

12 mΩ Power Switch with Current Limit and Charging Port Controller

1 DESCRIPTION

The SC7005 is a power switch which integrates an ultra-low R_{dson} (12mΩ) N-channel MOSFET. It is designed for USB port applications or other applications which require high current switch. It provides current limit function, and the current limit can be programmable through an external resistor. The SC7005 also integrates USB Type-C Downstream Facing Port (DFP) controller function. It can support the type-C USB port with Channel Configuration (CC) signals. It can detect the attachment/detachment of the sink device, and control the on/off of the switch automatically.

The SC7005 also supports various protections, including over voltage protection, under voltage protection, short circuit protection, and thermal shutdown protection.

The SC7005 requires a minimum number of external components to complete USB switch and charging port solution. It is available in TSOT23-8 package.

3 APPLICATIONS

- USB chargers
- Type-C charger
- USB HUB
- USB power supplies
- USB peripherals

2 FEATURES

- 12mΩ Ultra-low R_{dson} NMOS Switch
- Programmable Current Limit
- ± 5% Current Limit Accuracy at typical application
- Built-in Soft-Start
- Ultra-low Operation Current
- Status Indication
 - ✓ Device Removal Indication
 - ✓ Short Circuit Fault Indication
- USB Type-C Downstream Facing Port (DFP/Source) Controller Function
- Input Under Voltage Protection
- Input Over Voltage Protection
- Over Current Protection
- Short Circuit Protection
- Thermal Shutdown Protection
- ±8kV HBM ESD Rating for USB IO pins
- TSOT23-8 package

4 ORDERING INFORMATION

Part Number	Package	Dimension
SC7005SAER	TSOT23-8	2.92*2.8*0.95 mm