1000–12000 MHz GaN SPDT MMIC Switch Die

LCI-SW-1000-12000-SPDT — 1000–12000 MHz GaN SPDT MMIC Switch Die.

Insertion loss: 1 dB (typical); Isolation: 34 dB (minimum) / 63 dB (maximum); Input power at 0.2 dB compression: 43 dBm (typical). Die dimensions: 2.45 × 1.2 × 0.1 mm.



RF characteristics

TA = +25 °C

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	-	1000	-	12000	MHz
Insertion loss	-	-	1	-	dB
Isolation	-	34	-	63	dB
Input power at 0.2 dB compression	-	-	43	-	dBm
Switching time	-	-	10	-	ns

DC bias and current

Parameter	Symbol	Minimum	Typical	Maximum	Value
Control voltage	-	-	-	-	V1 = -28 V; V2 = 0 V (RFC ↔ RF1)
Control voltage	-	-	-	-	V1 = 0 V; V2 = -28 V (RFC ↔ RF2)

Absolute limits

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Minimum gate bias	-	-60	-	-	V
Maximum input power	-	-	-	43	dBm

Environmental specifications

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Storage temperature	-	-65	-	150	°C
Operating temperature	-	-55	-	85	°C

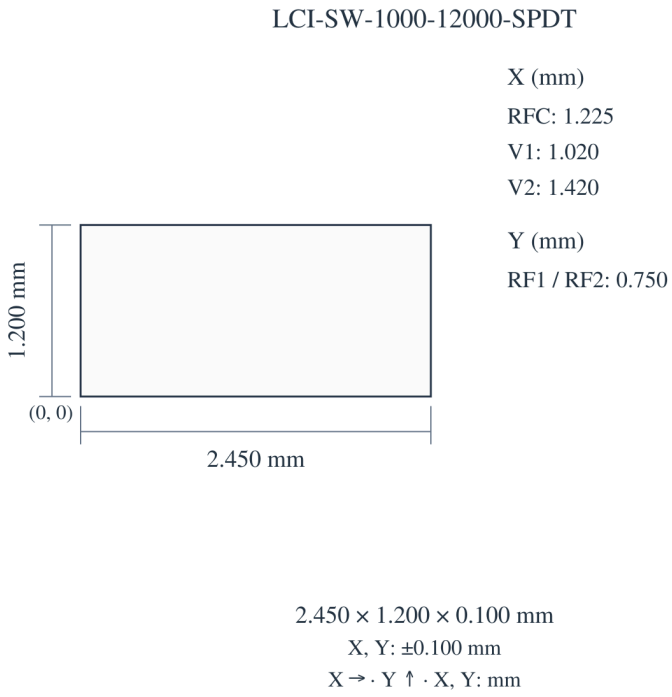
Bond-pad assignments

Pins	Symbol	mm
1	RFC	0.120 × 0.080
2, 3	RF1, RF2	0.120 × 0.080
4, 5	V1, V2	0.100 × 0.100

Die dimensions

Parameter	Value	Unit
Die dimensions	2.45 × 1.2 × 0.1	mm

Outline and dimensioned coordinates in mm. Use this drawing as a dimensional reference. Fabrication and wire bonding require complete drawings.



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Die integration and bias sequencing

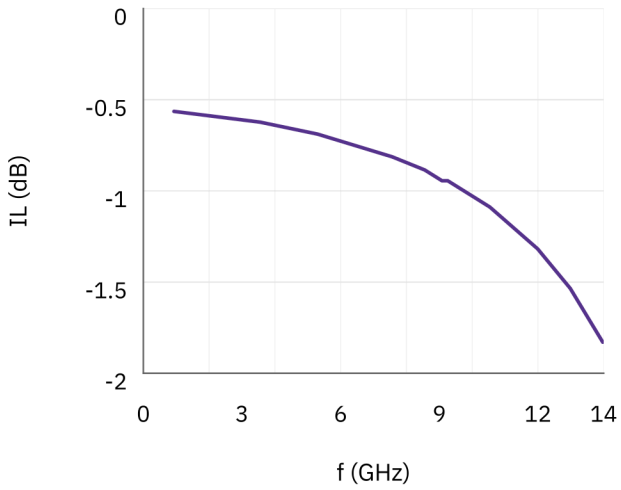
The RF ports do not require external DC-blocking capacitors. The die uses 0/−28 V gate controls; TTL control requires an external driver.

