

## Product Features

- Single Voltage: 2.4V to 5.0V
- 39dBm P0.1dB
- 30dB Isolation at 2.5GHz
- Compact 2.0mm x 2.0mm x 0.55 mm, DFN package

## Product Applications

- IEEE 802.11a/n WiFi Systems
- IEEE 802.16 WiMAX Systems
- IEEE 802.15.4 ZigBee Systems
- Customer Premise Equipment (CPE)
- Wireless Access Points, Gateways and Router Applications
- ISM Band Transmitter Applications

## Product Description

The LXSW8000 is a high-power single-pole double-throw (SPDT) switch designed for high performance wireless applications. This wideband switch has been designed for use from 10MHz to 6.0GHz, where extremely high linearity, high isolation, low insertion loss, and small package size are required. Switching for the LXSW8000 is controlled via two control voltage inputs.

The LXSW8000 is manufactured in a CMOS silicon-on-insulator (SOI) process and packaged in an 8-pin, 2.0mm x 2.0mm x 0.55 mm Dual-Flat-No-Lead (DFN) plastic package.

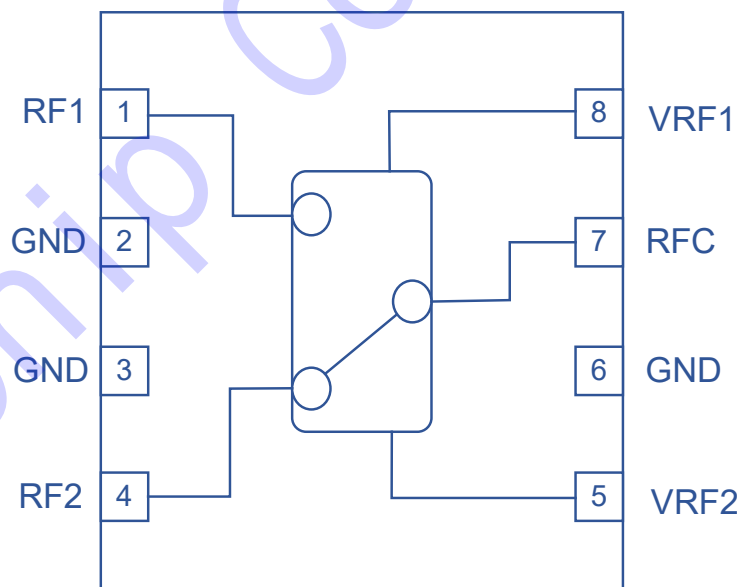


Figure 1 Functional Block Diagram

## Pin information

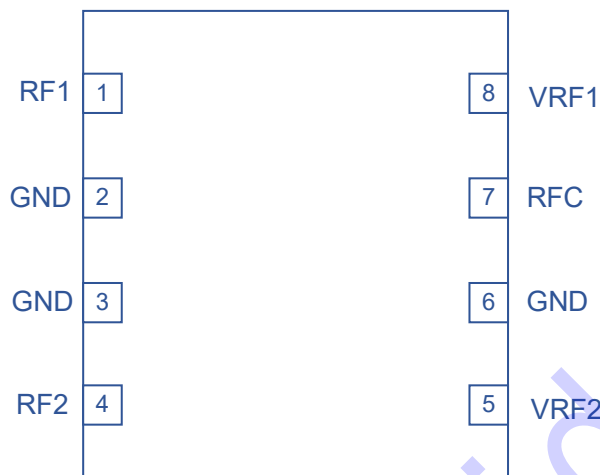


Figure 2 Pin-out (TOP view)

Pin	Name	Description
1	RF1	RF port 1 is internally matched to 50Ω.
2	GND	Ground connection.
3	GND	Ground connection.
4	RF2	RF port 2 is internally matched to 50Ω.
5	VRF2	Logic control for RF2 port.
6	GND	Ground connection.
7	RFC	RF common port is internally matched to 50Ω.
8	VRF1	Logic control for RF1 port.
Pkg Base	GND	Ground connection. The back side of the package should be connected to the ground plane through as short connection as possible. PCB vias under the device are recommended.

