



# SCT2280

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PART NUMBER	PACKAGE MARKING	PACKAGE DISCRIPTION
1)		



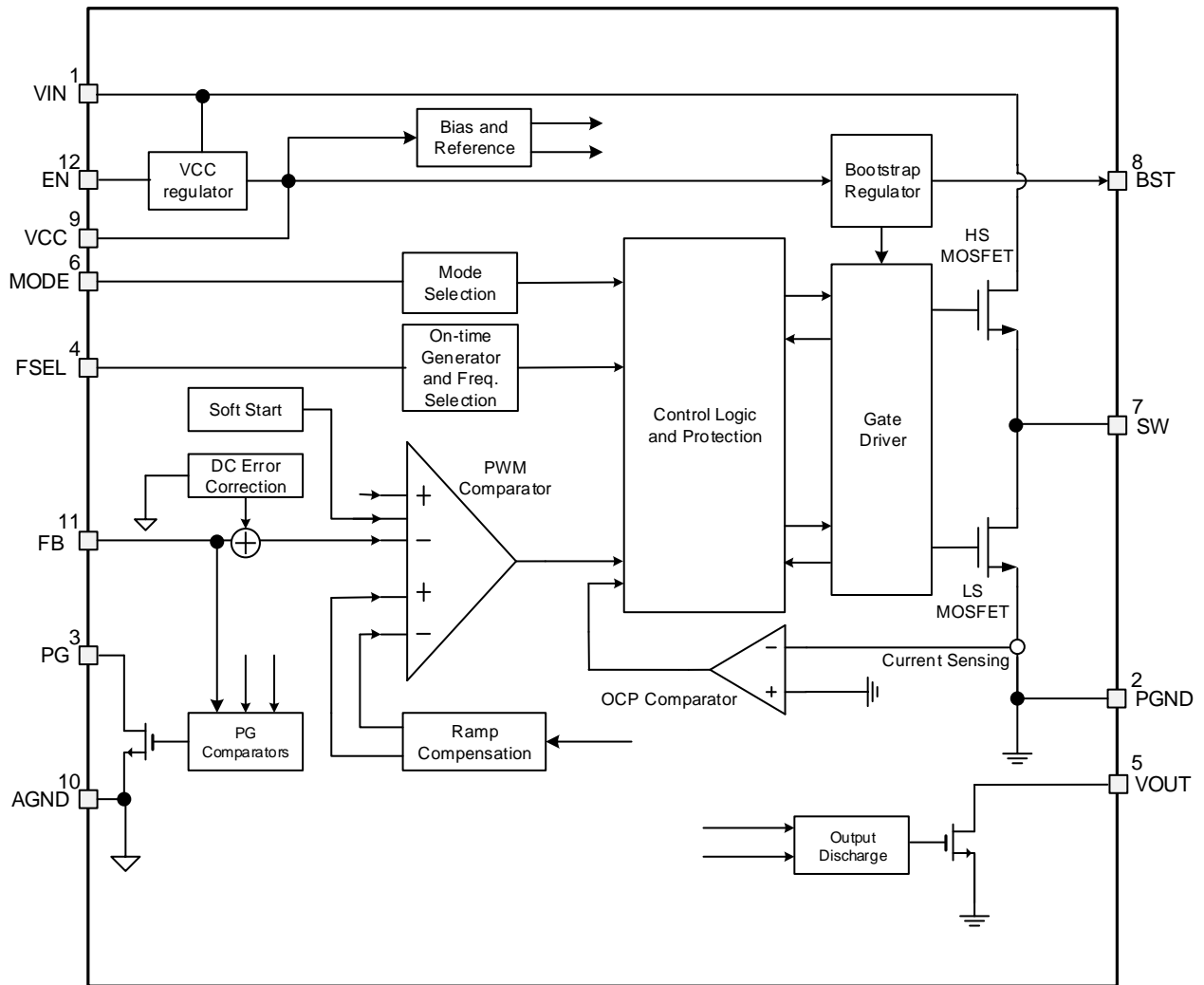
# SCT2280

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SYMBOL	PARAMETER	TEST CONDITION	MIN	TYP	MAX	UNIT
	Power Supply and Output					