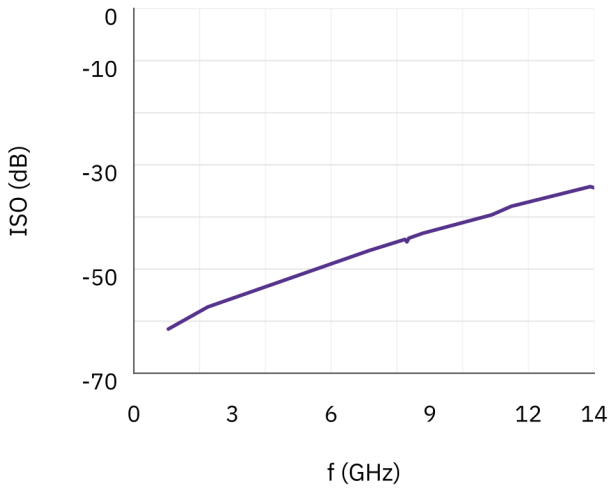
Performance curves

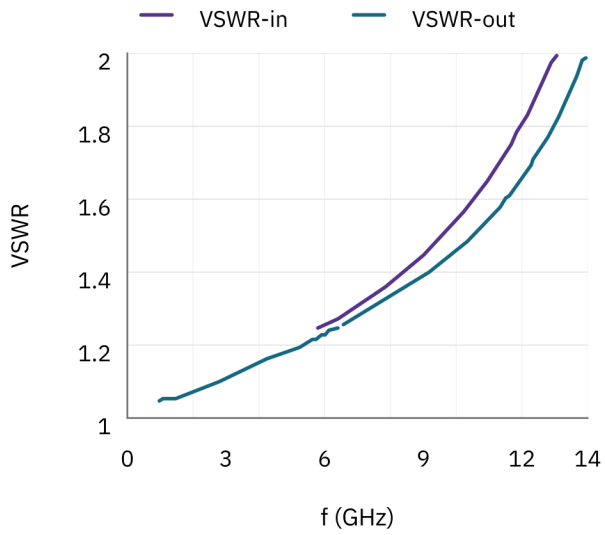
Each performance plot applies to its stated operating conditions.

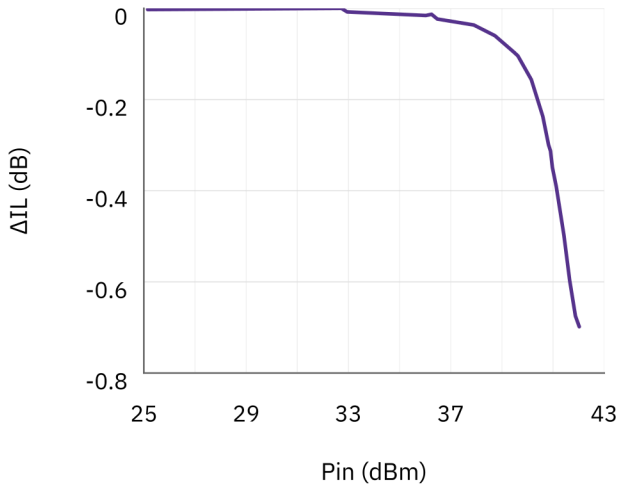
Input/output matching; Isolation; Insertion loss; ΔIL (dB).

Figure notes: TA=+25°C. Readings are approximate. f = 6 GHz; Pin = 25–43 dBm. IL and ISO are plotted as signed dB values. The compression plot shows ΔIL versus Pin at 6 GHz. A 1 dB threshold is unspecified.









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.