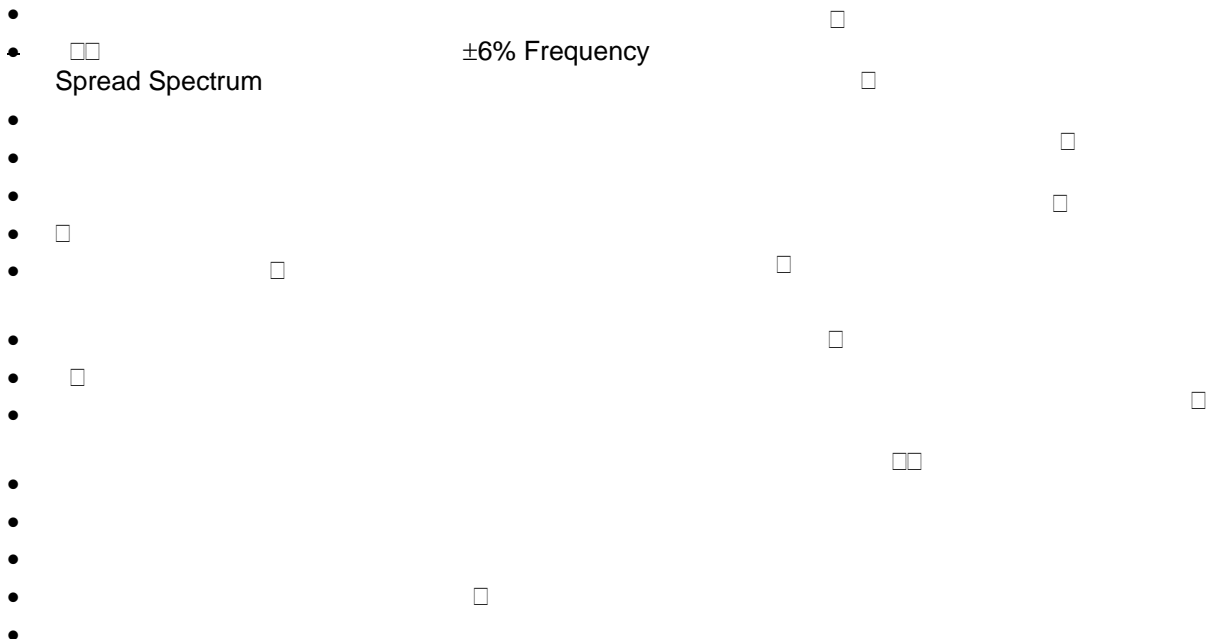


33 ,3 d 3 Nti c i pnNo , r i i o

A OPM N

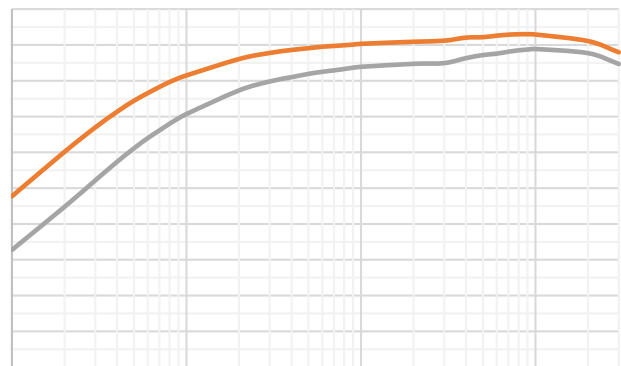
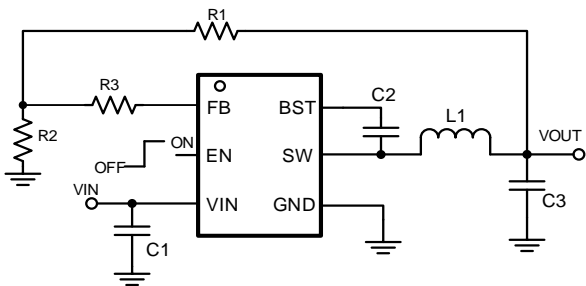
N MKOD I



KKGD OD I N



OTKD G KKGD OD I



L M2-,)

