DC–12.4 GHz Failsafe Electromechanical SPDT RF Switch

This configuration specifies failsafe operation, with 350 W CW handling over DC–5 GHz and 250 W over 5–12.4 GHz. Switching time is ≤15 ms.

TTL current is 5–10 mA. Contact 1 is VDC, contact 2 TTL and contact 3 GND, while contacts 4–9 are NC; RF connectors are N female.



General specifications

Parameter	Value	Unit
Model number	LCSPDT-DC12400-N	-
Switch type	SPDT	-
Frequency range	DC–12.4 (Minimum: 0 GHz. Maximum: 12.4 GHz.)	GHz
Drive mode	Failsafe	-
Control option	TTL	-
Impedance	50	Ω
Switching speed	≤15	ms
Switching life	2000000 cycles	-

Electrical specifications

Parameter	Value	Unit
Insertion loss — DC–5 GHz [1]	≤0.3	dB
Isolation — DC–5 GHz [2]	≥70	dB
VSWR — DC–5 GHz [3]	≤1.3	-
CW power handling — DC–5 GHz [4]	350	W
Insertion loss — 5–12.4 GHz [5]	≤0.5	dB
Isolation — 5–12.4 GHz [6]	≥60	dB
VSWR — 5–12.4 GHz [7]	≤1.5	-
CW power handling — 5–12.4 GHz [8]	250	W

[1] DC–5 GHz Maximum: 0.3 dB.
[2] DC–5 GHz Minimum: 70 dB.
[3] DC–5 GHz Maximum: 1.3.
[4] DC–5 GHz
[5] 5–12.4 GHz Maximum: 0.5 dB.
[6] 5–12.4 GHz Minimum: 60 dB.
[7] 5–12.4 GHz Maximum: 1.5.
[8] 5–12.4 GHz

Power configuration options

Parameter	Value	Unit
Failsafe current — 28 V [1]	150	mA
Failsafe current — 24 V [2]	180	mA
Failsafe current — 12 V [3]	300	mA

[1] Discrete voltage configuration; no continuous supply range inferred. 28 V
[2] Discrete voltage configuration; no continuous supply range inferred. 24 V
[3] Discrete voltage configuration; no continuous supply range inferred. 12 V

Optional TTL specifications

Parameter	Value	Unit
TTL low voltage	0–0.3 (Minimum: 0 V. Maximum: 0.3 V.)	V
TTL high voltage	3–5 (Minimum: 3 V. Maximum: 5 V.)	V
TTL current	5–10	mA

Integration guidance

Parameter	Value
Supply and ground connection	Connect VDC and GND before operation.

Environmental limits

Parameter	Value	Unit
Operating temperature [1]	−25–+65	°C
Storage temperature [2]	−55–+85	°C
Shock [3]	50 G / 11 ms	-
Vibration [4]	10 G RMS / 20–2000 Hz	-

[1] Maximum: 65 °C.
[2] Maximum: 85 °C.
[3] Non-operating shock.
[4] Operating vibration.

Control interfaces

Parameter	Value
TTL contact — 1 [1]	VDC
TTL contact — 2 [2]	TTL
TTL contact — 3 [3]	GND
TTL contact — 4–9 [4]	NC

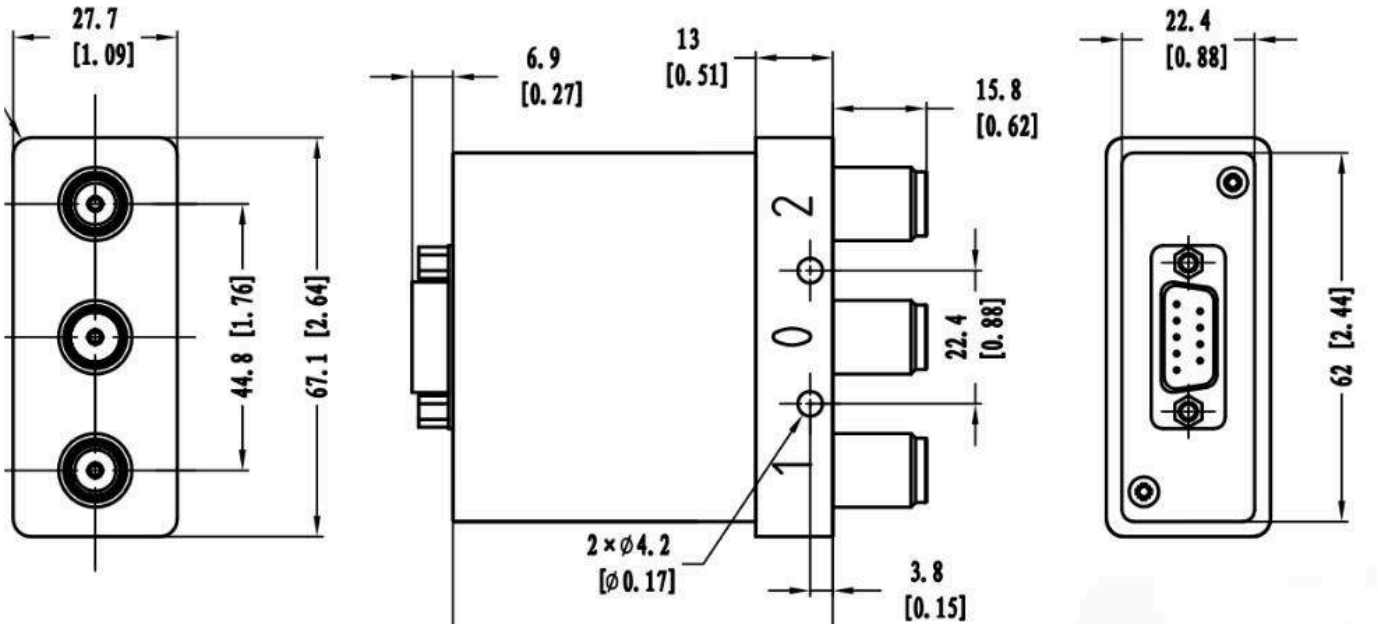
[1] 1
[2] 2
[3] 3
[4] 4–9

Switching states

Parameter	Value
Failsafe, power off	RF0–1
TTL low path	RF1–COM
TTL high path	RF2–COM

Mechanical specifications

Parameter	Value	Unit
RF connectors	N — Female	-
Control connector	Pins / D-Sub 9-pin male	-
Weight	250	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.