



深圳市矽源特科技有限公司

ShenZhen ChipSourceTek Technology Co. ,Ltd.



CST5080H

2A

IC

2024/9/11

V1.0



# 深圳市矽源特科技有限公司

ShenZhen ChipSourceTek Technology Co., Ltd.

**CST5080H :**

CST5080H

1.2MHz

1uH

CST5080H

DPM

DPM

LED

LED

CST5080H

2A

RCHG

CST5080H

eSCP-8L

**CST5080H :**

1.2MHz

1uH

2A

/ / /

8.4V 8.7V

DPM

LED

WLO OVP

CST5080H

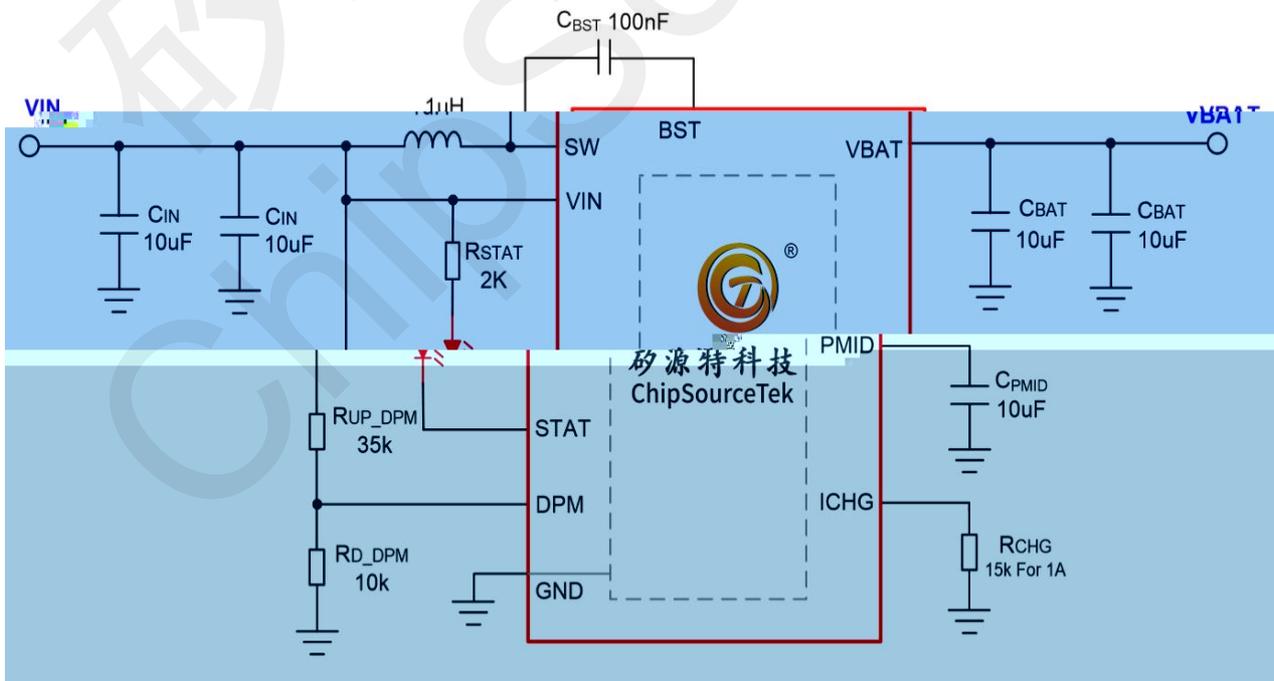
ESCP-8L

**CST5080H :**

PDA MP3 PM4

PSP NDS

**CST5080H :**



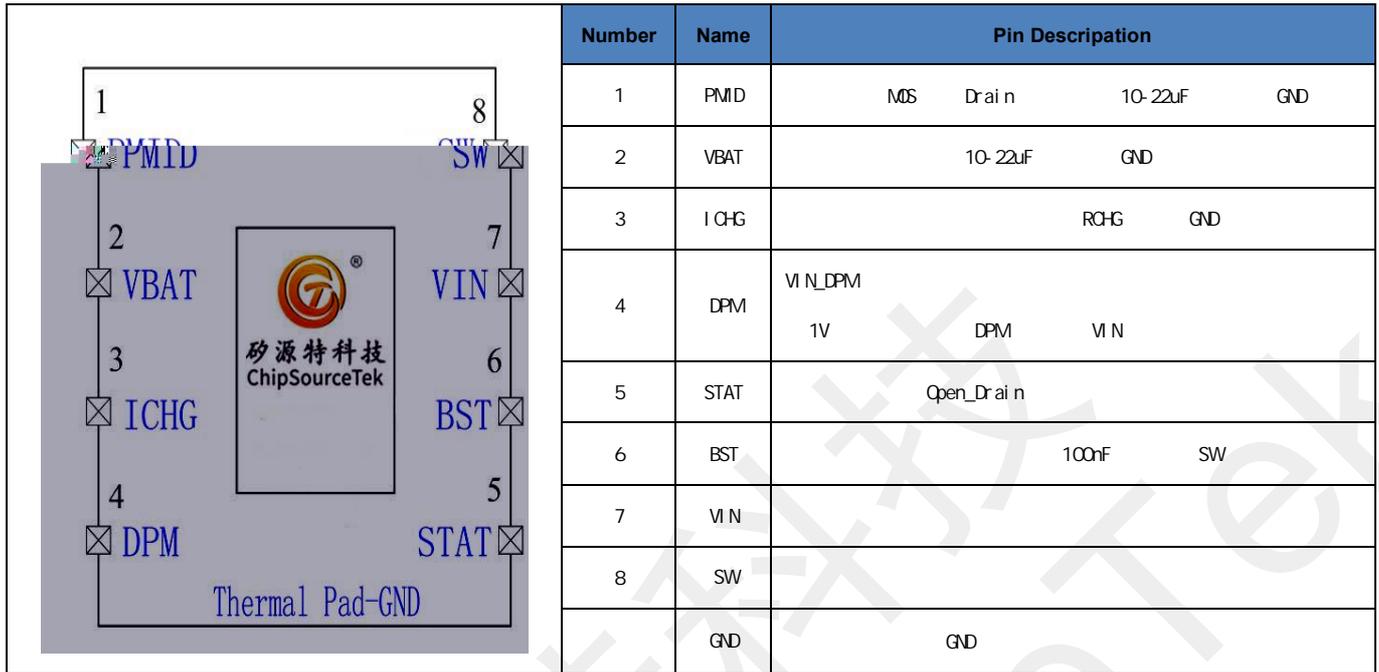