M INDICATOR

□

D M M A M H O D I

I: KMGNF K	I: D: F: KDBG	I: D: B. KBMBIG
□	□	
1)		□

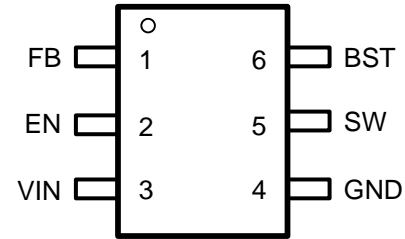
Operating free-air temperature unless otherwise noted⁽¹⁾

DESCRIPTION	MIN	MAX	UNIT
BST	-0.3	48	V
VIN, SW, EN	-0.3	42	V
FB	-0.3	5.5	V
Operating junction temperature ⁽²⁾	-40	125	°C
Storage temperature T _{STG}	-65	150	°C

(1)

(2)

Top View: TSOT23-6L, Plastic



Top View: TSOT23-6L, Plastic

Pin Description

Pin	Symbol	Description
FB	1	Buck converter output feedback sensing voltage. Connect a resistor divider from VOUT to FB to set up output voltage. The device regulates FB to the internal reference of 0.8V typical.
EN	2	Enable logic input. Floating the pin enables the device. This pin supports high voltage input up to VIN supply to be connected VIN directly to enable the device automatically. The device has precision enable thresholds 1.18V rising / 1.1V falling for programmable UVLO threshold and hysteresis.
VIN	3	Power supply input. Must be locally bypassed.
GND	4	Power ground. Must be soldered directly to ground plane.
SW	5	Switching node of the buck converter.
BST	6	Power supply for the high-side power MOSFET gate driver. Must connect a 0.1uF or greater ceramic capacitor between BST pin and SW node.