Operpie

Cons an on- ime (COT) Mode Con rol

P lse Freq encv Mod la ion (PFM) and UI ra-sonic Mod la ion (USM) Modes

Forced P lse Wid h Mod la ion (FPWM) mode



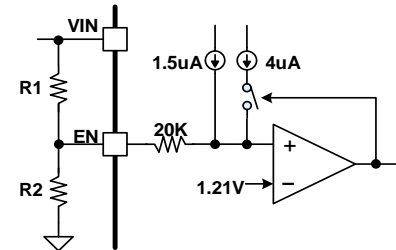
Enable and Under Voltage Lockout Threshold

$$V_{rise} = 1.18 * \left(1 + \frac{R1}{R2}\right) - 1.5\mu A * R1$$

$$V_{fall} = 1.1 * \left(1 + \frac{R1}{R2}\right) - 5.5\mu A * R1$$

- 
- 

Output Voltage



±1% tolerance

$$R_{FB\_TOP} = \left(\frac{V_{OUT}}{V_{REF}} - 1\right) * R_{FB\_BOT}$$

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Internal Soft Start

Switching Frequency Selection

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Table 1. FSEL Pin Se - p for S i ching Freq encv Selec ion


Mode Selec ion

Table 2. MODE Pin Se - p for Mode Selec ion


Po er Good (PG)

Boo s rap Vol age Reg la or

Oper C rren Limi and Hicc p Mode

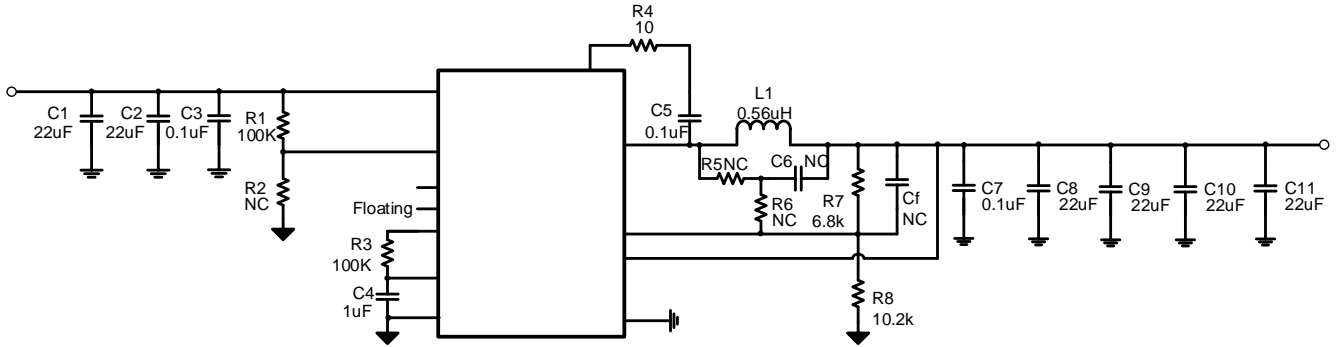
Under-pol age Pro ec ion

Operational Protection

Thermal Shutdown

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## Typical Application



### Design Parameters

Design Parameters	Example Value

Input Capacitor Selection

$$\Delta V_{IN} = \frac{I_{OUT}}{C_{IN} \times f_{SW}} \times \frac{V_{OUT}}{V_{IN}} \times \left(1 - \frac{V_{OUT}}{V_{IN}}\right)$$

- 
- 
- 

Inductor Selection

$$L_{INDMIN} = \frac{V_{OUT} \times (V_{INMAX} - V_{OUT})}{V_{INMAX} \times K_{IND} \times I_{OUT} \times f_{SW}}$$

- 

$$I_{LPEAK} = I_{OUT} + K_{IND} \times \frac{I_{OUT}}{2}$$

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## Output Capacitor Selection

$$\Delta V_{OUT} = \frac{V_{OUT} * (V_{IN} - V_{OUT})}{8 * f_{SW}^2 * L * C_{OUT} * V_{IN}}$$

