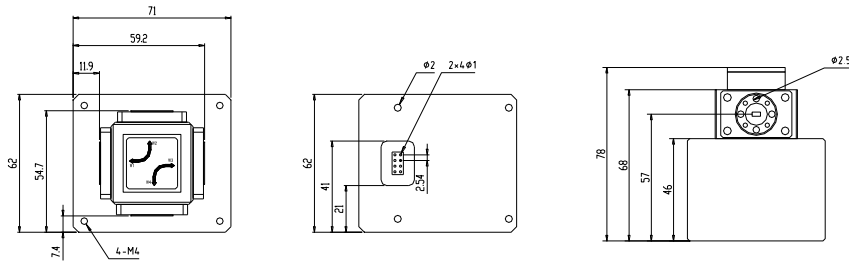
Drive signal power-on	Indicating circuit	Switch status
1 connects high level (28V), 2 connects low level (0V-0.8V), 3 is grounded	6 and 8 breakover; 7 and 8 cut-off	Status 1 port1-port2 breakover port3-port4 breakover
2 connects high level (28V), 1 connects low level (0V-0.8V), 3 is grounded	7 and 8 breakover; 6 and 8 cut-off	Status2 port1-port3 breakover port2-port4 breakover

Typical Testing Curve:

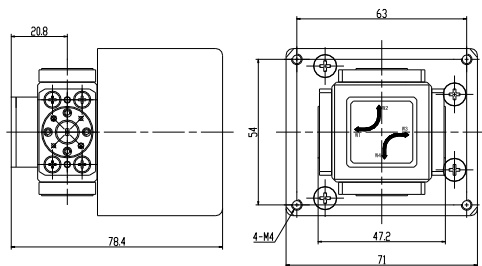


Millimeter-wave switches

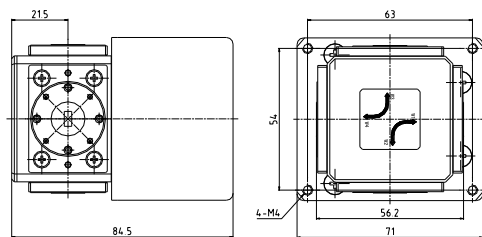
AV82101



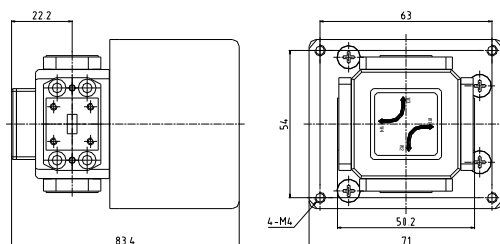
AV82102



AV82103

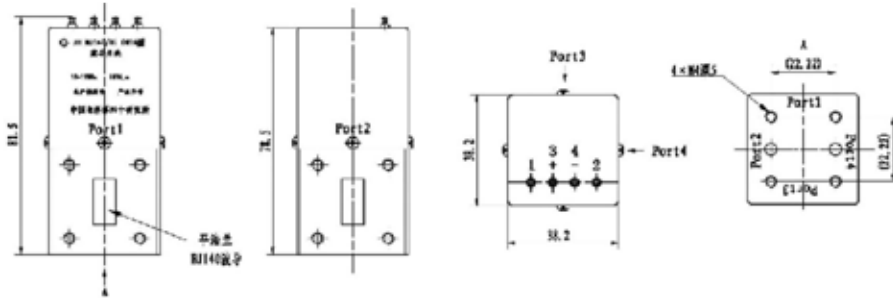


AV82104

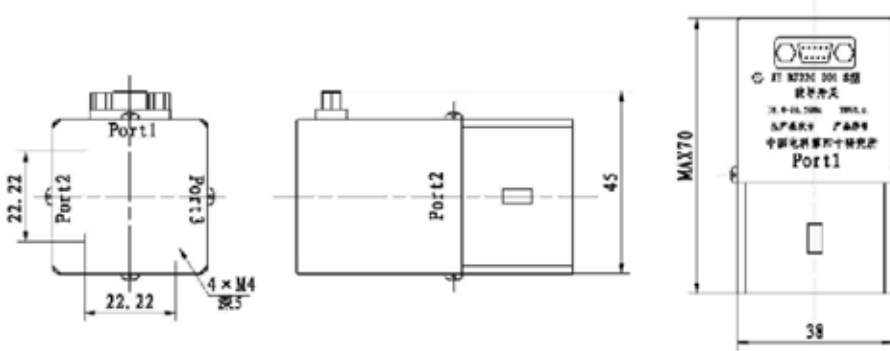


Millimeter-wave switches

JH-BJ140/01-001S



JH-BJ220-003S



JH-BJ320-002S

