



Toshiba announces new SPDT RF switch in a compact package

New device supports the needs of increased capacity base stations

Düsseldorf, Germany, 15th August 2024 – Toshiba Electronics Europe GmbH (“Toshiba”) has just released a new RF single-pole, double-throw (SPDT) switch in a compact package, suitable for applications such as telecommunications base stations, industrial equipment, repeaters, consumer equipment, and transceivers.

The new high-power RF SPDT switch from Toshiba (TCWA1225G) offers an input peak power of 46 dBm (@ 8dB PAR). This has been achieved by adopting Toshiba’s original CMOS process and optimising the internal switching circuitry. The CMOS process also reduces insertion loss to avoid lowering transmit power and receiver sensitivity. As a result, the insertion loss of the TCWA1225G is 0.6 dB (typ. @ 5GHz) – around 10% lower than competitive products.

The operating voltage is nominally 3.3V and power consumption is just 50µA. The new device is capable of operating in ambient temperatures from -40°C to +95°C.

The TCWA1225G is housed in a tiny Wafer-level Chip Scale Package (WCSP) measuring just 1.9mm x 1.9mm – giving a footprint around 10% smaller than other devices. All important pads including RF terminals, power and control are placed on the periphery of the device to simplify PCB layout.

As part of the 5G rollout, telecommunications base stations have recently introduced Massive MIMO (Multiple Input, Multiple Output) and several TX/RX antennae to deliver ultra-high-speed and ultra-large-capacity radio communications services.

Individual antennas are increasingly composed of complex signal transmission paths that need RF switching. This requires low insertion loss and high input power in a compact package so that antenna size is maintained or reduced.

Learn more about the new high-power RF SPDT switch on Toshiba's website:

<https://toshiba.semicon-storage.com/eu/semiconductor/product/radio-frequency-devices/detail.TCWA1225G.html>

Volume shipments of the new device are starting now.

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About Toshiba Electronics Europe

[Toshiba Electronics Europe GmbH](#) (TEE) offers European consumers and businesses a wide variety of hard disk drive (HDD) products plus semiconductor solutions for automotive, industrial, IoT, motion control, telecoms, networking, consumer, and white goods applications. Next to HDDs, the company's broad portfolio encompasses power semiconductors and other discrete devices ranging from diodes to logic ICs, optical semiconductors as well as microcontrollers and application specific standard products (ASSPs) amongst others.

In addition, TEE also offers Toshiba's SCiB™ battery cells and modules with lithium titanium oxide (LTO) for heavy-duty applications and Silicon Nitride (SiN) ceramic substrates used in power semiconductor modules, inverters, and converters for their heat dissipation characteristics and strength.

TEE has its headquarters in Düsseldorf, Germany, with branch offices in France, Italy, Spain, Sweden and the United Kingdom providing marketing, sales and logistics services.

Visit Toshiba's websites at www.toshiba.semicon-storage.com, www.scib.jp/en and www.toshiba-tmat.co.jp/en/ for further company and product information.

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