M H H I K M O D B I D D I N

I: K: F M K	BGB/BHG	F BG	F: Q	NGBI
		□		

N M O D B N

I: K: F M K	BGB/BHG	F BG	F: Q	NGBI
	□ □			
	□ □ □	□	□	

- (1) □ □
- (2) □

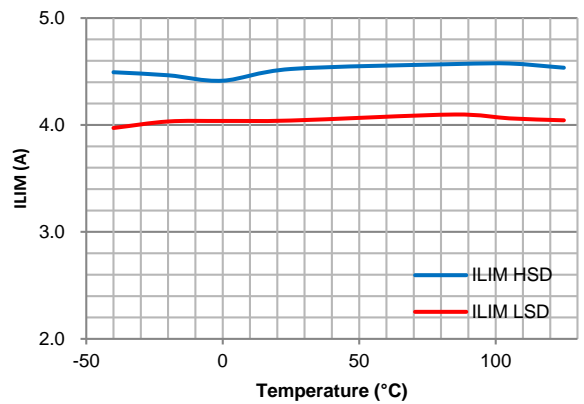
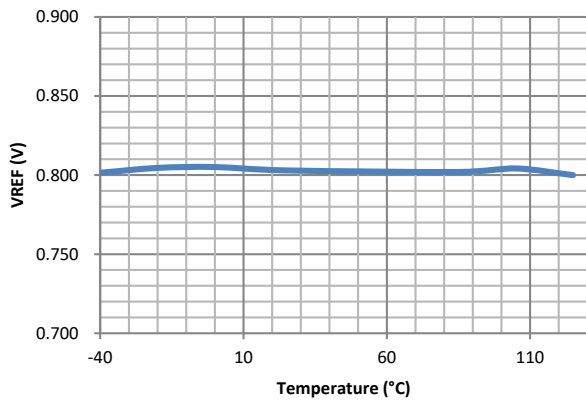
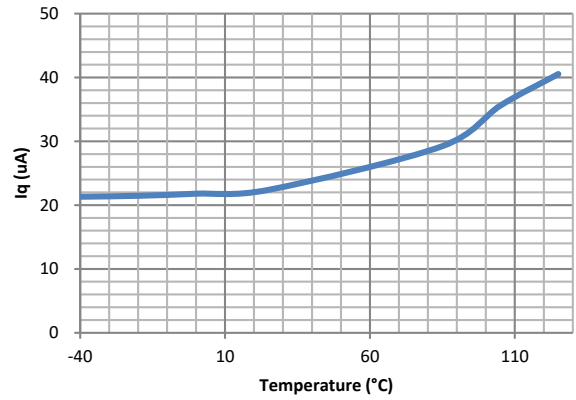
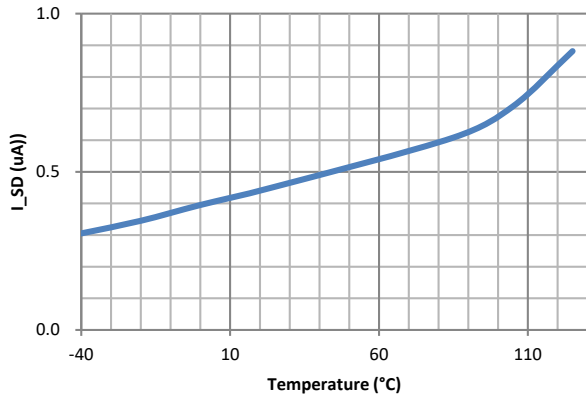
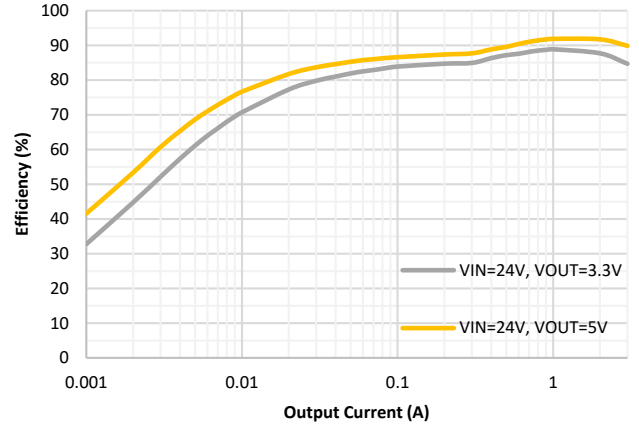
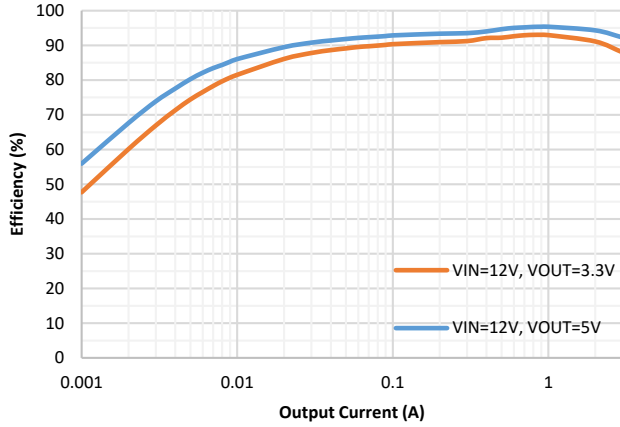
OC MH GD A MH OD I

