SPECIFICATION

HK-003-USB

TYPE C FOR QC3.0 CHARGER

1. INPUT :

 1.1   Input Voltage: DC10.8V to DC32V   NORMAL= 12/24V

 1.2   Input Current :   2.65A   at   10.8V @ F.L(9V/3A)

                1.60A   at   24V   @ FL (12V/3A)

                1.55A   at   32V   @ FL (20V/2.3A)

2. OUTPUT :

 2.1   Output Voltage & Current:

OUTPUT	+5V/+9V/+12V/+15V/+20V
Max. load	3.4A at +5V,3.0A at +9V/+12V,2.3A at +15V/+20V
Power	45W max
Min. Load	0A
Load reg. %	10%
Line reg. %	5%
Ripple %	2%
Noise %	5%

Note 1:   Ripple & Noise bandwidth is from DC to 20Mhz.

Terminated With a 47uF Capacitor and 0.1uf MPE Capacitor of Proper Polarity.

 2.2   EFFICIENCY : 90% min at 12VDC INPUT @5V/3.4A OUTPUT

 2.3   Operation frequency is 200KHZ (Type.)

 2.4   LED Green work at +5V/+9V/+12V

        LED Red work at +15V/+20V

3. PROTECTION :

 3.1   Short Circuit Protection :

        If the output voltage is less than 2.7V after 4ms of startup, the output is
        considered to be short-circuited and the output is turned off.

3.2   Input Low Voltage Protection:

When the input voltage is lower than 10.2 V, it enters the standby state and turns off the output.

3.3   Input Over-Voltage Protection:

When the input voltage rises above 34 V, the output will be turned off; when the input voltage drops below 32 V again, normal operation will resume.

3.4   Output Under-Voltage Protection:

When the output voltage drops to 2.7V, the output under-voltage is detected, the output is turned off, and the interval is restarted after 2 sec.

3.5   Over-Temperature Protection:

When the temperature is detected to reach 140 ° C, the output will be turned off; when the temperature is reduced to 100 ° C, normal operation will resume.

4. GENERAL DESCRIPTION :

4.1   Operation Temperature: -20   -   +70 Degree

4.2   Storage Temperature: -40   -   +85 Degree

4.3   Operation Humidity: 5%   -   90%   at 45 Degree

4.4   Cooling: Free air cooling

4.5   SIZE :   80*60*30 (L*W*H)m/m

5. INTERNATIONAL STANDARD :

5.1   The output can support multiple fast charge protocols via DP / DM and CC1 / CC2. When outputting 5V, other fast charging protocols can be received, and the output voltage and current can be changed according to the newly received fast charging protocol. When the output voltage is not 5V, other fast charging protocols will be shielded.

5.2   Support Type C output and USB PD protocol, USB PD protocol external output can support: 5V / 2.4A, 9V / 2.4A, 12V / 2.3A, 15V / 2A, 20V / 2A.

5.3   With an output voltage of 5 V to 20 V, the output voltage will be adjusted automatically according to the recognized fast charge protocol.

5.4   Output fast charge function:

Supports BC1.2, Apple, Samsung protocols

Supports Qualcomm QC2.0 and QC3.0 (Certification No. 4787930010-2)
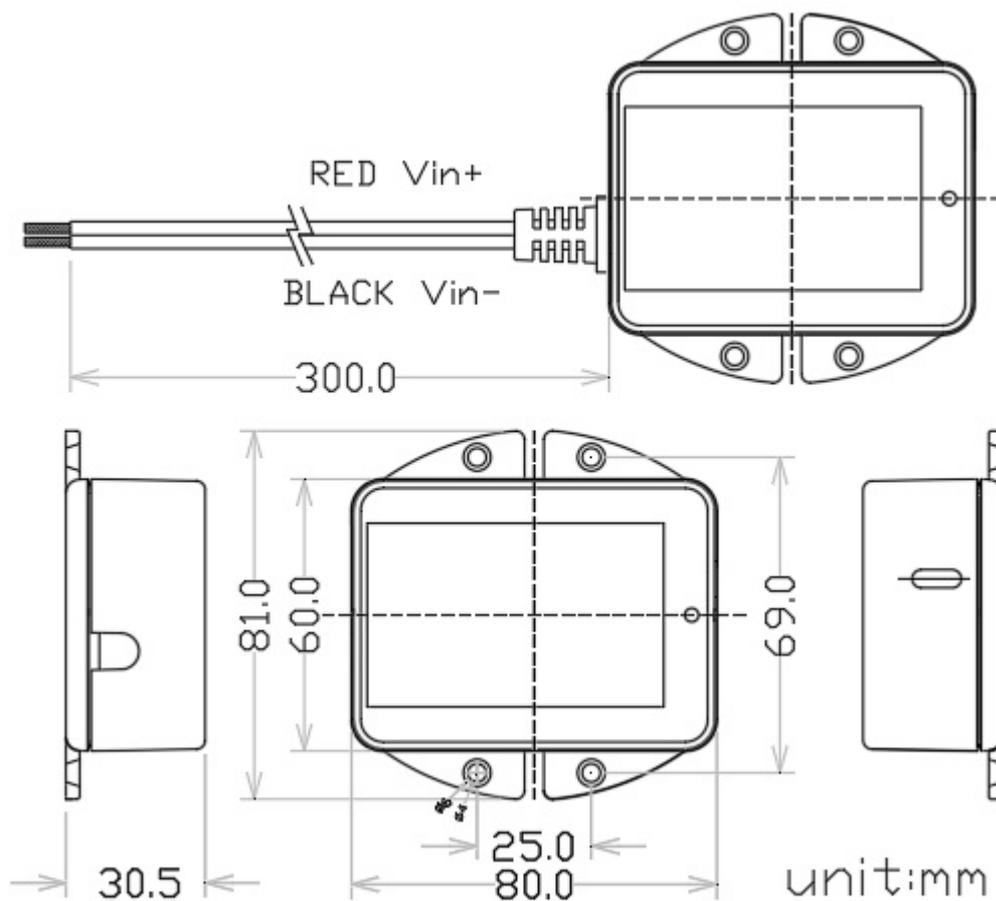
Support MTK PE + 1.1 and MTK PE + 2.0

Support Huawei Fast Charge Protocol FCP and SCP

Support Samsung Fast Charge Protocol AFC

Support Spreadtrum Fast Charge Agreement SFCP

6. MECHANICAL :

   6.1 OUTLINE :

Supplementary Note :

1.   The output has CV / CC characteristics:

     When the output current is less than the set value, the output is in CV mode
     and the output voltage is constant; when the output current is greater than the
     set value, the output is in CC mode, and the output voltage is gradually
     reduced.

2.   When PD 20V is required, the input voltage needs to be above 28V.