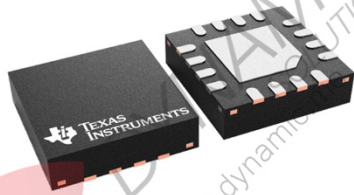


TPS2546 USB Charging Controller IC



Features:

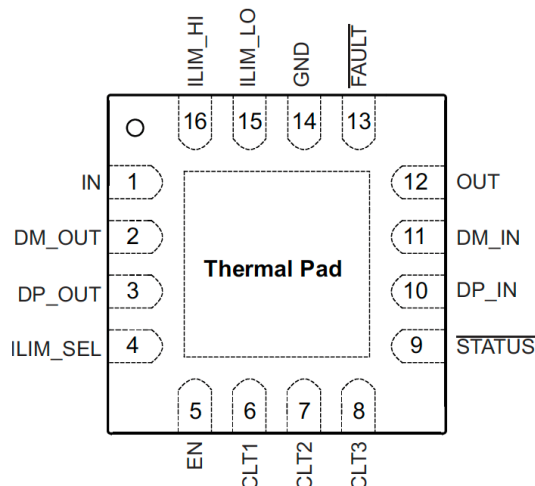
The TPS2546 is a USB charging port controller and power distribution switch integrating a 73mOhm high side MOSFET and USB 2.0 high speed D+ and D- data line switch. It supports BC1.2 CDP and DCP charging modes, Chinese YD T 1591-2009 shorted D+ and D- mode and multiple automatic divider and 1.2V charging schemes for compatibility with a wide range of mobile devices. The device includes adjustable current limit up to 3A, programmable load detection, port power management via STATUS pin and system wake capability. Designed for 4.5V to 5.5V operation, it is optimized for USB ports, hubs and charging adapters requiring integrated protection and power management.

Specifications

Operating Voltage Range	4.5V to 5.5V
Integrated MOSFET On Resistance	73mOhm typ
Adjustable Current Limit	Up to 3A typ
Device Current Disabled	2uA max
Device Current Enabled	270uA typ
USB Charging Modes	BC1.2 CDP and DCP, Divider 2V and 2.7V, 1.2V mode
ESD Rating DM and DP	8kV
Package	16 Pin WQFN 3.00mm x 3.00mm
Application	USB host ports, hubs, wall charging adapters
Usage	USB charging control and port power management

Pinouts:

RTE Package
16-Pin WQFN
Top View



Pin Nb	Pin Name	Type	Description
1	IN	Power	Input voltage and supply voltage, connect ceramic capacitor from IN to GND
2	DM_OUT	I/O	D- data line to USB host controller
3	DP_OUT	I/O	D+ data line to USB host controller
4	ILIM_SEL	Input	Logic input to control charging mode and current limit threshold
5	EN	Input	Logic input to enable power switch and signal switches
6	CTL1	Input	Logic input to control charging mode and signal switches
7	CTL2	Input	Logic input to control charging mode and signal switches
8	CTL3	Input	Logic input to control charging mode and signal switches
9	STATUS	Output	Active low open drain output, asserted in load detection conditions
10	DP_IN	I/O	D+ data line to downstream connector
11	DM_IN	I/O	D- data line to downstream connector
12	OUT	Power	Power switch output
13	FAULT	Output	Active low open drain output, asserted during overtemperature or current limit
14	GND	Power	Ground connection
15	ILIM_LO	Input	External resistor connection to set low current limit and load detect threshold
16	ILIM_HI	Input	External resistor connection to set high current limit threshold
	Thermal Pad	Power	Internally connected to GND, connect to GND plane for heatsinking