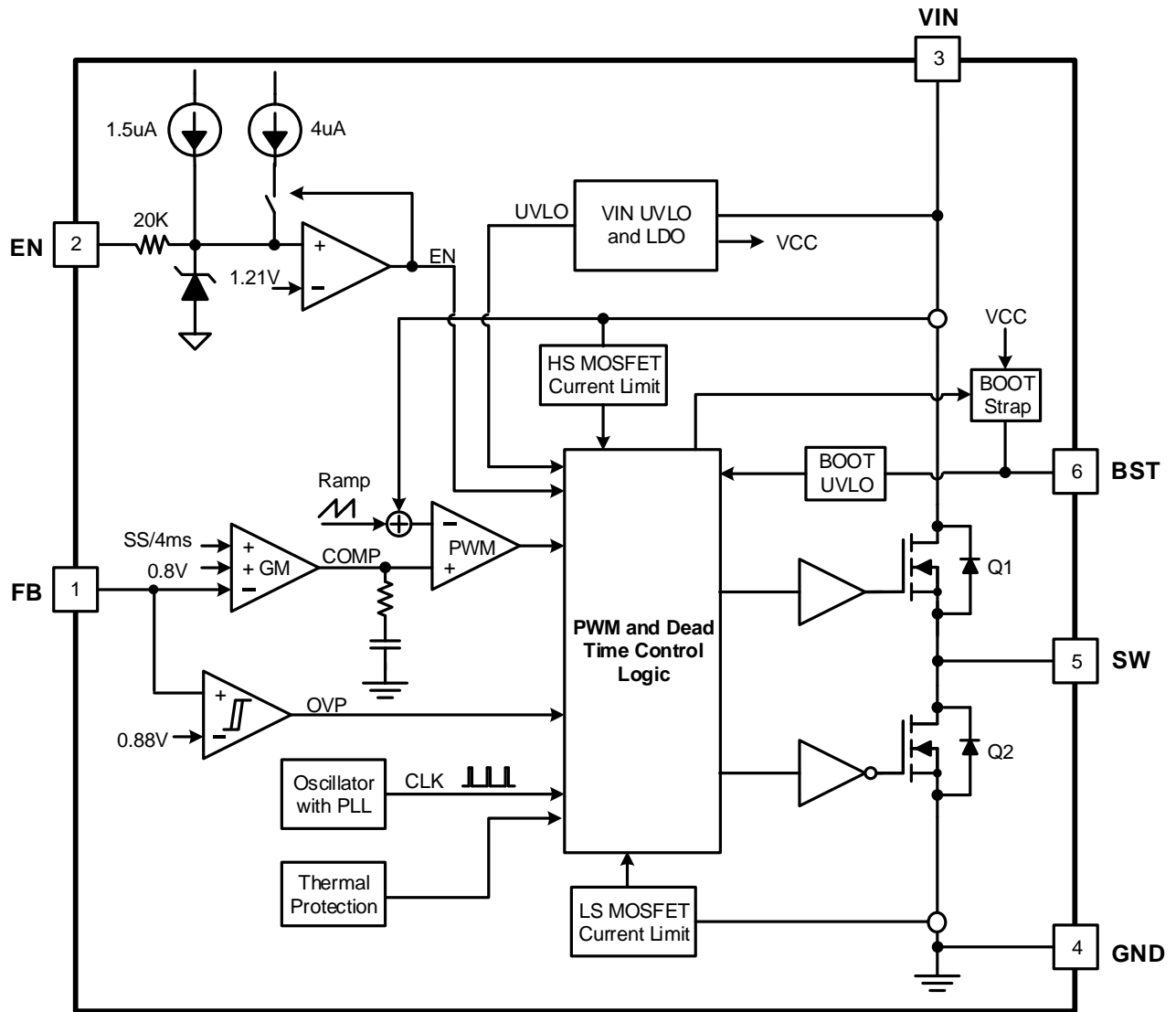
I: K: F M K	MA KF: EF MKB	MLHM , / E	NGBI

L M2-,)

LRF HE	I: K: F M K	M LM HG B/BIG	F BG	MRI	F: Q	NGBI
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E						
L						
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
				<input type="checkbox"/>		
L L M						
I						
				<input type="checkbox"/>		
				<input type="checkbox"/>		

OTKD G C M O MNOD N





0

K M O D I

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O B G I

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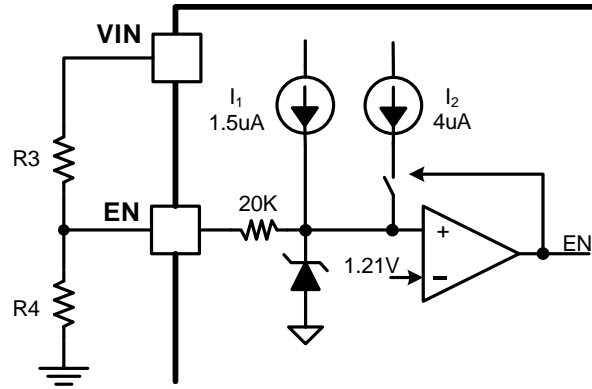
N O E N O E H

□

L

□

□



$$R3 = \frac{V_{Start} \left(\frac{V_{ENF}}{V_{ENR}} \right) - V_{Stop}}{I_1 \left(1 - \frac{V_{ENF}}{V_{ENR}} \right) + I_2} \quad (1)$$

