# MCP8365D——□ ㄧ ㄎ

MCP8365D □ ㄧDC-DC ㄎ ㄴ2.5A

MCP8365D ƀ ~ ㄧ ㄇ 4.5V 38V ṗ ˜ ġ □ ˜ ï ㄚ

RDSON ˆ ㄚ D

MCP8365D ṿ L ˜

ㄇ 500kHz 2MHz ض ㄚ w ṗ

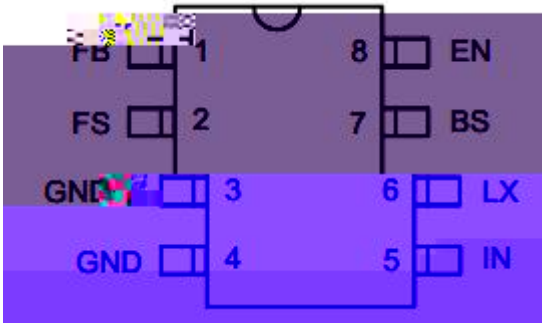
Ω˗ L Ω˗

MCP8365D TSOT23-8

- ㄚ / :110/70mΩ
- ~ ㄧ 4.5-38V
- 2.5A
- ṗ ẽ
- ṗ Ω˗ w ˆ L
- ˜ ㄇ 500kHz 2MHz
- 1.5% 0.6V ắ ㄧ
- w ㄚ
- ṿ
- Ḡ Ḡ ˗ w
- AEC-Q100
- RoHS



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ᵴ 3-1 MCP8365D № ᵴ

## 3.1

| PIN | | |
|---|---|---|
| 1 | FB | Vout 0.6 1 R1/R2 3-1 |
| 2 | FS | $F_{SW}$ $10^5/R_{FS}$ kHz 500kHz 2MHz KΩ |
| 3 4 | GND | |
| 5 | IN | |

4.1 $T_A$=25

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | Min | Typ | Max | | |
| | $V_{IN}$ | -0.3 | - | 38 | V | |
| LX FB EN FS | | -0.3 | - | 38 | V | |
| BS-LX | | -0.3 | | 4 | V | |
| | $P_D$ | | | 2 | W | $T_A$=25 |
| | θ JA | | | 60.2 | ° C/W | |
| | θ JC | | | 11.2 | ° C/W | |
| | Tj | - | - | 150 | | |
| | | | | 260 | | |
| | Tstg | -40 | - | 150 | | |

≠ 4.2 ‰ 3-2 $V_{IN}$=12V $V_{OUT}$=5V

$C_{OUT}$=47uF $T_A$=25 $I_{OUT}$=1A

## 4.2 MCP8365D

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| ~ | $V_{IN}$ | 4.5 | | 38 | V | |
| | $I_Q$ | | | 20 | uA | $I_{OUT}$=0 $V_{FB}$=$V_{REF}$ × 105% |
| | $I_{SHDN}$ | | 1 | 4 | uA | EN=0 |
| | $V_{REF}$ | 0.59 | 0.6 | 0.61 | V | |
| ~ | $I_{FB}$ | - | | | | |