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CST5080H

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CST5080H

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Parameter	Symbol	Value	Unit
VI_N	VI_N	-0.3 18	V
BAT		-0.3 18	V
STAT		-0.3 18	V
DPM		-0.3 10	V
ICHG		-0.3 7	V
T <sub>A</sub>		-40 85	
T <sub>STG</sub>		-40 125	
T <sub>J</sub>		-40 150	
T <sub>SDR</sub>	10S	265	

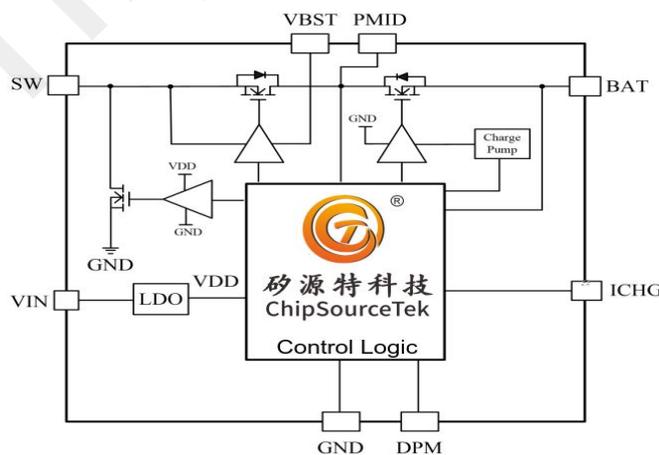
Note 1.