$$R4 = \frac{R3 \times V_{ENF}}{V_{Stop} - V_{ENF} + R3(I_1 + I_2)} \quad (2)$$

FBK

L

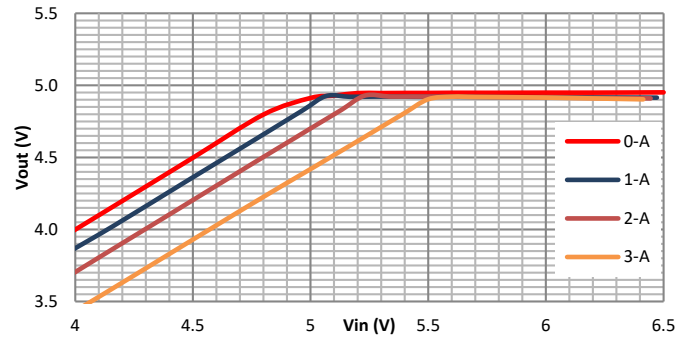
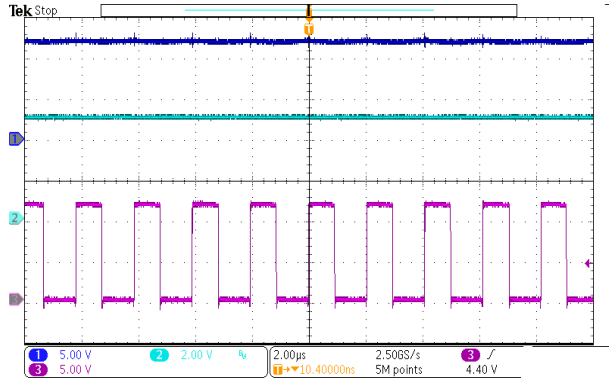
L

L

G

K





I E A F

H O I F H

I L F P F

L M2-,)

O K

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E K

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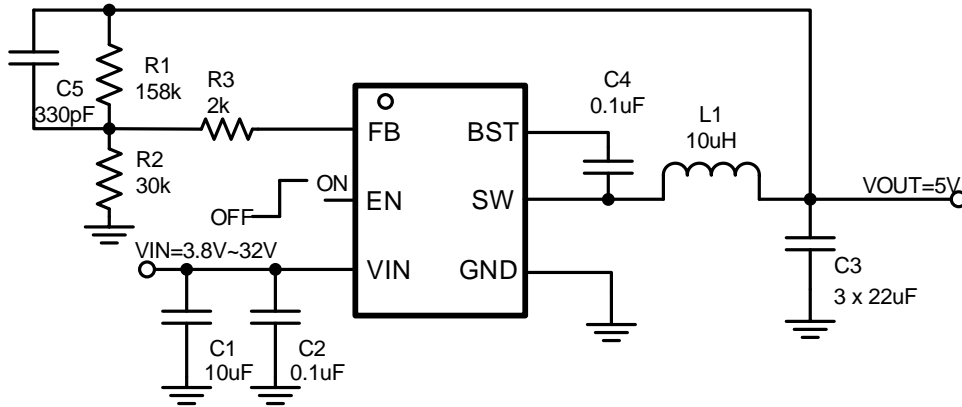
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□□

□

KKGD OD I D A MH OD I

M :



0 -OB .Q, : H

I

Design Parameters	Example Value
Input Voltage	24V
Output Voltage	5V
Output Current	3A
Output voltage ripple (peak to peak)	±0.3V
Switching Frequency	400kHz

L M2- ,)

B

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H L

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$$C_{OUT} = \frac{\Delta I_{LPP}}{8 \times V_{OUTRipple} \times f_{SW}} \quad (6)$$

•
•
•

$$R_{ESR} = \frac{V_{OUTRipple}}{\Delta I_{LPP}} \quad (7)$$

$$\frac{1}{10} \times f_{SW}$$

$$C_{OUT} > \frac{18k \times G_M \times G_{MP} \times 0.8V}{2\pi \times V_{OUT} \times f_C} \quad (8)$$

•
•
•

□ □

$$I_{COUTRMS} = \frac{V_{OUT} \cdot (V_{IN} - V_{OUT})}{\sqrt{12} \cdot V_{IN} \cdot L_{IND} \cdot f_{SW}} \quad (9)$$

L M2- ,)

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$$C_f = \frac{1}{2\pi \cdot f_c \times R_1} \tag{10}$$