## Truth Table

Switch status		Logic Control	
RF1 to RFC	RF2 to RFC	VRF1	VRF2
ON	OFF	High	Low
OFF	ON	Low	High

## Electrical Characteristics

Parameter	Rating	Unit
Supply Voltage (RF Applied)	-0.5 to +5.0	V
DC Supply Current	10	mA
Input RF Power	+40	dBm
Max Input Power, OFDM Modulated, 3:1 Load VSWR	+36	dBm
Operating Ambient Temperature	-40 to +85	°C
Storage Temperature	-40 to +150	°C
Moisture Sensitivity	MSL1	

**Note:** Exceeding any one or a combination of the Absolute Maximum Rating conditions may cause permanent damage to the device. Extended application of Absolute Maximum Rating conditions to the device may reduce device reliability. Specified typical performance or functional operation of the device under Absolute Maximum Rating conditions is not implied.

(VDD=3.3V, VCH=1.8V, VCL=0V, PIN=0dBm, ZO=50Ω, TA=25°C, Unless Otherwise Stated)

Parameter	Path	Condition	Min	Typ.	Max	Unit
Operational frequency			0.1		6	GHz
Insertion loss	RFC-RFX	0.1–2.4 GHz		0.43	0.58	dB
		2.4–5.8 GHz		0.65	0.75	dB
		5.8–6.0 GHz		0.95	1.05	dB
Isolation	RFX-RFX	0.1–2.4 GHz	30	32		dB
		2.4–5.8 GHz	23	28		dB
		5.8–6.0 GHz	18	20		dB
Isolation	RFC-RFX	0.1–2.4 GHz	27	32		dB
		2.4–5.8 GHz	20	25		dB
		5.8–6.0 GHz	15	20		dB
Return loss (common and active port)	RFX	0.1–2.4 GHz		25		dB
		2.4–5.8 GHz		18		dB
		5.8–6.0 GHz		15		dB
Return loss (terminated port)	RFX	0.1–2.4 GHz		23		dB
		2.4–5.8 GHz		23		dB
		5.8–6.0 GHz		22		dB
Input 0.1 dB compression point	RFC-RFX	0.6–4.0 GHz		39		dBm
2nd Order Harmonic	RFC-RFX	0.8 to 2.7GHz @30dBm	-60	-65		dBm
		4.8 to 6.0GHz @30dBm	-55	-60		dBm
3rd Order Harmonic	RFC-RFX	0.8 to 2.7GHz @30dBm	-60	-66		dBm
		4.8 to 6.0GHz @30dBm	-55	-60		dBm
Switching time		50% CTRL to 90% or 10% of final value		400	700	ns