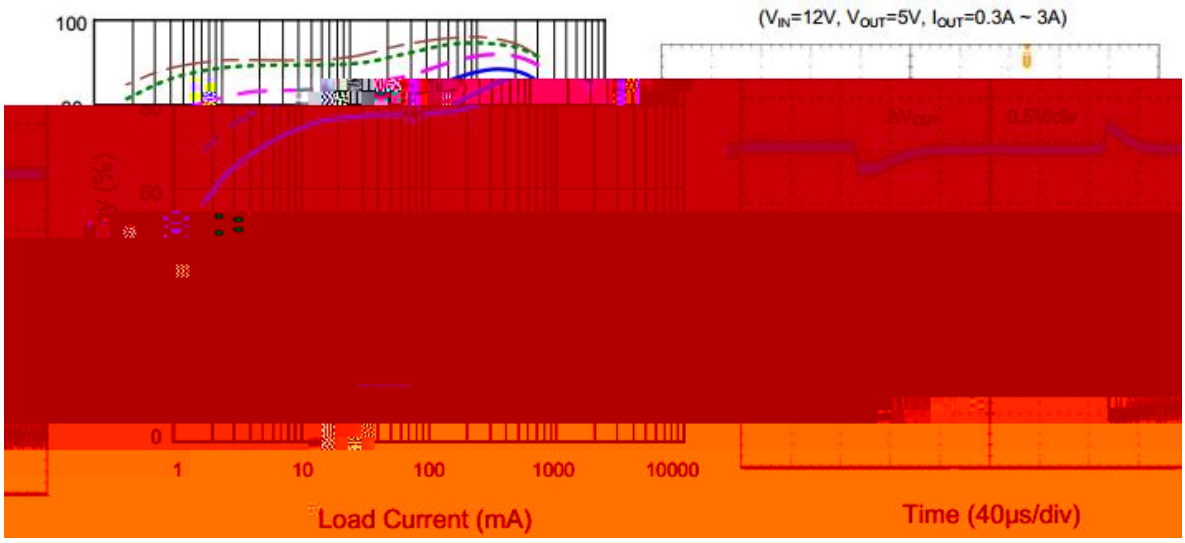



图 5-1 $V_{OUT}$=5V 效 图 5-2 $V_{OUT}$=5V 图

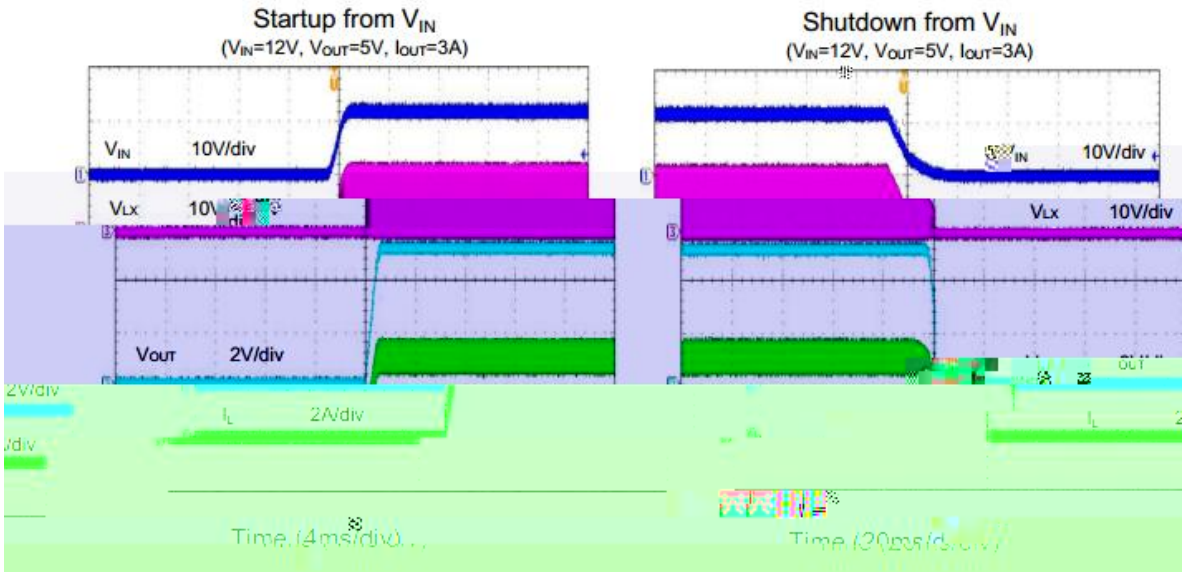



图 5-3 Ω 图 5-4 图

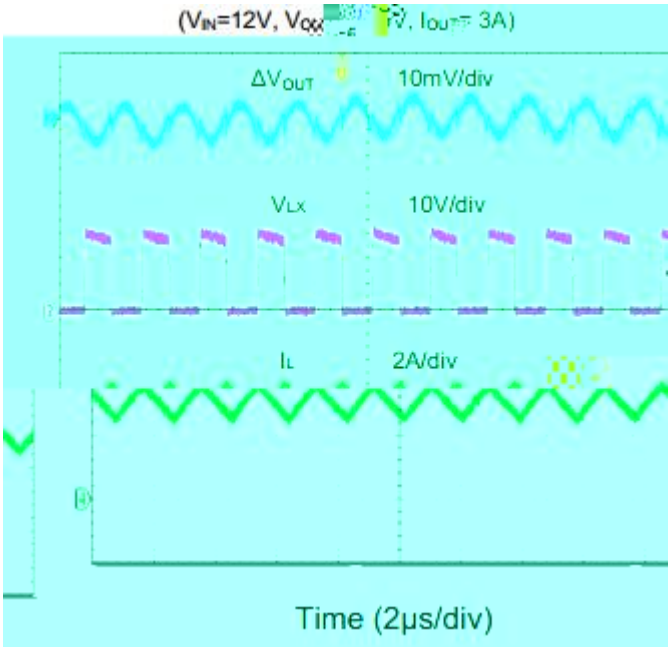
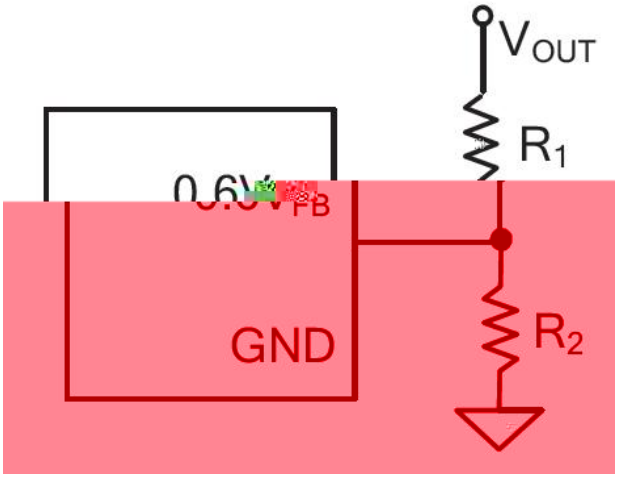