- $V_{OUT}$
- 
- 
- 
- 
- 
- 

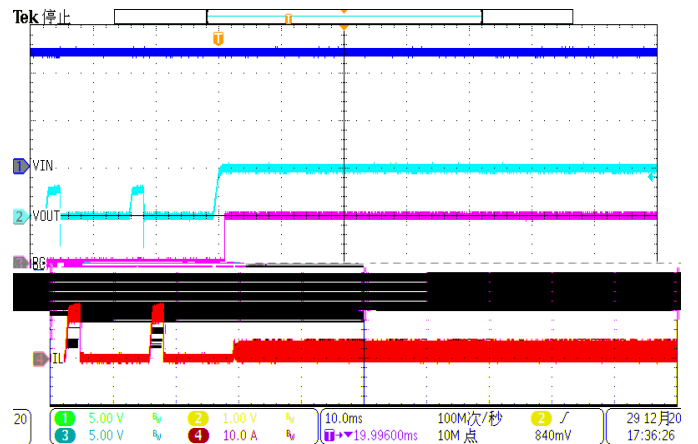
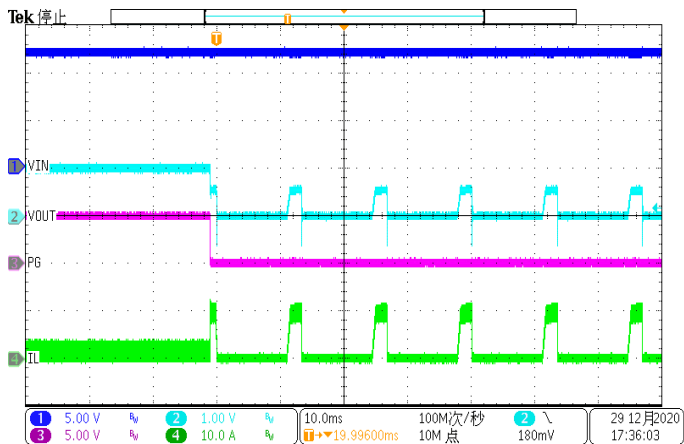
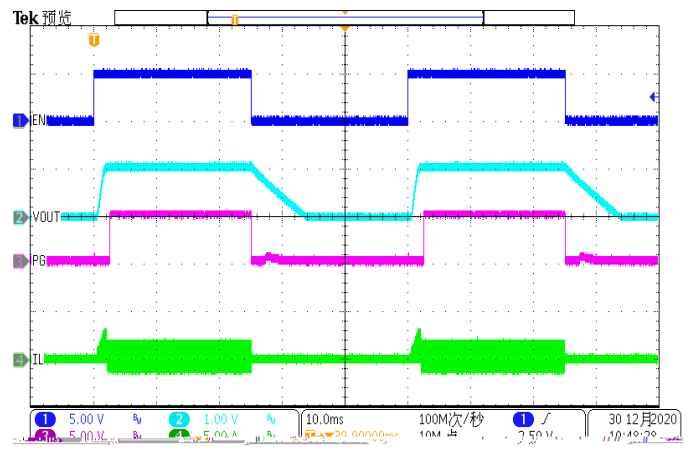