H

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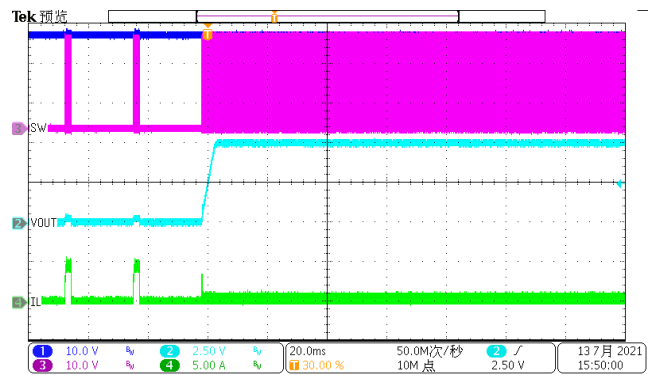
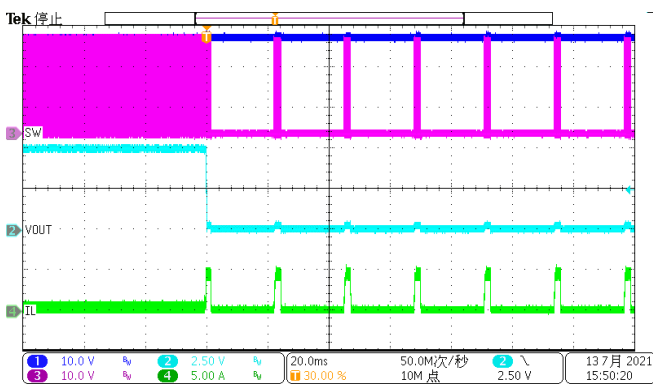
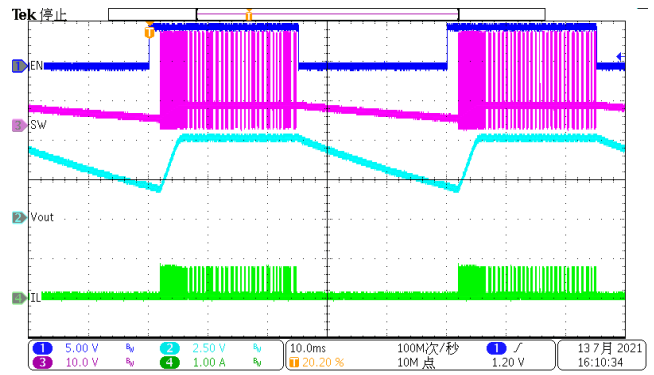
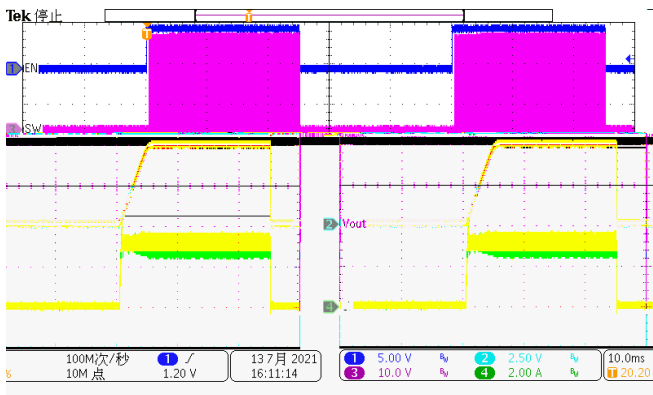
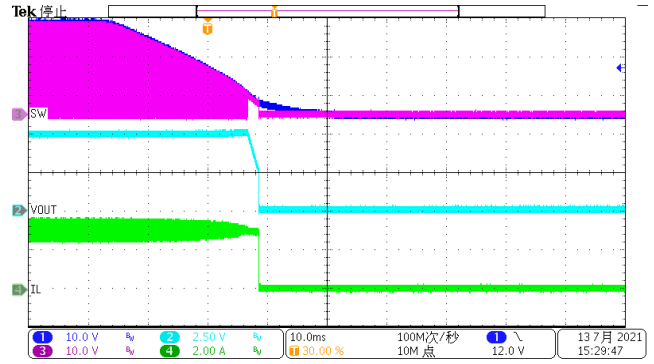
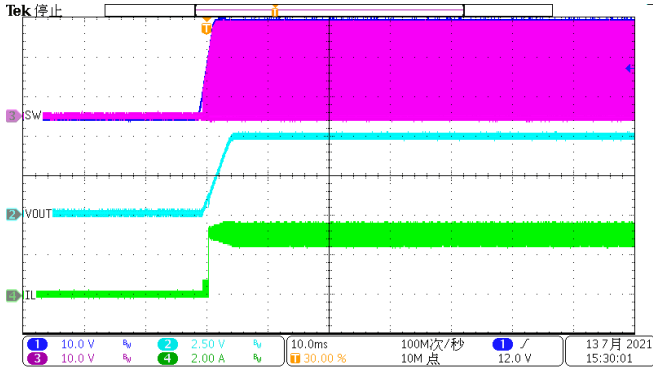
$$R_1 = \frac{(V_{OUT} - V_{ref}) \times R_2}{V_{ref}} \tag{11}$$