Note 2 CST5080H 0 70

-40 85

CST5080H

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CST5080H : ( , Ta=25 V<sub>IN</sub>=5V C<sub>IN</sub>=C<sub>BAT</sub>=10uF L<sub>IN</sub>=1.0uH R<sub>CHG</sub>=15k Unless otherwise specified)

V <sub>IN</sub>			4.0	6.0	V
V <sub>IN,UMLO</sub>	V <sub>IN</sub>	V <sub>IN</sub> V <sub>BAT</sub> =0V		3.8	V
V <sub>IN,UMLO,HYS</sub>	V <sub>IN</sub>			200	mV
T <sub>DELAY,UMLO</sub>	UMLO	V <sub>IN</sub>		2	ns
V <sub>IN,UMLO,P</sub>	V <sub>IN</sub>	V <sub>IN</sub> V <sub>BAT</sub> =0V		3.0	V
V <sub>IN,OP</sub>	V <sub>IN</sub>	V <sub>IN</sub> V <sub>BAT</sub> =0V	5.8	6.0	V
V <sub>IN,OP,HYS</sub>	V <sub>IN</sub>			500	mV
V <sub>BAT,OP</sub>	V <sub>BAT</sub>	V <sub>BAT</sub>		9.2	V
	V <sub>BAT</sub>			400	mV
I <sub>IN,FULL</sub>	I <sub>IN</sub>	V <sub>IN</sub> =5.0V		1	mA
I <sub>BAT,FULL</sub>	I <sub>BAT</sub>	V <sub>IN</sub> =5.0V		28	uA
I <sub>BAT,0</sub>		V <sub>IN</sub> =Remove V <sub>BAT</sub> =8.4V		1	uA
I <sub>BAT,CHG</sub>		R <sub>CHG</sub>			

