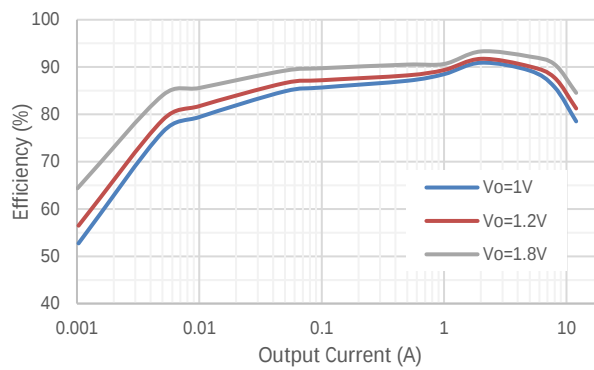


2.9V-7V, Synchronous Buck Converter



Vin=5V, fsw=800kHz, PFM Mode



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| PARAMETER | DEFINITION | MIN | MAX | UNIT |
|-----------|------------|-----|-----|------|
|           |            |     |     |      |
|           |            |     |     |      |
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| PARAMETER | DEFINITION | MIN | MAX | UNIT |
|-----------|------------|-----|-----|------|
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|           |            |     |     |      |

| PARAMETER | THERMAL METRIC | QFN-12L | UNIT |
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# SCT21C0

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| SYMBOL | PARAMETER | TEST CONDITION | MIN | TYP | MAX | UNIT |
|--------|-----------|----------------|-----|-----|-----|------|
|--------|-----------|----------------|-----|-----|-----|------|

## Power Supply and Output

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## Reference and Control Loop

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## Power MOSFETs

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## Enable and Soft-start

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## Operation Mode

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## Switching Frequency

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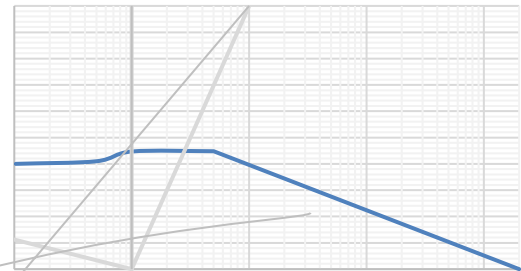
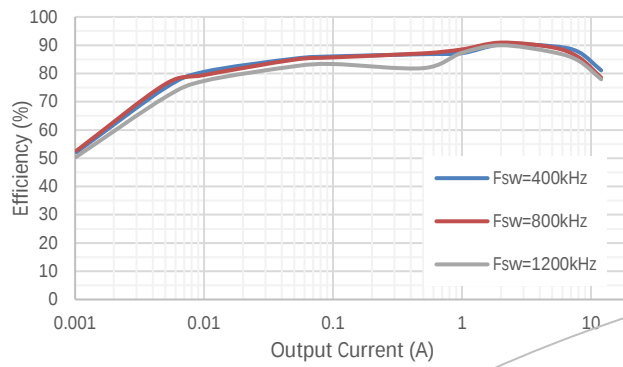
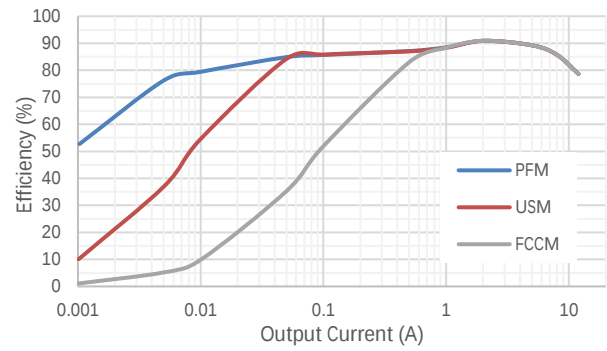
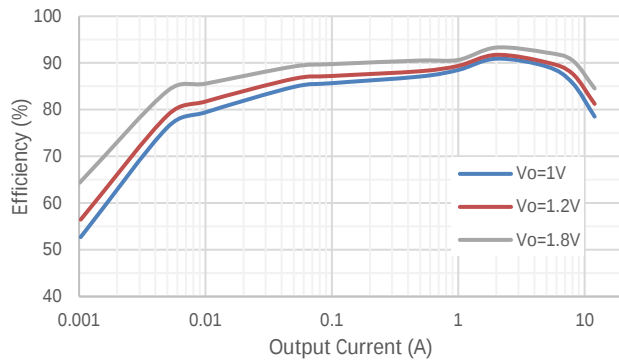
## Power Good

