

## Features

1. The protection IC and The Dual-Nch MOSFET to use common Drain are integrated into One-packaging IC.

2. Reduced Pin-Count by fully connecting internally.

3. Application Part

1) Protection IC

① Uses high withstand voltage CMOS process

- The charger section can be connected up to absolute maximum rating 28V.

② Detection voltage precision

- Overcharge detection voltage

$$\pm 35\text{mV} \text{ (Ta=25}^\circ\text{C)}, \pm 55\text{mV} \text{ (Ta=-30}\sim\text{70}^\circ\text{C)}$$

- Overdischarge detection voltage

$$\pm 100\text{mV} \text{ (Ta=25}^\circ\text{C)}, \pm 110\text{mV} \text{ (Ta=-30}\sim\text{70}^\circ\text{C)}$$

- Discharge overcurrent detection voltage

$$\pm 25\text{mV} \text{ (Ta=25}^\circ\text{C)}, \pm 40\text{mV} \text{ (Ta=-30}\sim\text{70}^\circ\text{C)}$$

- Charging overcurrent detection voltage

$$\pm 35\text{mV} \text{ (Ta=25}^\circ\text{C)}, \pm 50\text{mV} \text{ (Ta=-30}\sim\text{70}^\circ\text{C)}$$

③ Built-in detection delay times (timer circuit)

- Overcharge detection delay time

$$1.00 \pm 0.4\text{s} \text{ (Ta=25}^\circ\text{C)}, 1.00 [ +0.7, -0.6 ]\text{s} \text{ (Ta=-30}\sim\text{70}^\circ\text{C)}$$

- Overdischarge detection delay time

$$77.0 \pm 63\text{ms} \text{ (Ta=25}^\circ\text{C)}, 77.0 [ +93.0, -64.2 ]\text{ms} \text{ (Ta=-30}\sim\text{70}^\circ\text{C)}$$

- Discharge overcurrent detection delay time

$$13.0 \pm 9.0\text{ms} \text{ (Ta=25}^\circ\text{C)}, 13.0 [ +15.9, -10.5 ]\text{ms} \text{ (Ta=-30}\sim\text{70}^\circ\text{C)}$$

- Charging overcurrent detection delay time

$$20.0 \pm 15.0\text{ms} \text{ (Ta=25}^\circ\text{C)}, 20.0 [ +20.0, -15.6 ]\text{ms} \text{ (Ta=-30}\sim\text{70}^\circ\text{C)}$$

- Short detection delay time

$$700 [ +800, -587.5 ]\mu\text{s} \text{ (Ta=25}^\circ\text{C)}, 700 [ +1050, -602 ]\mu\text{s} \text{ (Ta=-30}\sim\text{70}^\circ\text{C)}$$

④ 0V charge function is allowed

⑤ Auto Wake-up function is not allowed

2) FET

① Using advanced trench technology to provide excellent  $R_{DS(ON)}$ , low gate charge and operation with gate voltage as low as 2.5V while retaining a 12V  $V_{GS(MAX)}$ .

② The protection for ESD

③ Common drain configuration

④ General characteristics

-  $V_{DS}$  (V) = 20V

-  $I_D$  (A) = 6A

-  $R_{DS(ON)} < 50\text{m}\Omega$  ( $V_{GS} = 4.5\text{V}$ ,  $I_D = 5\text{A}$ )

- ESD Rating : 2000V HBM

## Pin Assignment

[ Package: TEP-5L ]

<Top view>



<Bottom view>



1	N.C
2	Source 1(same as $V_{GS}$ )
3	Source 2
4	$V_{DD}$
5	$V_-$
6	Drain

## Block Diagram

