

**SCT82A30**



**PIN FUNCTIONS**

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NAME	NO.	I/O <sup>(1)</sup>	PIN FUNCTION
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**THERMAL INFORMATION**

<b>PARAMETER</b>	<b>THERMAL METRIC</b>	<b>QFN-20L</b>	<b>UNIT</b>

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## RECOMMENDED OPERATING CONDITIONS

PARAMETER	DEFINITION	MIN	MAX	UNIT

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SYMBOL	PARAMETER	TEST CONDITION	MIN	TYP	MAX	UNIT

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SYMBOL    PARAMETER

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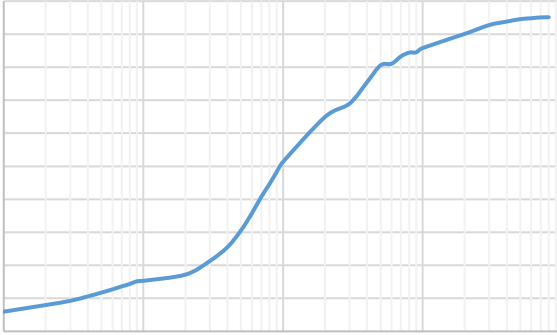
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SYMBOL	PARAMETER	TEST CONDITION	MIN	TYP	MAX	UNIT
<b>Thermal Shutdown</b>						

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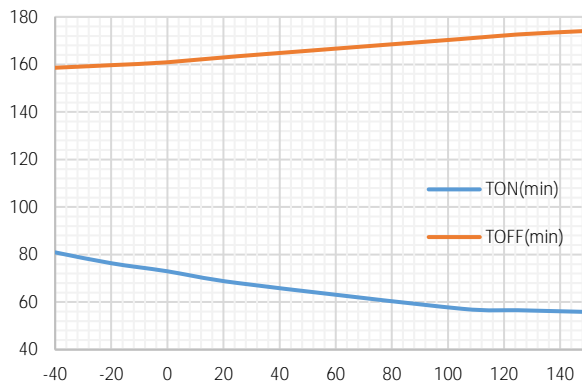
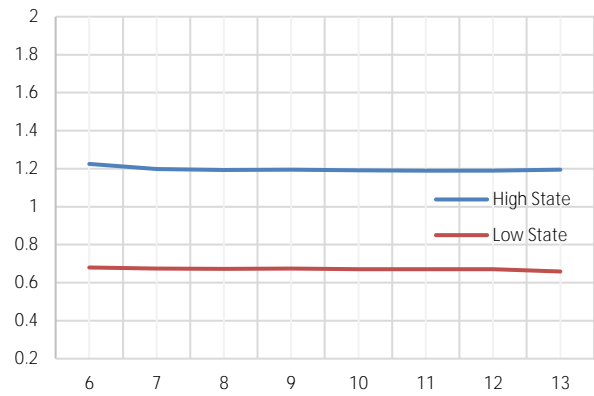
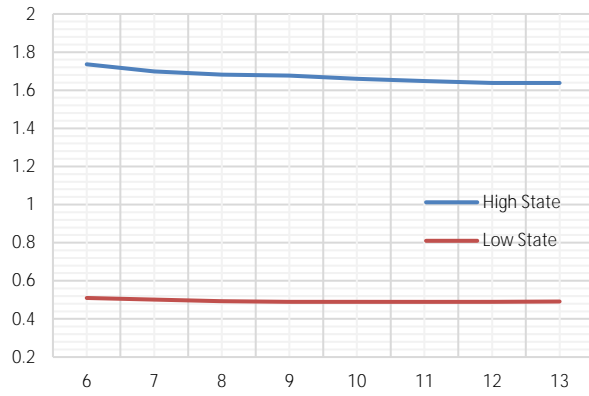
## TYPICAL CHARACTERISTICS



