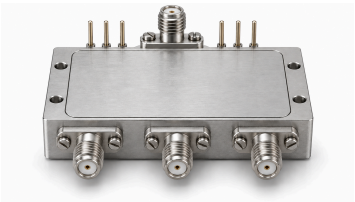
30 MHz–6 GHz PIN Diode SP3T RF Switch Module



PIN diode SP3T module for RF path selection from 30 MHz to 6 GHz. Insertion loss is 3 dB typical and 3.5 dB maximum; isolation is 80 dB typical and switching time 200 ns typical.

The common port J0 selects J1, J2 or J3 through TTL controls E1, E2 and E3. The power interfaces are +5 V, −5 V and GND; TTL high is 3.3 V or 5 V and low is 0 V. SMA female RF connectors fit the 40 × 20 × 10.2 mm enclosure; weight is 25 g typical.

Environmental values are design targets: −20 °C to +50 °C operation, −25 °C to +125 °C storage.

Electrical specifications

Parameter	Value	Unit
Frequency range	30–6000	MHz
Insertion loss [1]	3 /3.5	dB
VSWR [2]	2.0	-
Isolation	80 (Typical)	dB
Switching time	200 (Typical)	ns
CW RF power [3]	30	dBm

[1] Typical: 3 dB; Maximum: 3.5 dB

[2] Maximum: 2

[3] Maximum: 30 dBm

Absolute maximum ratings

Parameter	Value	Unit
RF input level without damage	+30 (Maximum: 30 dBm)	dBm

Environmental design targets

Parameter	Value	Unit
Operating temperature	−20–+50 (Design target)	°C
Storage temperature	−25–+125 (Design target)	°C

Power and control interfaces

Interface	Specification	Unit
RF input J0	SMA female	-
RF outputs J1/J2/J3	SMA female	-

Power and control interfaces

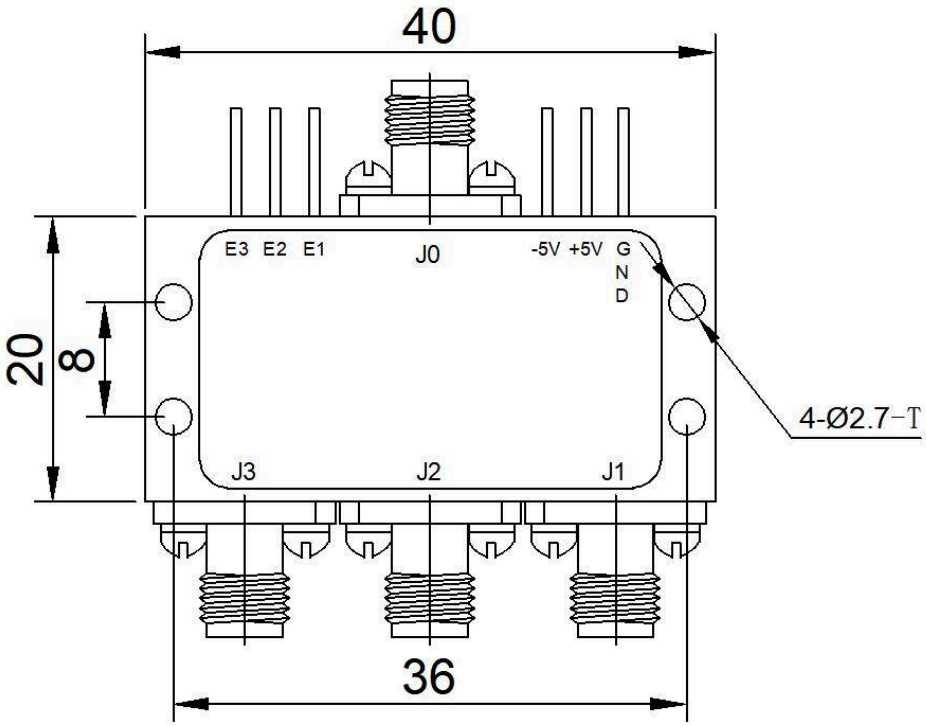
Interface	Specification	Unit
DC connector	Feed-through pin	-
Ground connection	Ground pole pin	-
Positive supply rail	+5	V
Negative supply rail	−5	V
Ground	GND	-
TTL high level	3.3 /5	V
TTL low level	0	V
Control bits	E1, E2, E3	-

TTL selection truth table

Parameter	Value
E3/E2/E1 =110	J0 → J1
E3/E2/E1 =101	J0 → J2
E3/E2/E1 =011	J0 → J3

Mechanical specifications

Parameter	Value	Unit
Dimensions	40 × 20 × 10.2	mm
Weight	25 (Typical: 25 g)	g



Document notice

Specifications are subject to revision. Before design release, confirm the current document revision and product-specific requirements with LCRF. The approved quotation and order documentation define the supplied configuration.