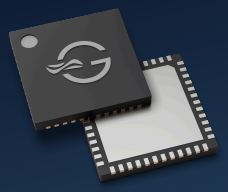
TAGORE

New: GaN 4T tuning switch, 50 W

TS63430D

A fully integrated GaN 4-throw tuning switch with 0.5 Ω on-resistance and 50 W CW, from 1 MHz to 1 GHz, in a 3 × 6 mm package.



0.5 Ω
On-resistance

50 W
CW power

100 V
RF peak voltage

< 1 mW
Single 2.6–5.25 V supply

What it does for your design

- **Built for high-power tuning.** 50 W CW and 100 V peak, with the highest pulse power in the industry.
- **No sudden breakdown.** Unlike SOI, GaN does not break down suddenly under high RF voltage.
- **Very low loss.** 0.5 Ω on-resistance: 0.12 dB at 500 MHz.
- **Fully integrated.** A single 2.6 – 5.25 V supply. No negative supply.
- **No power derating.** Full performance with a 5.9 µs switching time.
- **Low power.** Under 1 mW.

Built for

Tactical radio · Tunable filters · Antenna tuning · Medical ultrasound · MRI

Key specifications

Parameter	Typical
Frequency range	1 – 1000 MHz
On-resistance	0.5 Ω
RF peak voltage	100 V
Power handling	50 W CW
Insertion loss	0.09 dB @ 50 MHz · 0.17 dB @ 1 GHz
Supply	2.6 – 5.25 V, no negative supply
Switching time	5.9 µs
Package	32-pin QFN, 3.0 × 6.0 × 0.75 mm

Why GaN for tuning

Typical SOI tuning switches
Lower power and voltage handling, and sudden breakdown under high RF voltage.

With the TS63430D
50 W and 100 V peak with 0.5 Ω, from one low-voltage supply.

Choose the right tuning switch

Part (click for datasheet)	Type	R_{ON}	Peak voltage	Frequency	Package
TS63430D ↗	**4T, series**	**0.5 Ω**	**100 V**	**1 – 1000 MHz**	**QFN 3 × 6**
TS63432D ↗	4T, shunt	0.5 Ω	100 V	1 – 1000 MHz	QFN 3 × 6
TS63560D ↗	4T/5T binary, series	0.5 / 1 / 2 Ω	100 V	1 – 1000 MHz	QFN 3 × 6
TS63410K ↗	SP4T, 4-bit	1.1 Ω	100 V	1 MHz – 3 GHz	QFN 3 × 3

Need 50 W series tuning? Choose the **TS63430D**. Need shunt to ground? Choose the TS63432D. Need binary-weighted steps? Choose the TS63560D.

Get started

STEP 1
Read the datasheet
Scan the code or visit
tagoretech.com/Product_Doc/TS63430D.pdf

STEP 2
Order samples
TS63430D
TS63430D-EVB · evaluation boards
From DigiKey, Richardson RFPD or your TagoreTech representative.

STEP 3
Talk to an expert
Our applications team will help you design it in.
support@tagoretech.com

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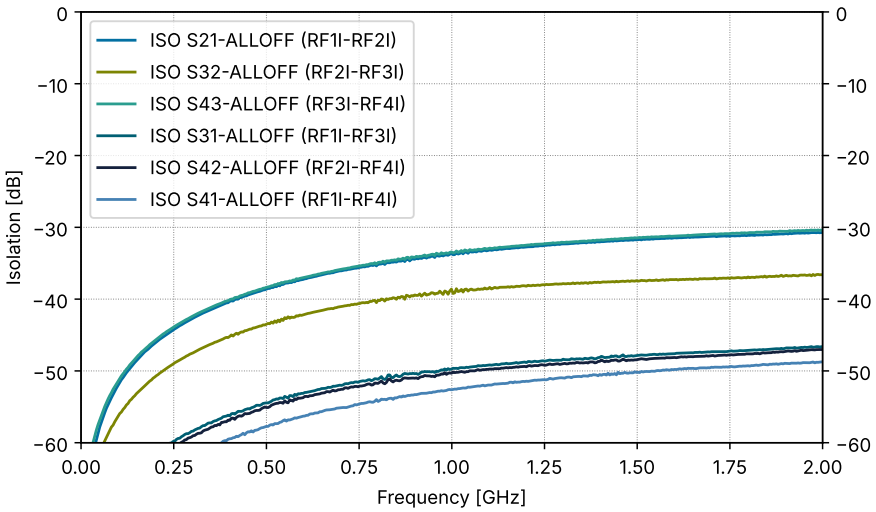
Typical performance

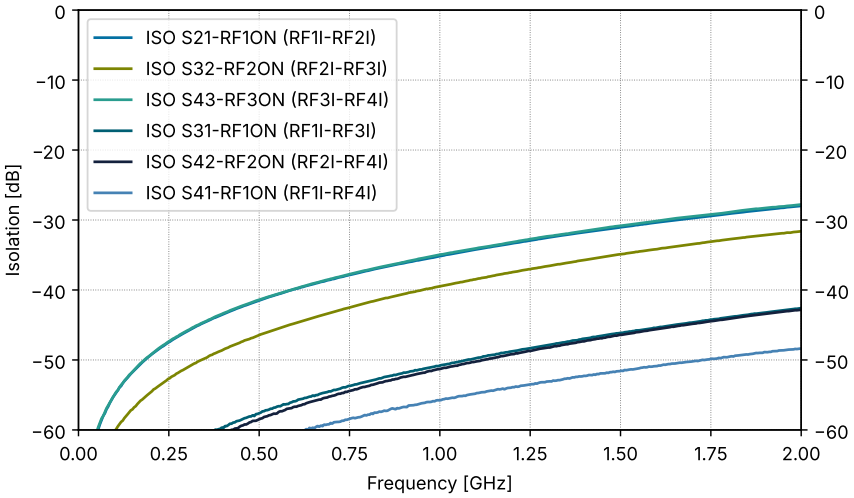
Measured curves from the TS63430D datasheet, T_A = 25 °C, 50 Ω.

Isolation between the throws

Two throws ON



Isolation from the ON throws to the OFF throws



Typical values

Parameter	50 MHz	500 MHz	1 GHz
Insertion loss, throw ON (dB)	0.09	0.12	0.17
Isolation, throw OFF (dB)	37	17	12

Full data, S-parameters and evaluation board details in the datasheet at tagoretech.com/Product_Doc/TS63430D.pdf.

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