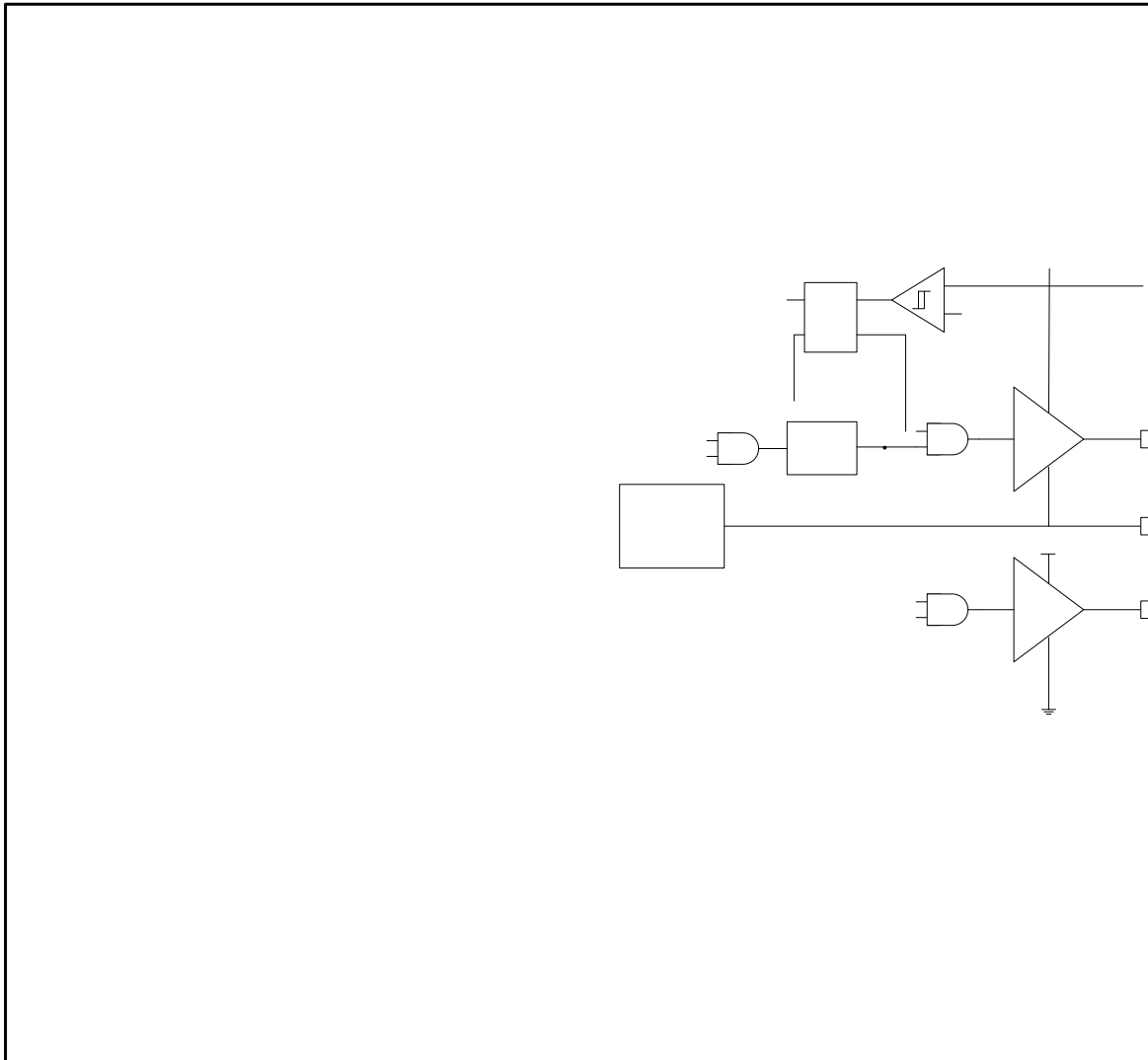


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## TYPICAL CHARACTERISTICS



FUNCTIONAL BLOCK DIAGRAM



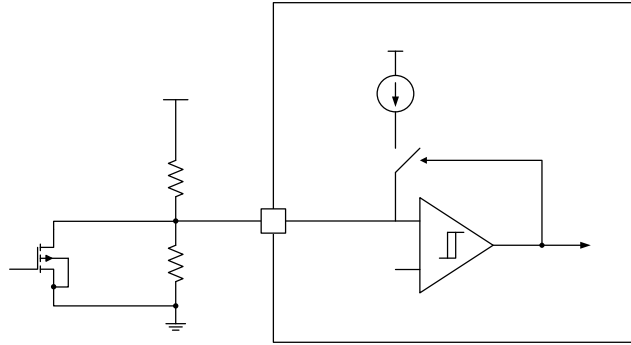
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## OPERATION