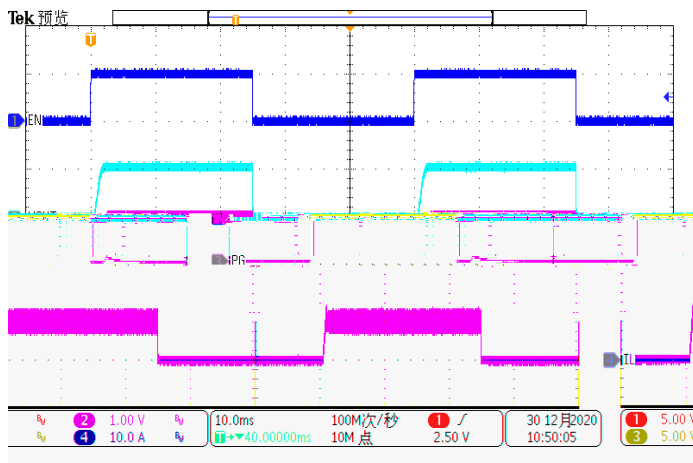
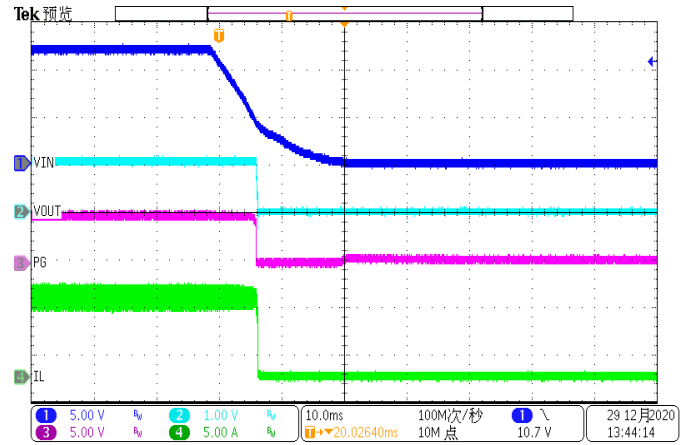
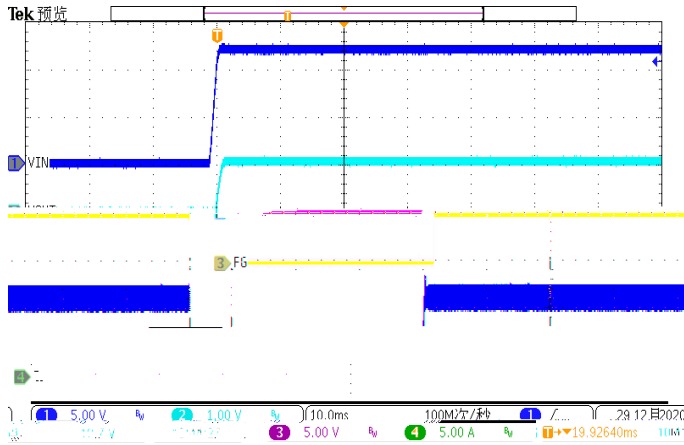
## Output Feedback Resistor Divider Selection