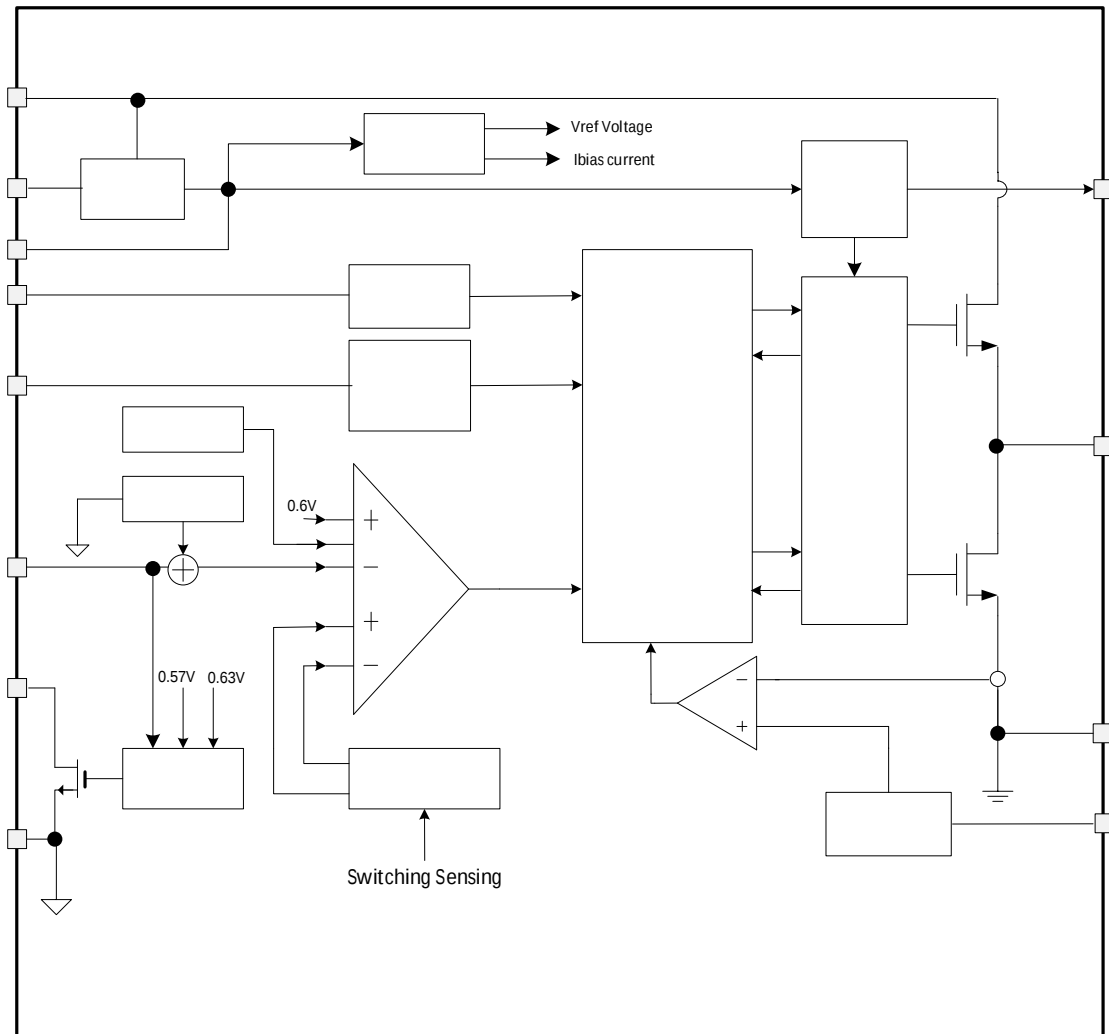
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## SCT21C0

| SYMBOL     | PARAMETER | TEST CONDITION | MIN | TYP | MAX | UNIT |
|------------|-----------|----------------|-----|-----|-----|------|
|            |           |                |     |     |     |      |
|            |           |                |     |     |     |      |
| Protection |           |                |     |     |     |      |
|            |           |                |     |     |     |      |
|            |           |                |     |     |     |      |
|            |           |                |     |     |     |      |