□

M K

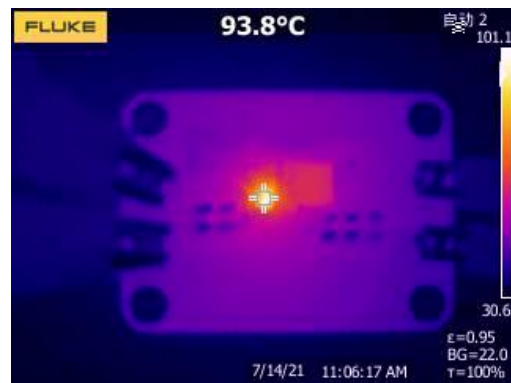
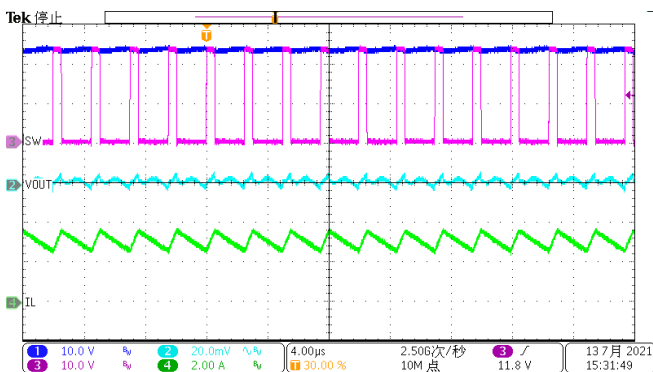
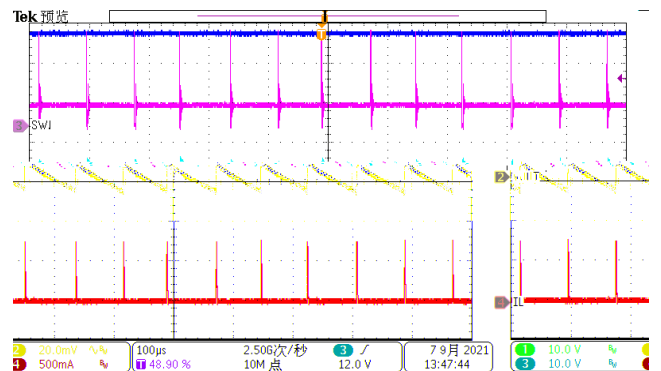
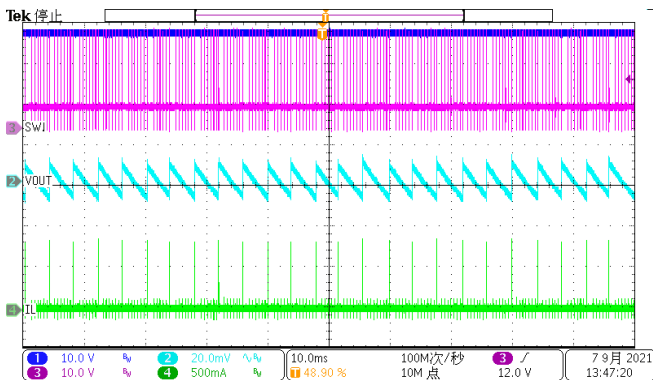
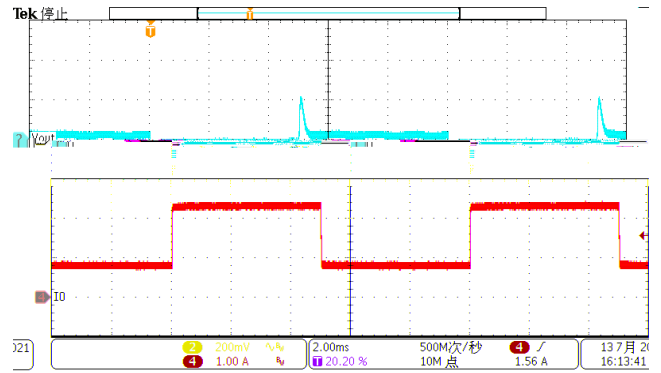
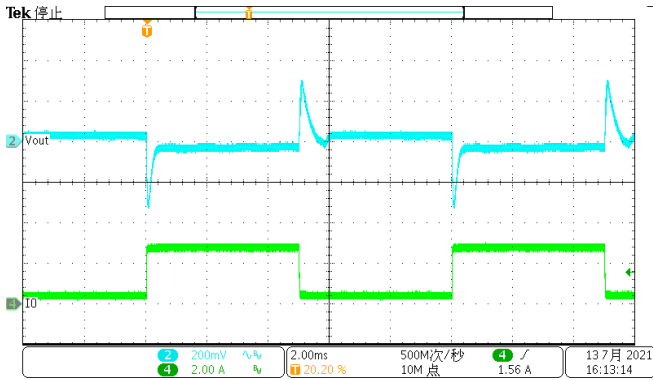
Vout	L1	COU T	R1	R2	R3	Cf
3.3V	6.5uH	3*22uF	93.5k	30k		330p
5V	10uH	3*22uF	158k	30k	2k	330p
12V	22uH	3*22uF	422k	30k	2k	330p