$$R_1 = \frac{(V_{OUT} - V_{ref}) * R_2}{V_{ref}}$$

Table 3 Recommended Component Values for Typical Output Voltage (Vin=12V)

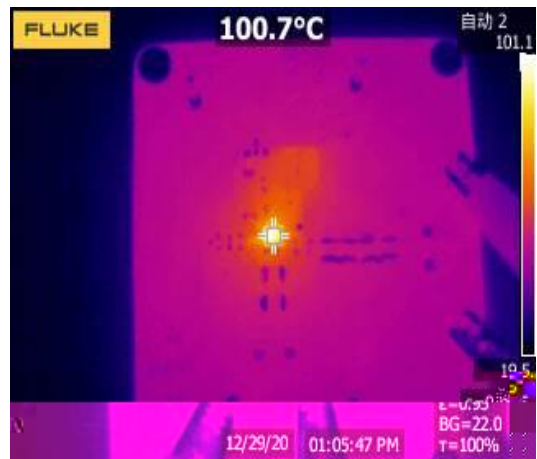
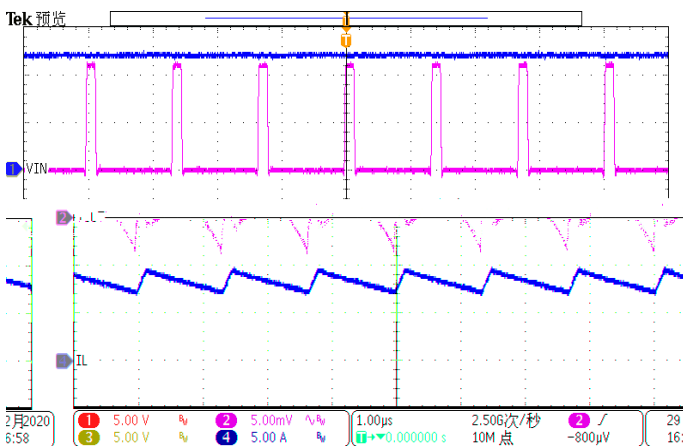
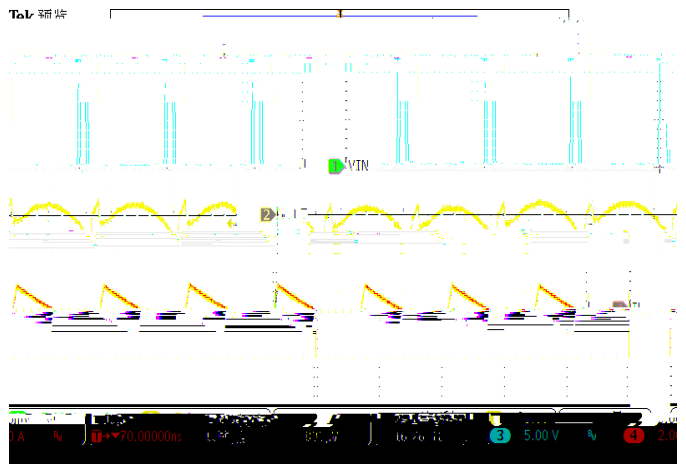
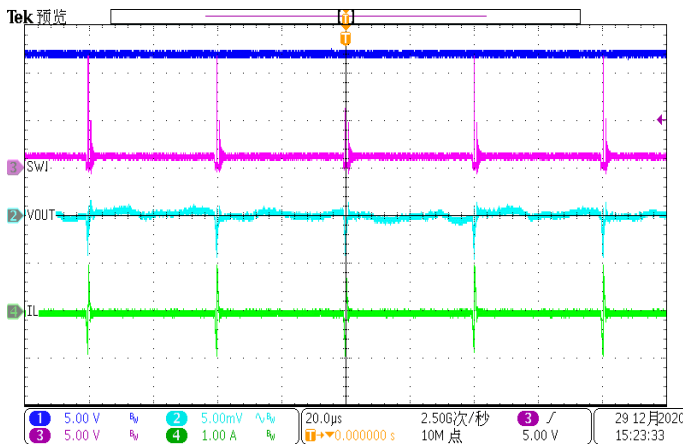
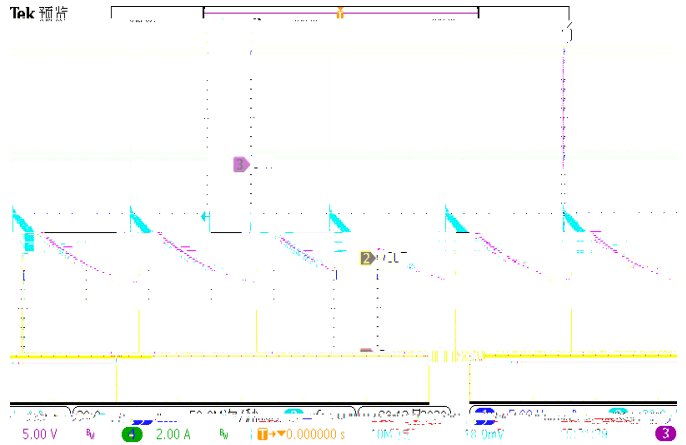
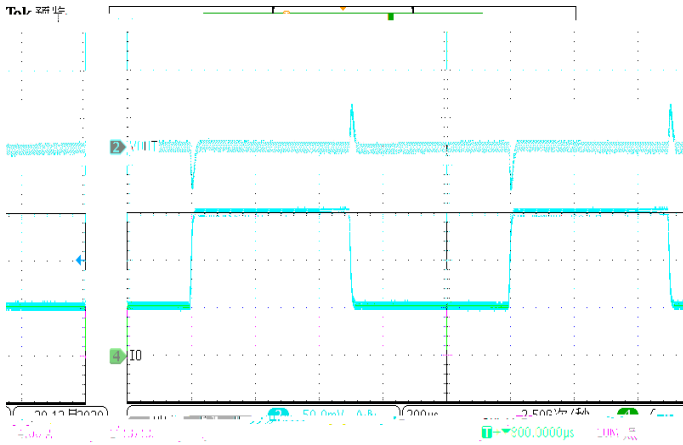
Fs (kHz)	Vo (V)	L (H)	R7 (kΩ)	R8 (kΩ)	Cf (pF)