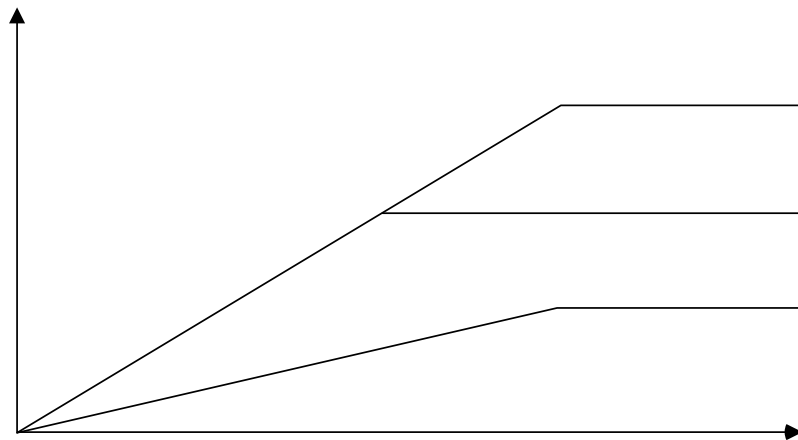
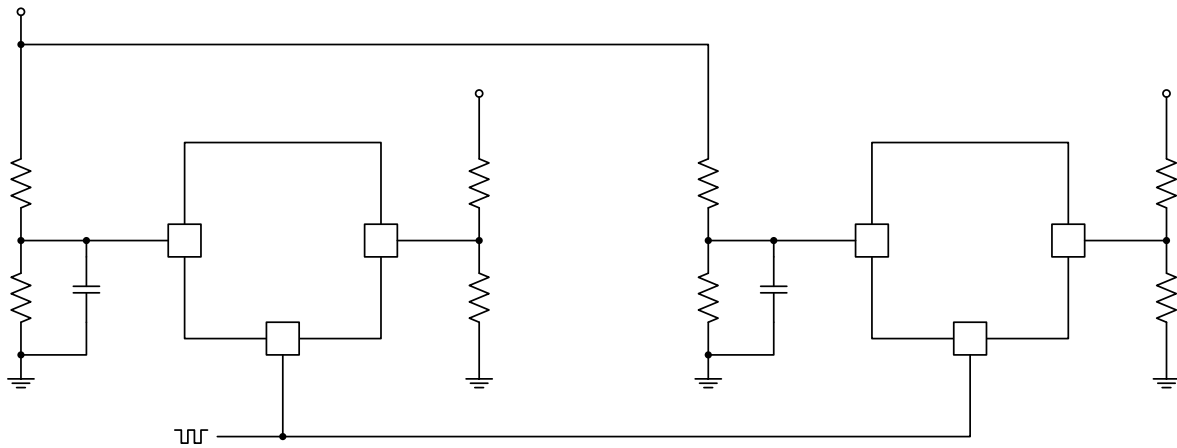
### Overview