# SCT21C0





## Overview

Ω

## Constant on-time (COT) Mode Control

## Pulse Frequency Modulation (PFM) and Ultra-sonic Modulation (USM) Modes

## Forced Continuous Conduction Mode (FCCM)

Enable and Under Voltage Lockout Threshold

# SCT21C0

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## Mode Selection

Table 3. MODE Pin Set-up for Mode Selection

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## Power Good (PG)

## Bootstrap Voltage Regulator

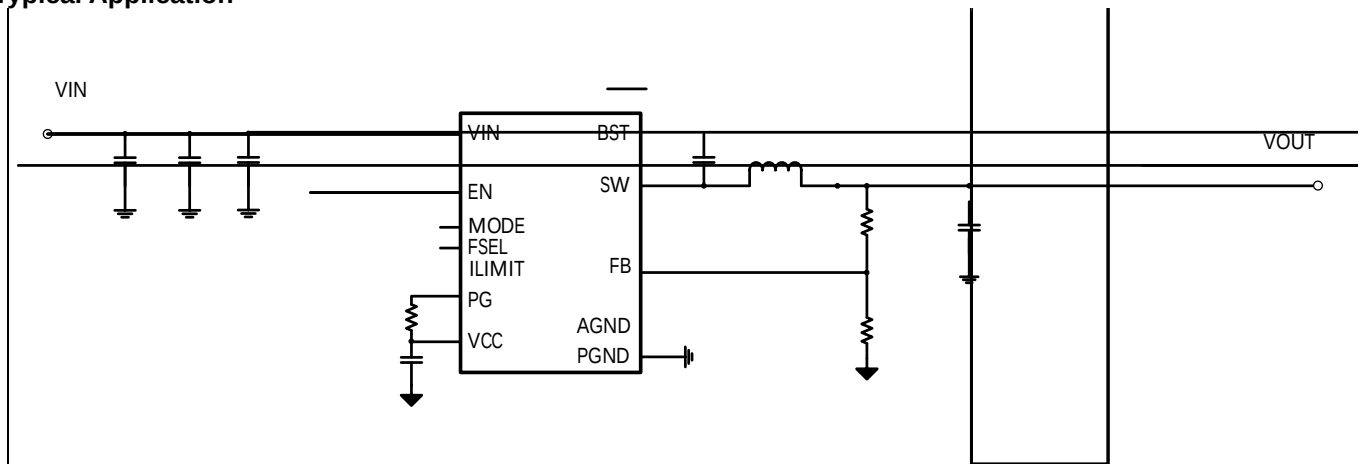
## Over Current Limit and Hiccup Mode

## Under-voltage Protection

## Over voltage Protection



Typical Application



Design Parameters

| Design Parameters | Example Value |
|-------------------|---------------|
|                   |               |
|                   |               |
|                   |               |
|                   |               |
|                   |               |