## Application Waveforms



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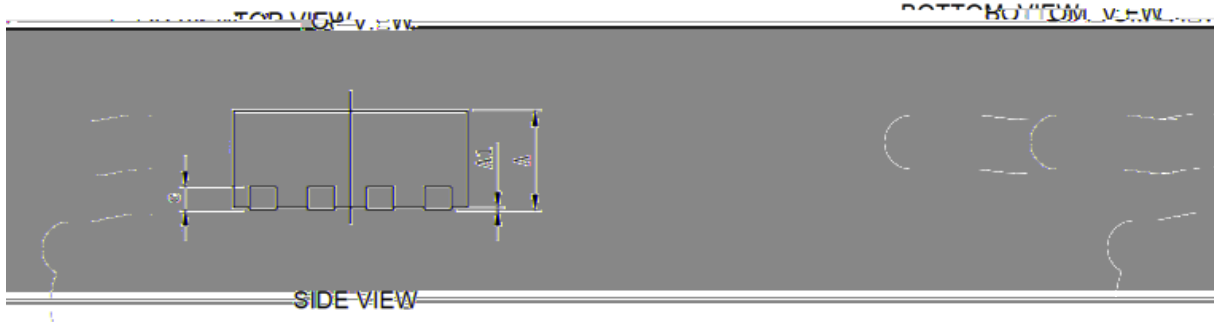
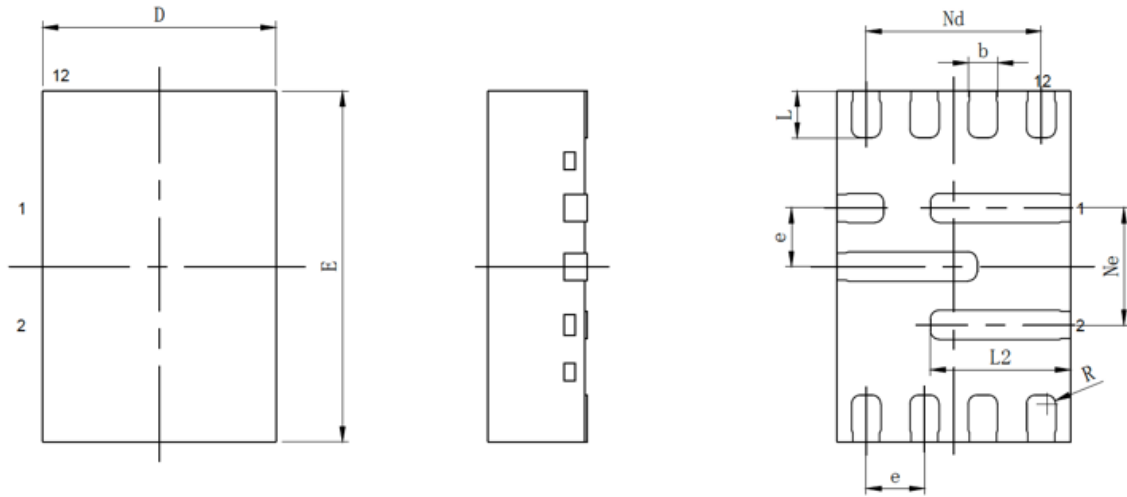
## Application Waveforms (Continued)







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SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A			
A1			
b			
c			
D			
e			
Nd			
Ne			
E			
L			
L2			
R			

**NOTE:**

- 1.
- 2.
- 3.
- 4.
- 5.