图 5-9

MCP8365D 是一款 4.5V 至 38V 输入、2.5A 同步降压转换器，具有出色的 EMI 性能。

MCP8365D 采用 500kHz 至 2MHz 的可调开关频率：

$$R_2 \quad \frac{0.6V}{V_{OUT} - 0.6V} R1 \qquad 6.1$$




يد 6-1 № ١ كج

~ CIN

~ $C_{IN}$ `E 6.2

$$I_{CIN_RMS} \quad I_{OUT} \quad \sqrt{D(1 \quad D)} \qquad (6.2)$$

⋮ كل ضي IN غ GND ‰ X5R

$C_{IN}$ □ ⋮ a ṿ 4.7uF ٧

₹ COUT

₹ ⋮ ₹ كل ₹ □ ₹

غ ذ a X5R ṿ 22uF

₹ L

₹ L 3 غج

1 = 40% `E

`E 6.3

$$L \quad \frac{V_{OUT}\ 1 - V_{OUT}/V_{IN,MAX})}{F_{SW} \quad I_{OUT,MAX} \quad 40\%} \qquad 6.3$$

$F_{SW}$ ٣ $I_{OU\ .6'.}$ ⌟ ă

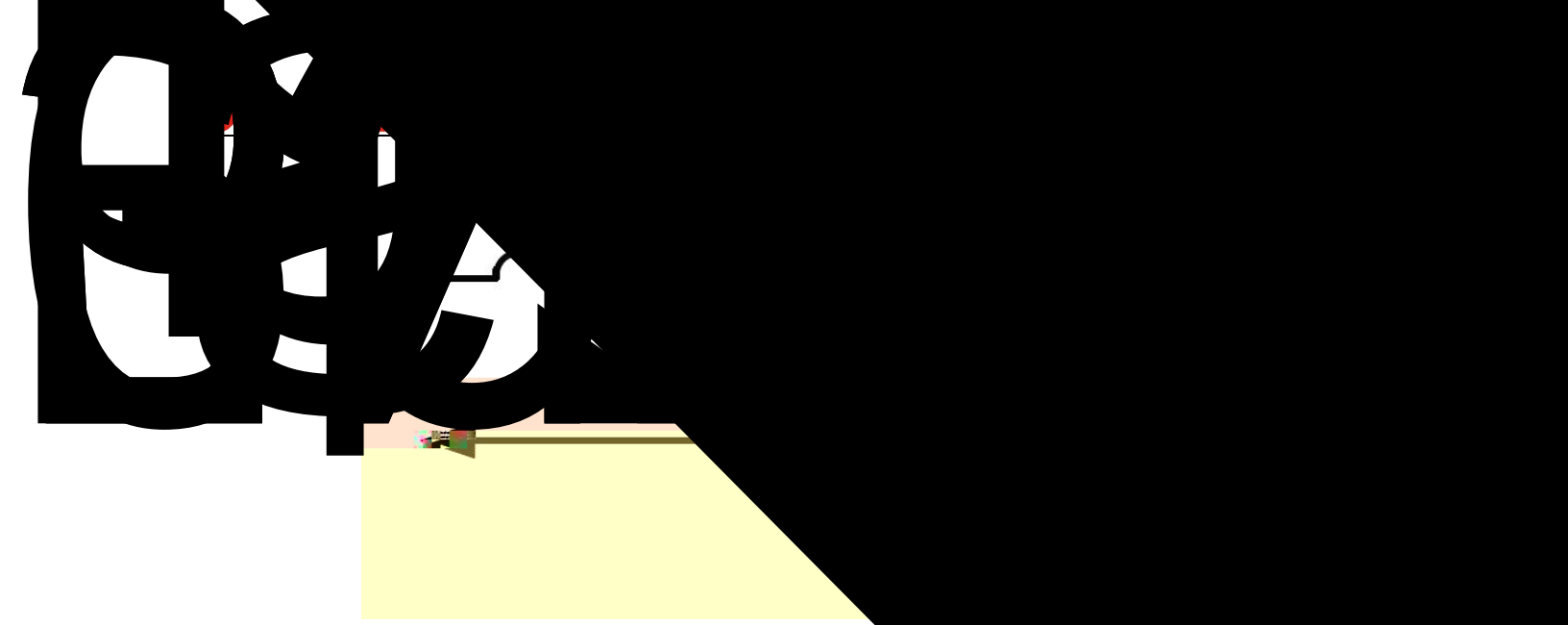
MCP8365D ï □ v v v Z

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2 ضي ' غ v

$$I_{SAT_MIN} \quad I_{OUT_MAX} \quad \frac{V_{OUT}\left(1 - V_{OUT}/V_{IN_MAX}\right)}{2 \quad F_{SW} \quad L} \qquad 6.4$$

3 ضي Ĥ



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| | | |
|---|---|---|
| MCP8365D | TSOT23-8 | 3k/ |