## Input Capacitor Selection

Output Capacitor Selection

$$\frac{f_s = 1}{f_s = 1}$$

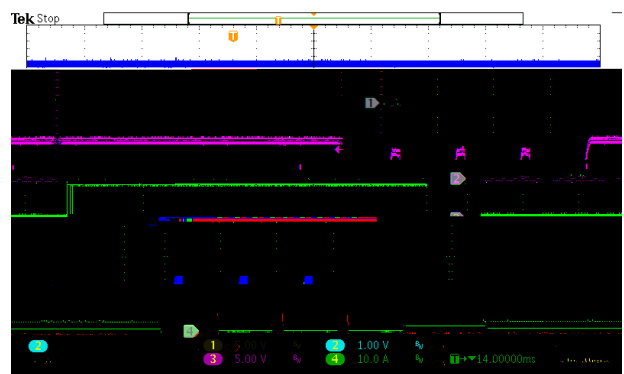
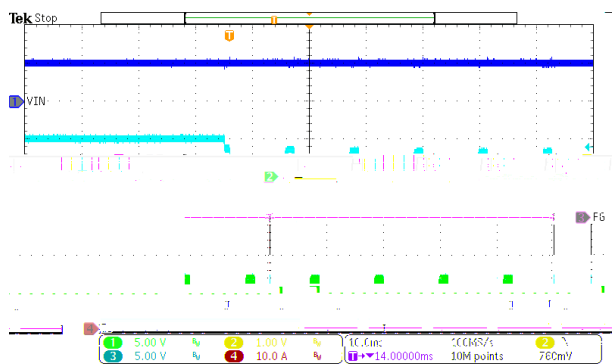
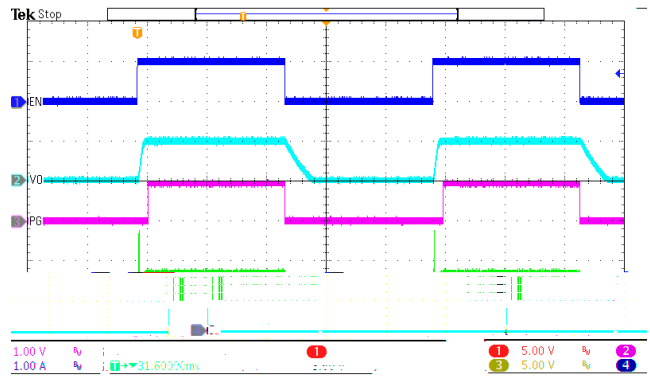
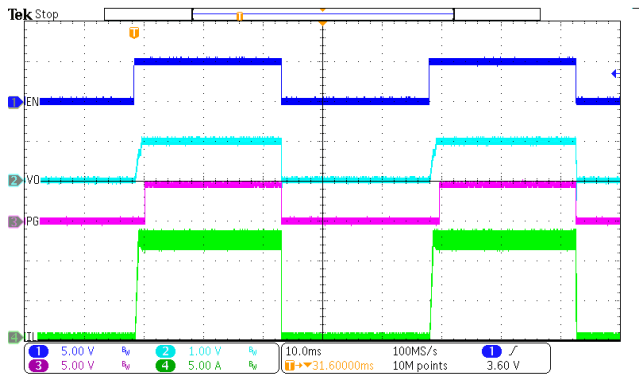
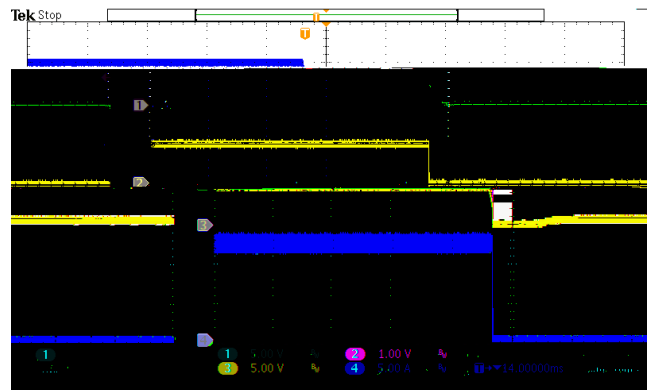
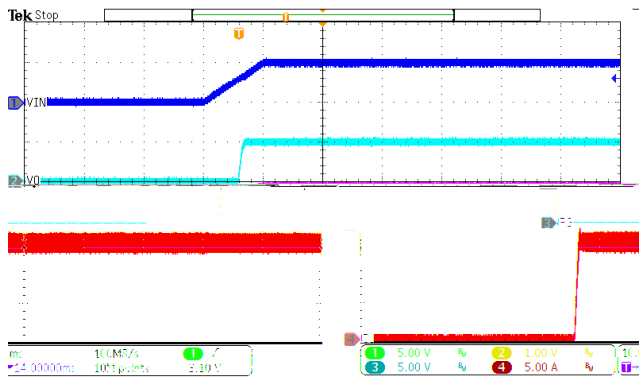
Output Feedback Resistor Divider Selection

$$\frac{f_s = T}{T}$$

Table 3 Recommended Component Values for Typical Output Voltage (Vin=5V)