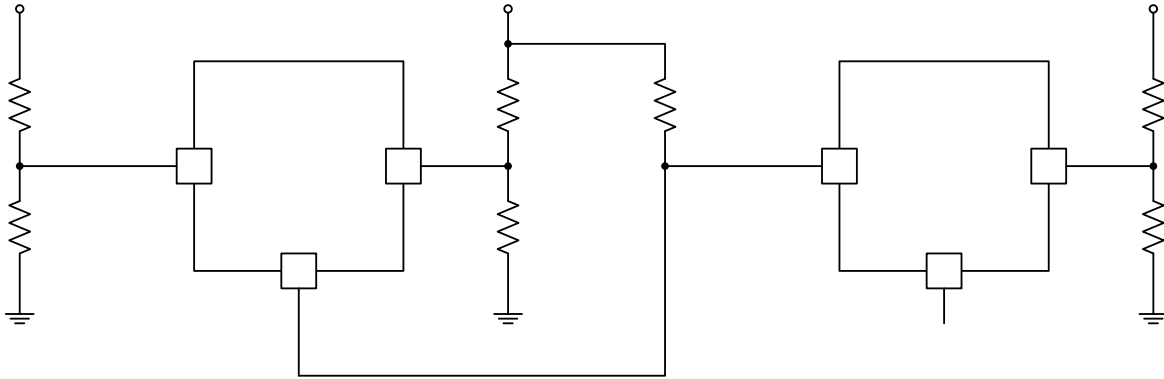


## Soft Start and Voltage Tracking

e



Power Good Monitor PGOOD



## Switching Frequency and Clock Synchronization

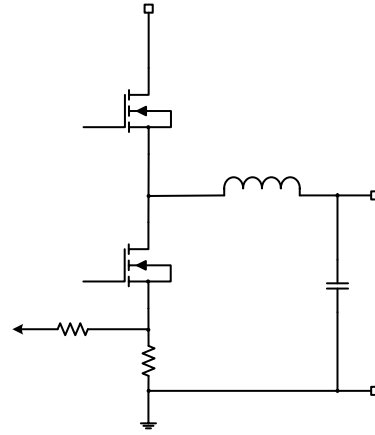
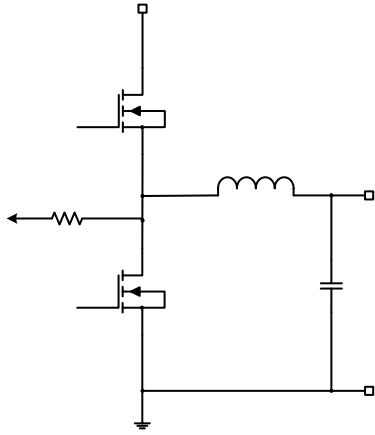
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Switching Frequency (kHz)	Frequency Set Resistance (k )



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**Device Functional Modes**

**Shutdown Mode**

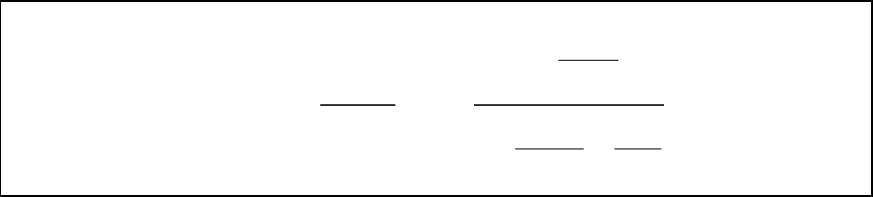
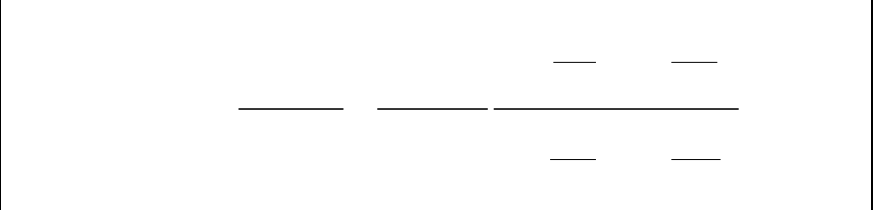

**Standby Mode**

**Active Mode**

**Diode Emulation Mode**

**Thermal Shutdown**



$\sqrt{\quad}$	$\quad$	$\quad$	$\quad$
		$\quad$	$\quad$

**D**

**V**

EHORZ

RZV WKH RS.8•p0 00

$$z1 = K \cdot o, \quad z2 = o, \quad p1 = SW/2, \quad p2 = ESR$$

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## APPLICATION INFORMATION

### Typical Application



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Application Waveforms(continued)