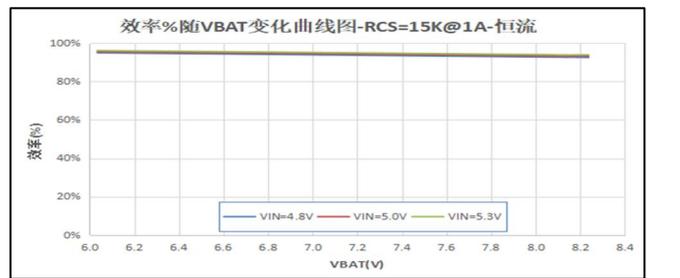
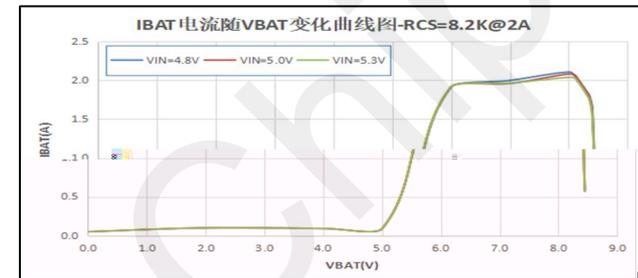
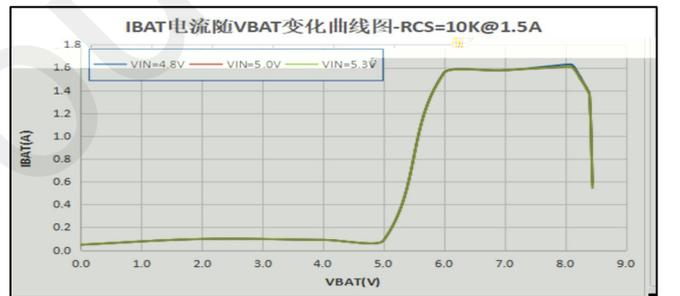
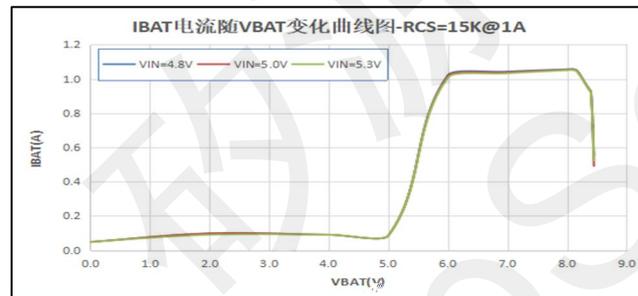
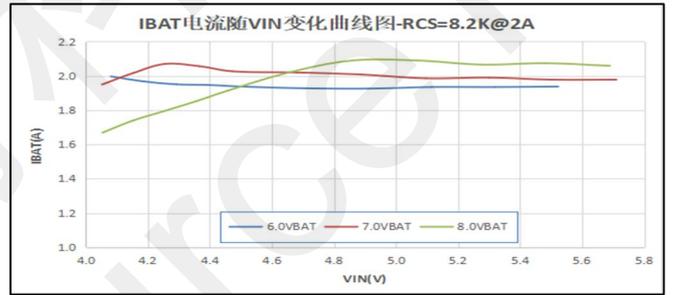
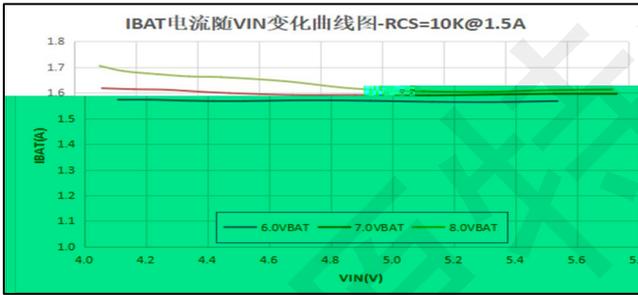
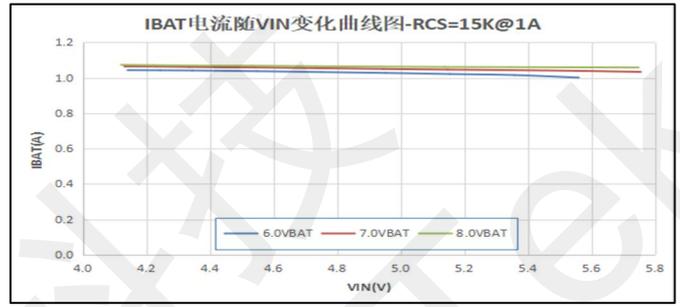
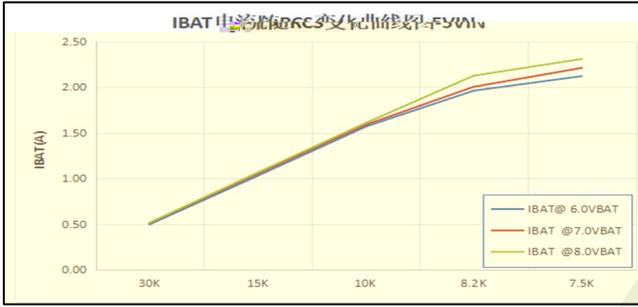


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$I_{STAT\_H}$	STAT	$V_{STAT}=5.0V$		1	$\mu A$
$T_{CF}$				120	
$T_{OTP}$				160	
$T_{OTP\_HS}$				20	

CST5080H Typical Operating Characteristics ( $T_a=25^\circ C$ ,  $V_{IN}=5.0V$ ,  $C_{IN}=C_{BAT}=10\mu F \times 2$ ,  $L_{IN}=1$ , QJH-0054, RCHG=15k):