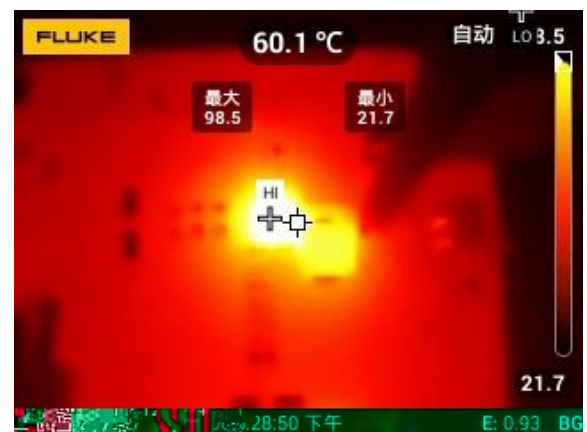
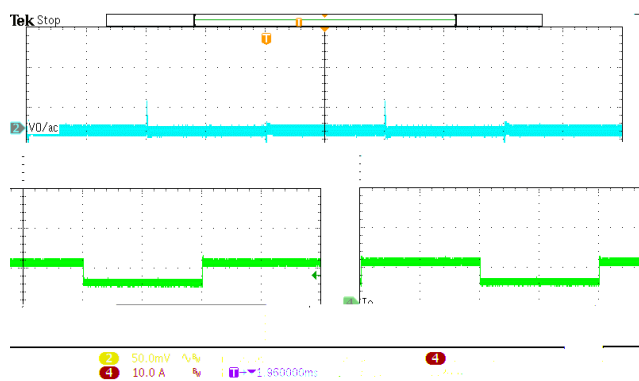
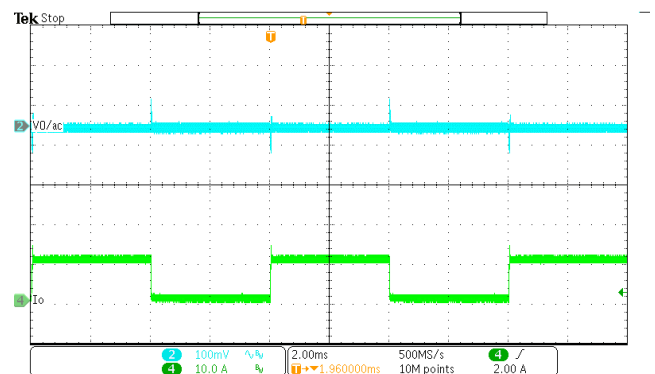
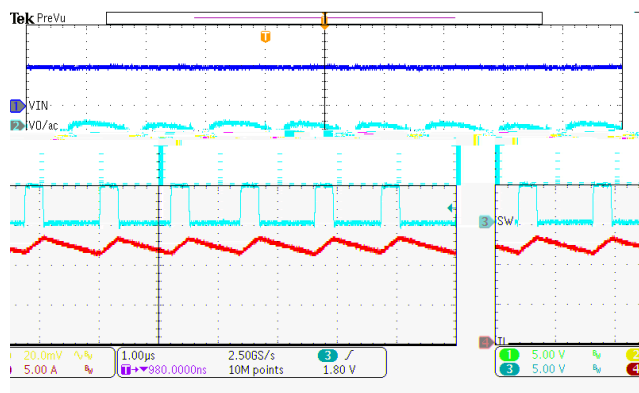
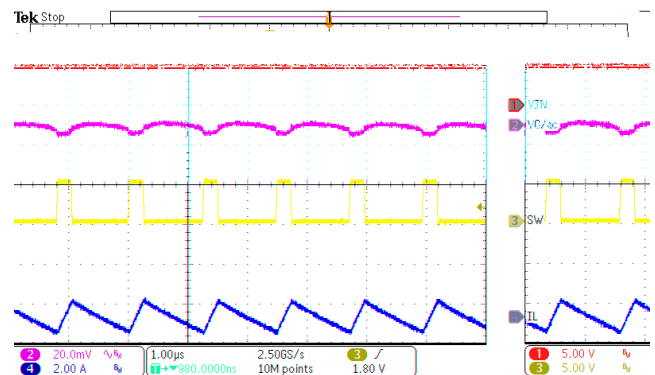
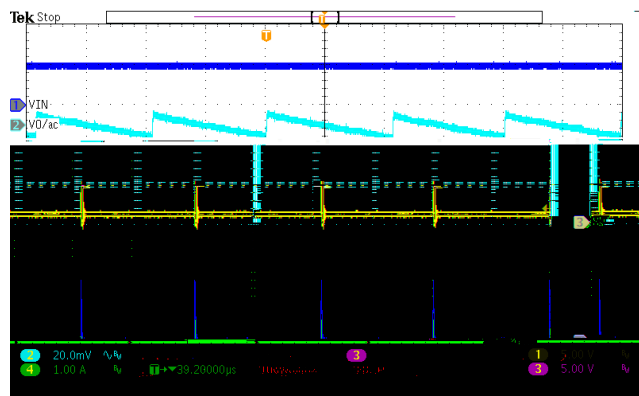
| Fsw (kHz) | Vout (V) | L (uH) | R7 (k ) | R8 (k ) | Cf (pF) |
|-----------|----------|--------|---------|---------|---------|
|           |          |        |         |         |         |
|           |          |        |         |         |         |
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## Application Waveforms