Typical Application

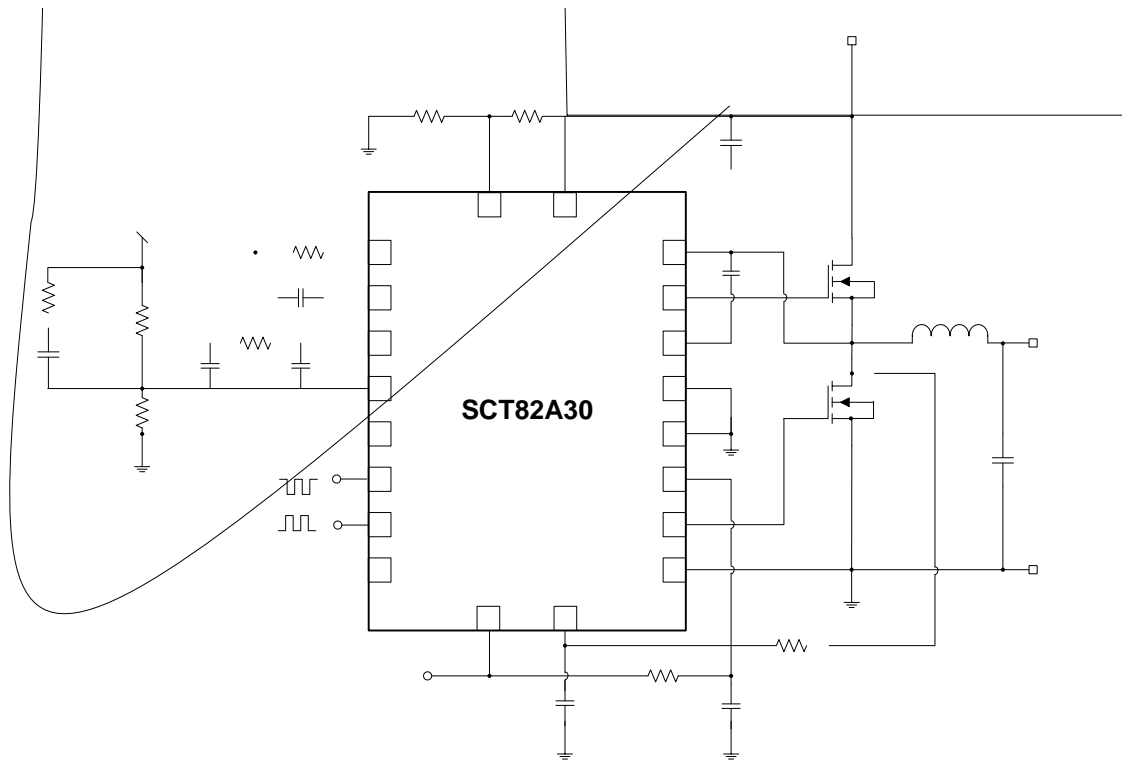


Figure 41. Application Schematic, 48V to 5V, 20A Buck Regulator at 400kHz

Design Parameters

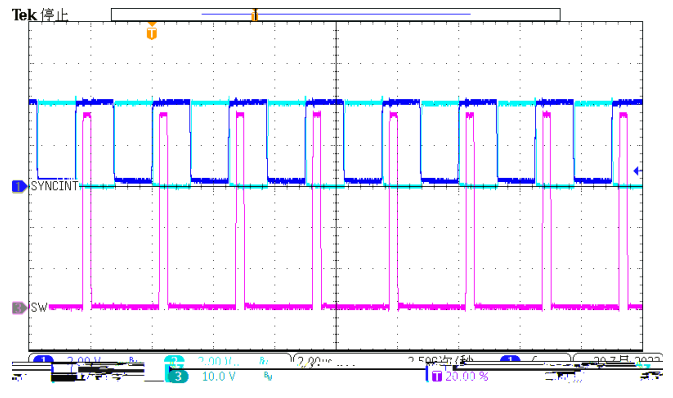
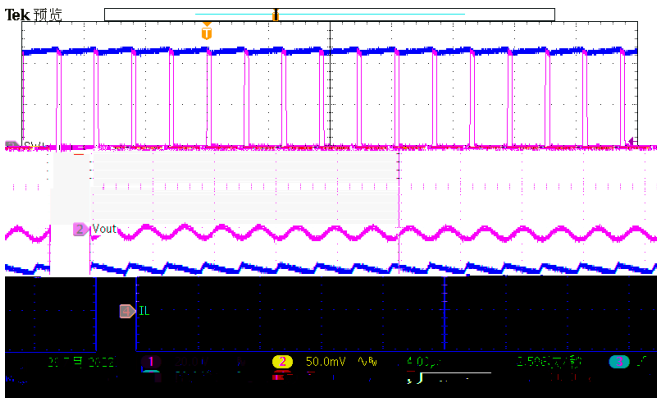
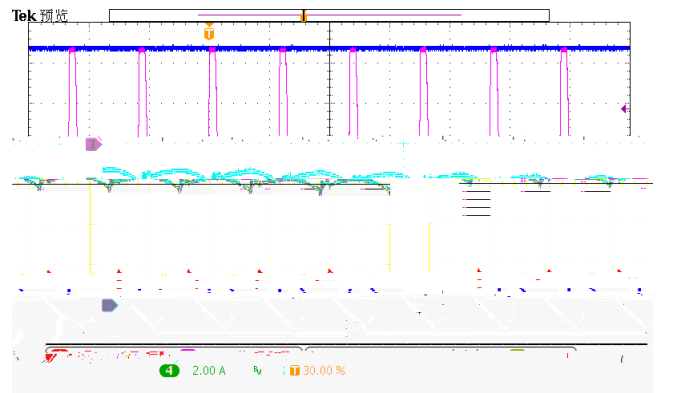
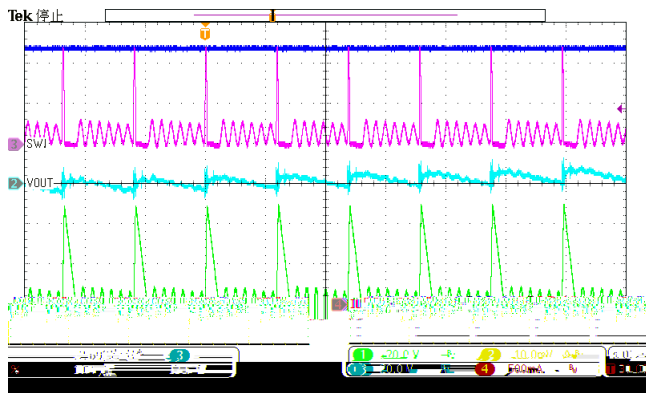
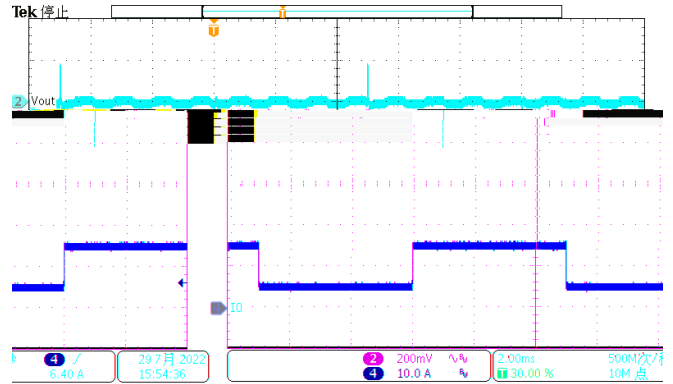
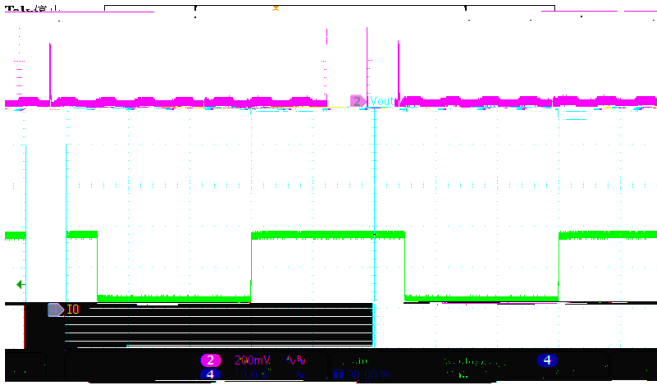
Design Parameters	Example Value

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## Application Waveforms

## Application Waveforms(continued)



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**Table 5: Compensation Values for Typical Output Voltage/Capacitor Combinations at fsw=400KHz**

Vout	L	COU	R <sub>FB</sub>	R <sub>FB</sub>	R <sub>c</sub>	C <sub>c</sub>	C <sub>c</sub>	R <sub>c</sub>	C <sub>c</sub>
V	. uH	* uF	. K	. K	. K	nF	pF		. nF
V	. uH	* uF	K	. K	K	. nF	pF		. nF
V	. uH	* uF	. K	. K	. K	. nF	pF		pF