: P



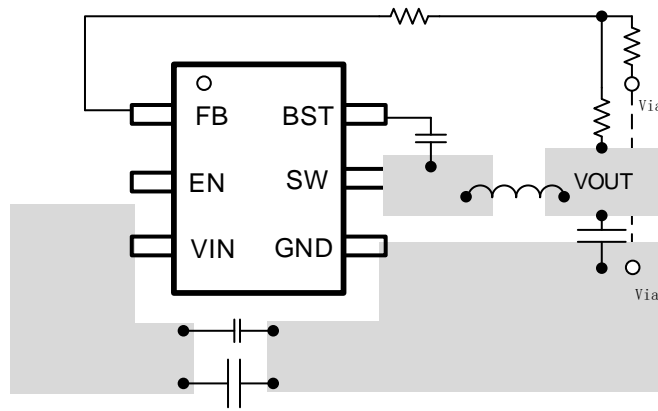
L M2- ,)

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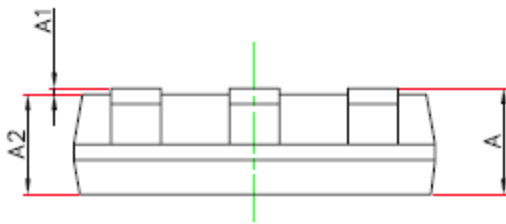
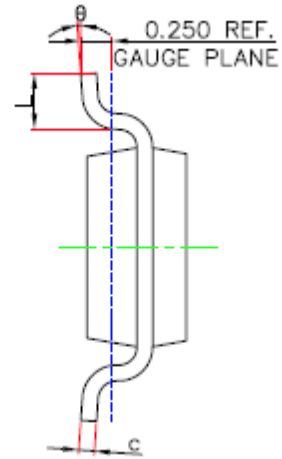
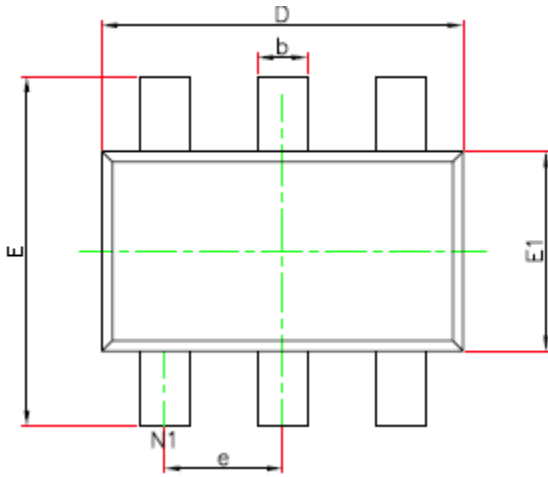
E

□



L M2-,)

K F B D A M H O D I



SYMBOL	Unit: Millimeter		
	MIN	TYP	MAX
A	-----		1.10
A1	0.000		0.10
A2	0.70		1.00
D	2.85		2.95
E	2.65		2.95
E1	1.55		1.65
b	0.30		0.50
c	0.08		0.20
e	0.95(BSC)		
L	0.30		0.60
	0°		8°

GHM 3

1.
2.
3.
4.
5.
6.

O K I M G D A M H O D I