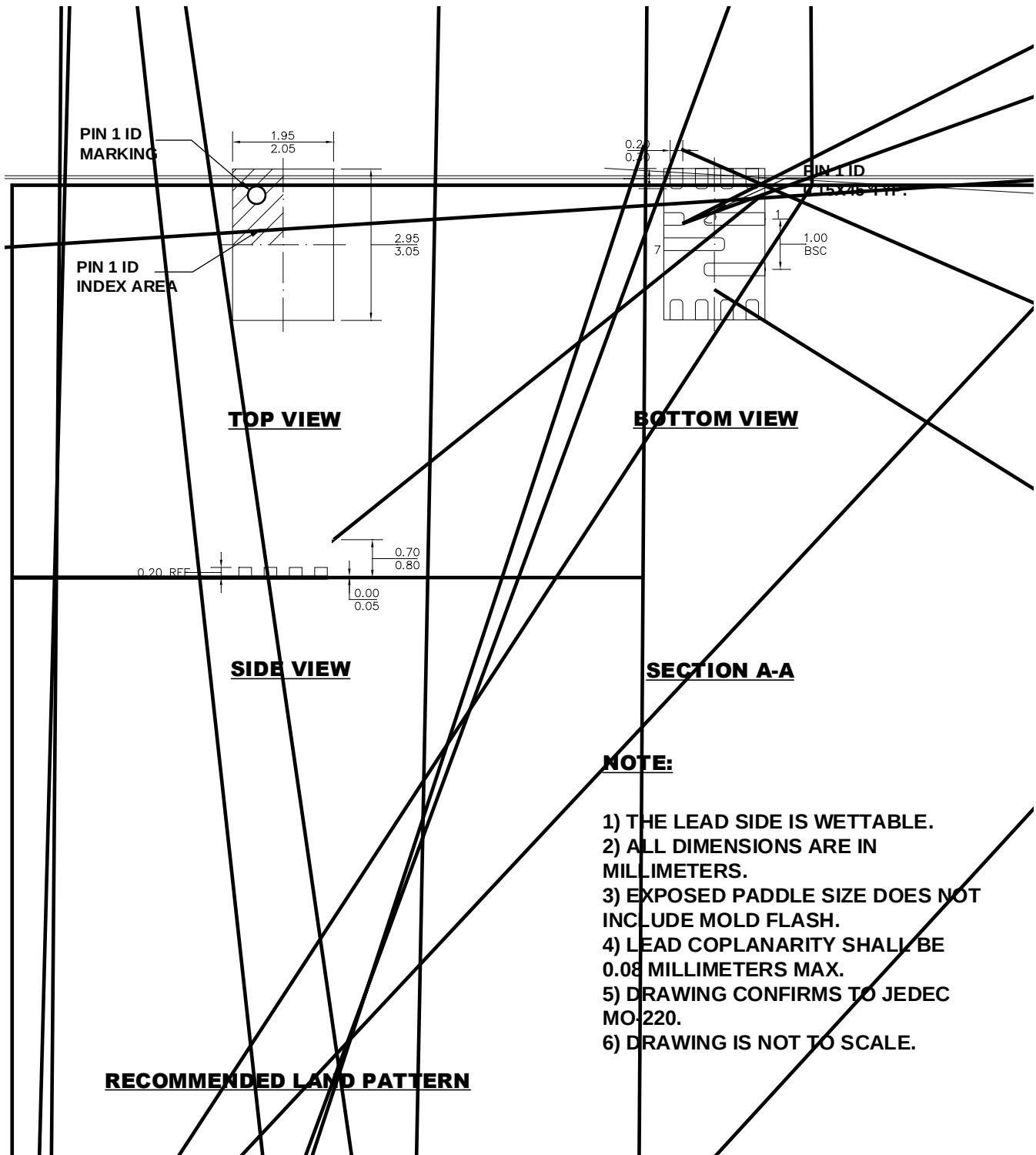


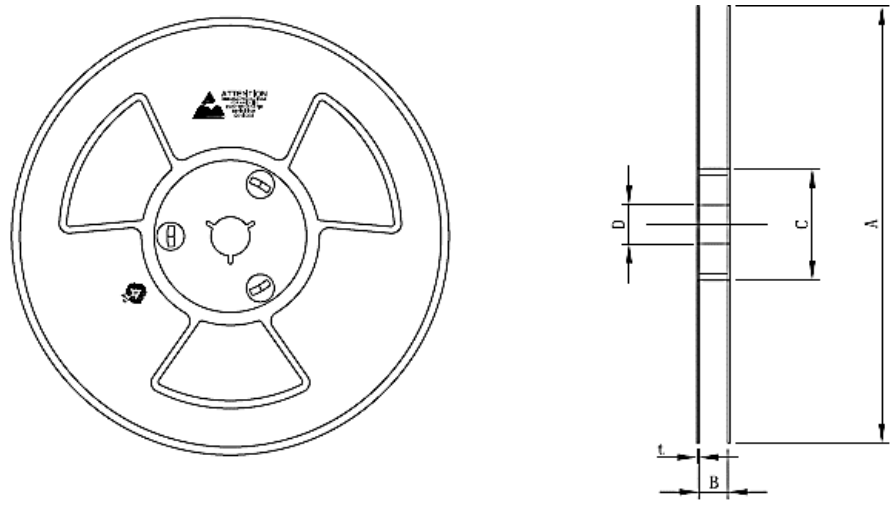
# SCT21C0

## Application Waveforms(Continued)

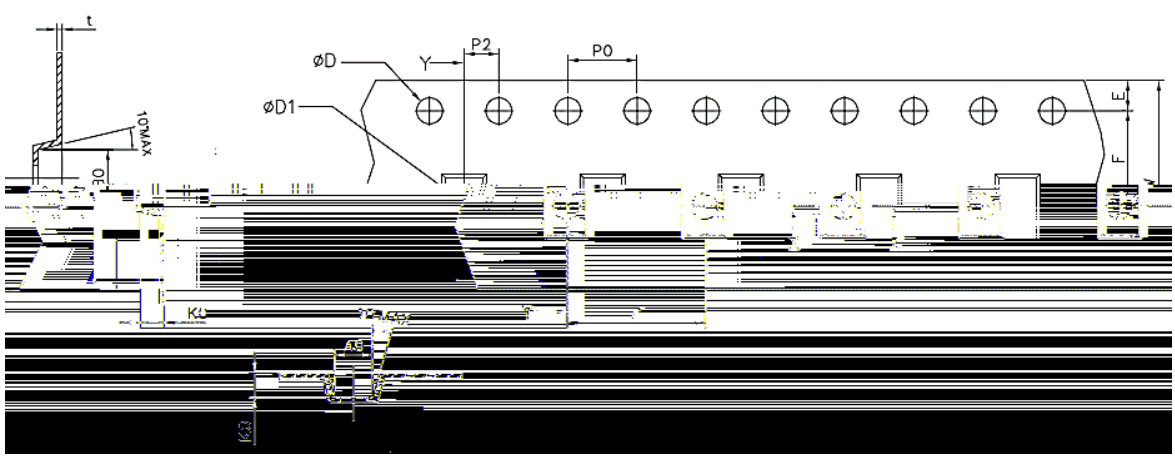


## Layout Guideline





| SYMBOL | MILLIMETER |     |     |
|--------|------------|-----|-----|
|        | MIN        | NOM | MAX |
| A      |            |     |     |
| B      |            |     |     |
| C      |            |     |     |
| D      |            |     |     |
| t      |            |     |     |



| SYMBOL | MILLIMETER |     |     |
|--------|------------|-----|-----|
|        | MIN        | NOM | MAX |
| E      |            |     |     |
| F      |            |     |     |
| P2     |            |     |     |
| D      |            |     |     |
| D1     |            |     |     |
| P0     |            |     |     |
| W      |            |     |     |
| P      |            |     |     |
| A0     |            |     |     |
| B0     |            |     |     |
| K0     |            |     |     |
| t      |            |     |     |