## Package Outline Dimensions

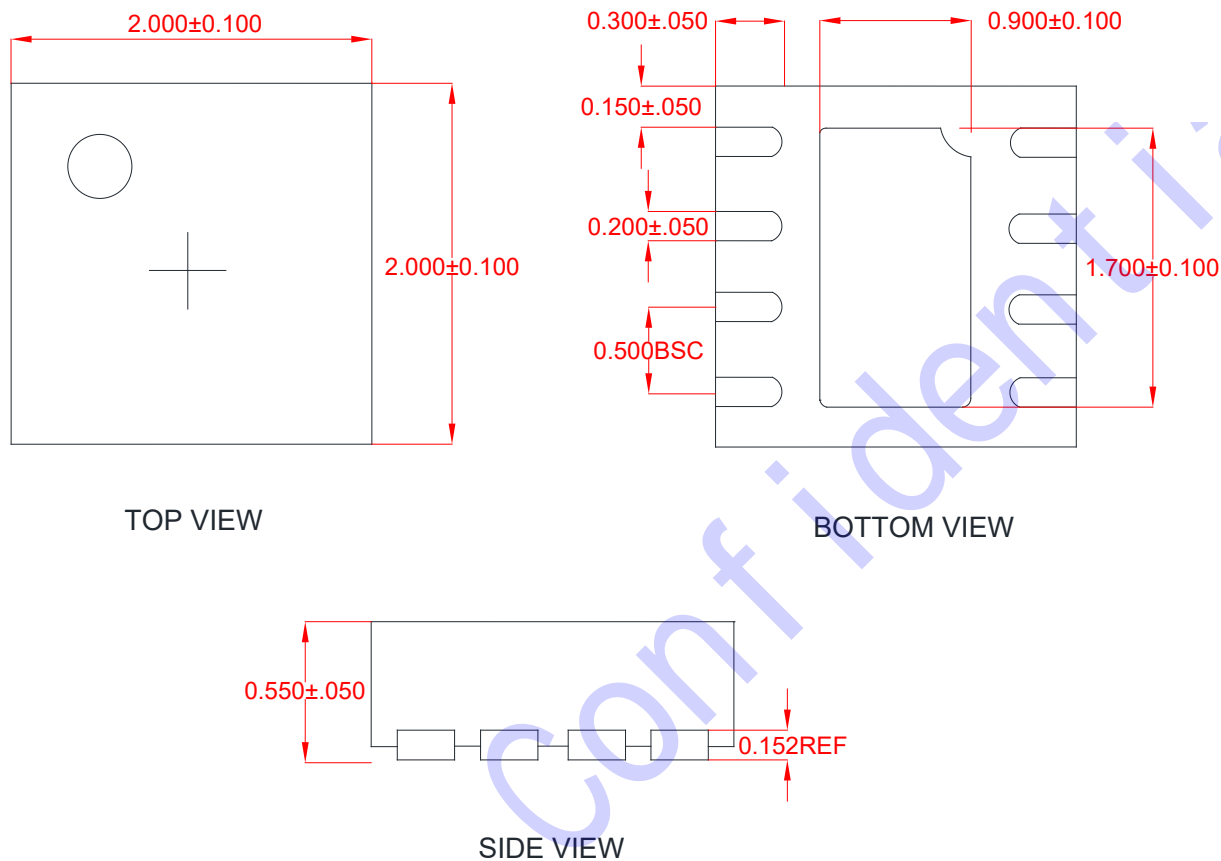


Figure 3 Package Dimension

## Marking Specifications



Figure 4 Marking Specifications (Top View)