### 4 CST5080H I<sub>CHG</sub>

R<sub>CHG</sub>

$$I_{BAT\_CHG} = \frac{13000 \cdot V_{CHG}}{R_{CHG}}$$

V<sub>CHG</sub> 1.2V R<sub>CHG</sub> 15K I<sub>BAT\\_CHG</sub>=1A

### 5 CST5080H Q<sub>N</sub>

USB 100uF

$$= \frac{*( - )}{2\sqrt{3} * *}$$

X5R X7R MLCC 4.7uF 10uF

### 6 CST5080H C<sub>BAT</sub>

10uF V<sub>BAT</sub>

$$= \frac{*( - )}{* *}$$

### 7 CST5080H L<sub>m</sub>

7.1

40%

$$m = \left( \frac{ }{ } \right)^2 * \frac{ - }{ * * 40\% }$$

F<sub>s</sub>W I<sub>CHG</sub>

7.2

$$- > \frac{ }{ } * \left( \frac{ }{ } \right)^2 * \frac{ - }{ 2 * * }$$

### CST5080H PCB Layout

PCB

- 1 SW V<sub>IN</sub>
- 2 V<sub>IN</sub> C<sub>IN</sub> L<sub>m</sub> P<sub>MD</sub> C<sub>PMID</sub>
- 3
- 4 SWNode
- 5 SW



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MOS :

MOS

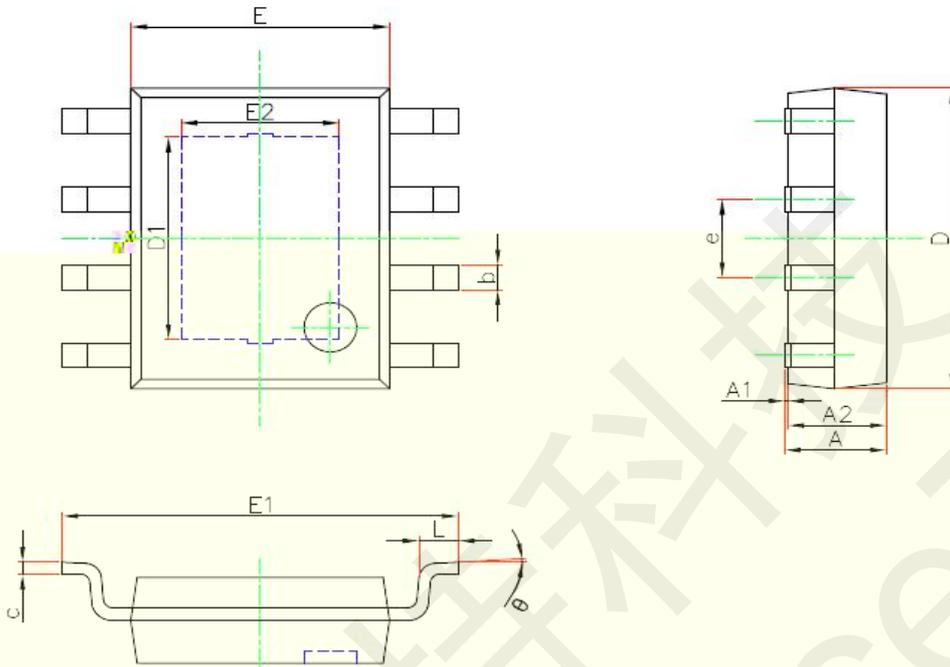
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CST5080H :

矽源特科技  
ChipSourceTek



### ESOP8 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.300	1.700	0.051	0.067
A1	0.000	0.150	0.000	0.004
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.007	0.010
D	4.700	5.100	0.185	0.201
D1	3.202	3.402	0.126	0.134
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
E2	2.313	2.513	0.091	0.099
e	1.270(BSC)		0.050(BSC)	
L	0.400	1.270	0.016	0.050
theta	0°		8°	