## Tape and Reel Dimensions

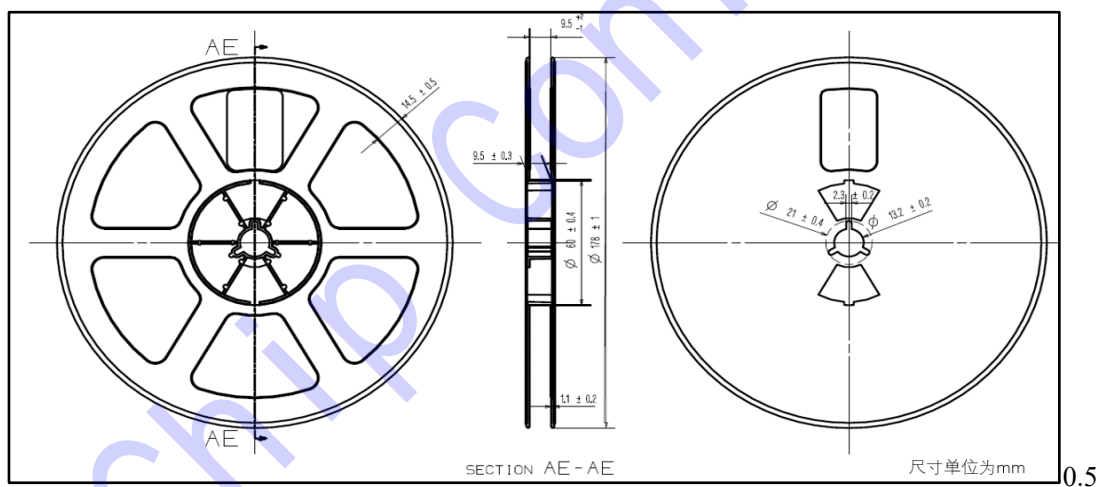
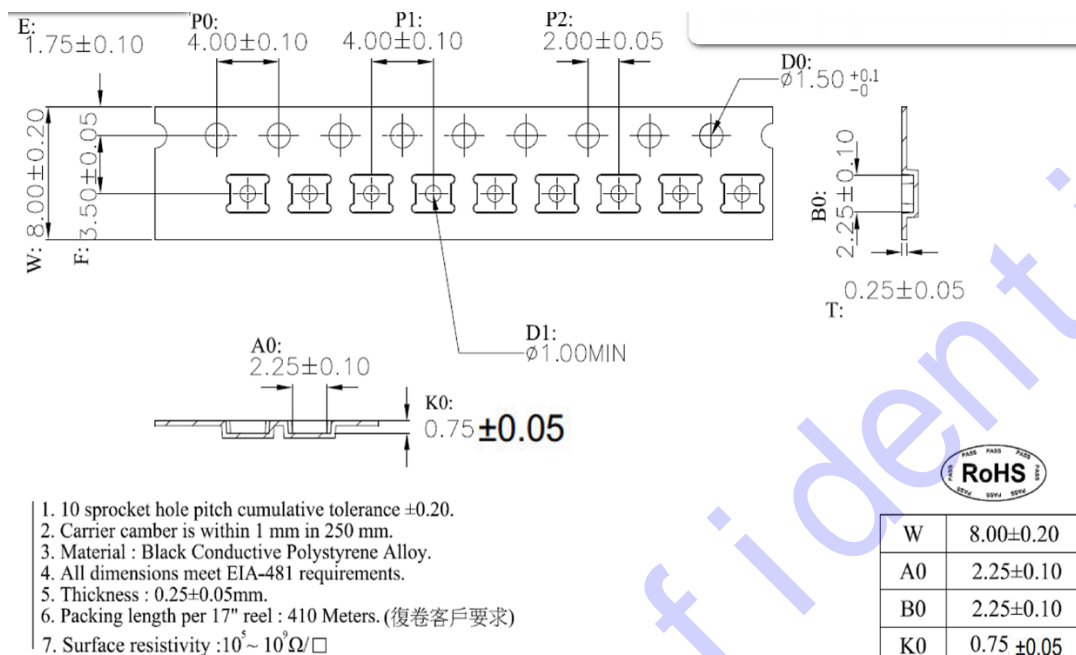
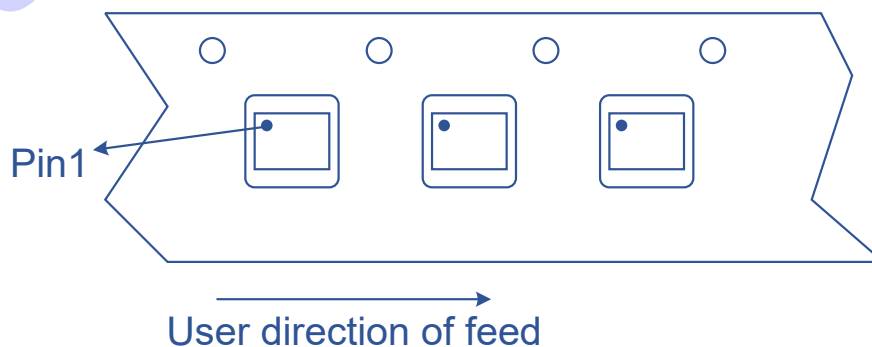
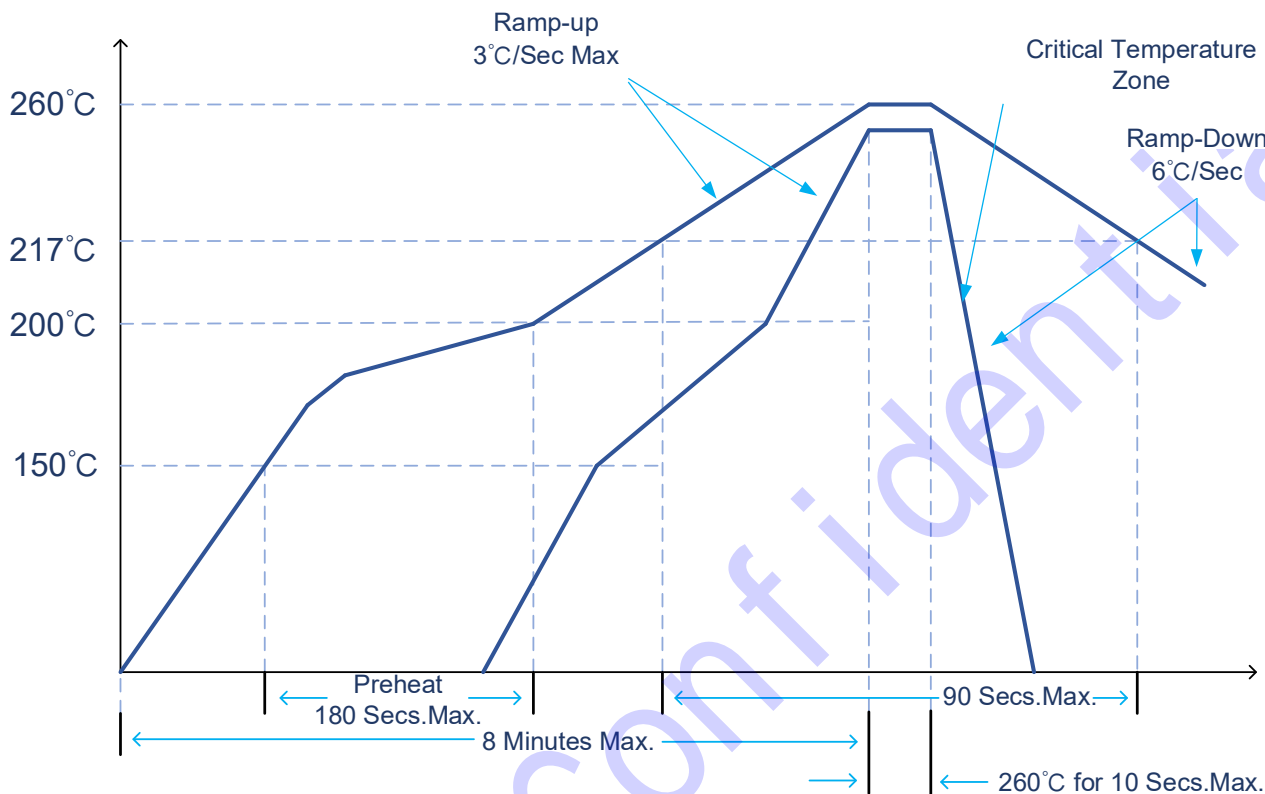


Figure 5 Tape and Reel Dimensions

## Pin1 Orientation



## Reflow Chart



NOTE: Reflow Profile with 240°C peak also acceptable.

Figure 6 Recommended Lead-Free Reflow Profile

## ESD Sensitivity

Integrated circuits are ESD sensitive and can be damaged by static electric charge. Proper ESD protection techniques should be applied when devices are operated.

## RoHS Compliant

This product does not contain lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE), and are considered RoHS compliant.