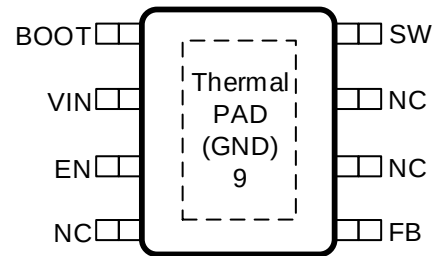


- [illegible]

| ORDERABLE<br>DEVICE | PACKAGING<br>TYPE | STANDARD<br>PACK QTY | PACKAGE<br>MARKING | PINS | PACKAGE<br>DESCRIPTION |
|---------------------|-------------------|----------------------|--------------------|------|------------------------|
|                     |                   |                      |                    |      |                        |

Over operating free-air temperature unless otherwise noted<sup>(1)</sup>

| DESCRIPTION                                   | MIN  | MAX | UNIT |
|-----------------------------------------------|------|-----|------|
| BST                                           | -0.3 | 40  | V    |
| VIN, SW, EN                                   | -0.3 | 34  | V    |
| BST-SW                                        | -0.3 | 6   | V    |
| FB                                            | -0.3 | 5.5 | V    |
| Operating junction temperature <sup>(2)</sup> | -40  | 125 | C    |
| Storage temperature T <sub>STG</sub>          | -65  | 150 | C    |



8-Lead Plastic E-SOP

(1)

(2)

| NAME | NO. | PIN FUNCTION |
|------|-----|--------------|
|------|-----|--------------|

|  |  |  |
|--|--|--|
|  |  |  |
|  |  |  |

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

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

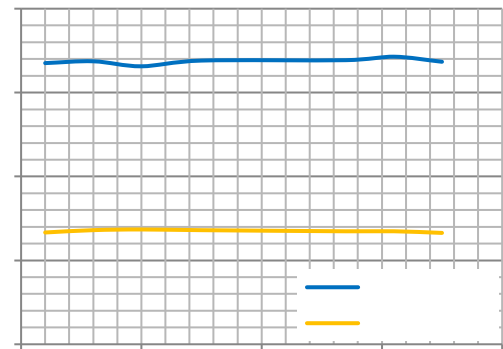
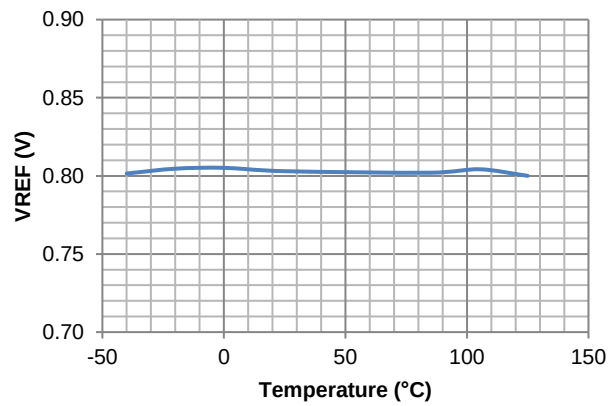
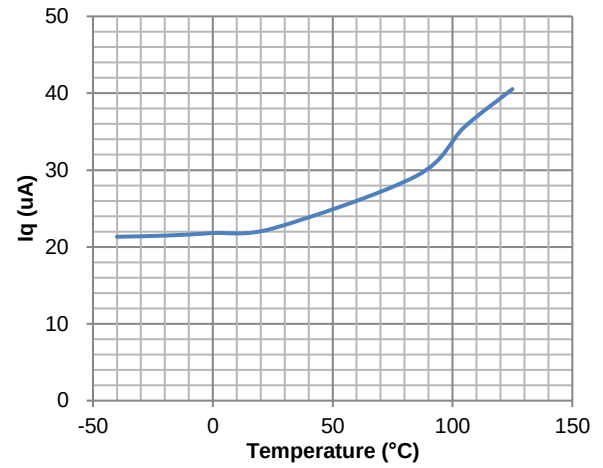
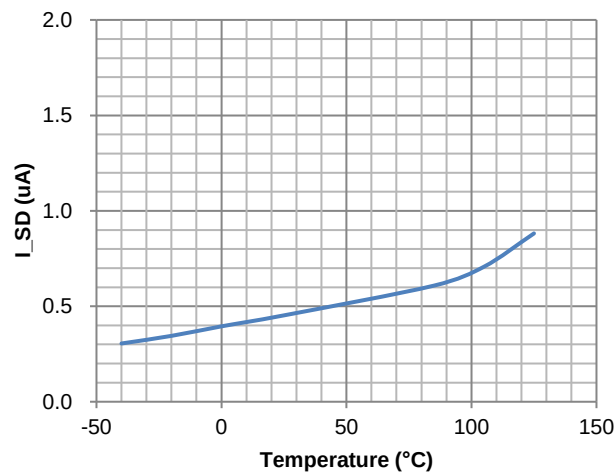
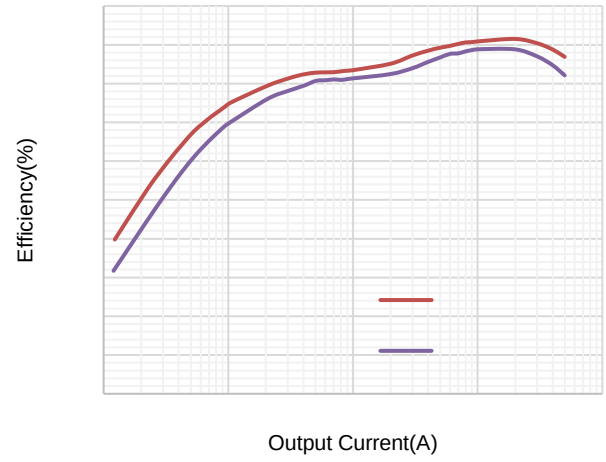
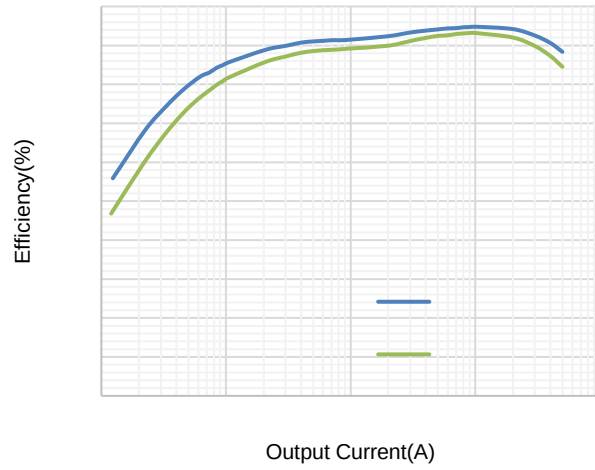
(1)  
(2)

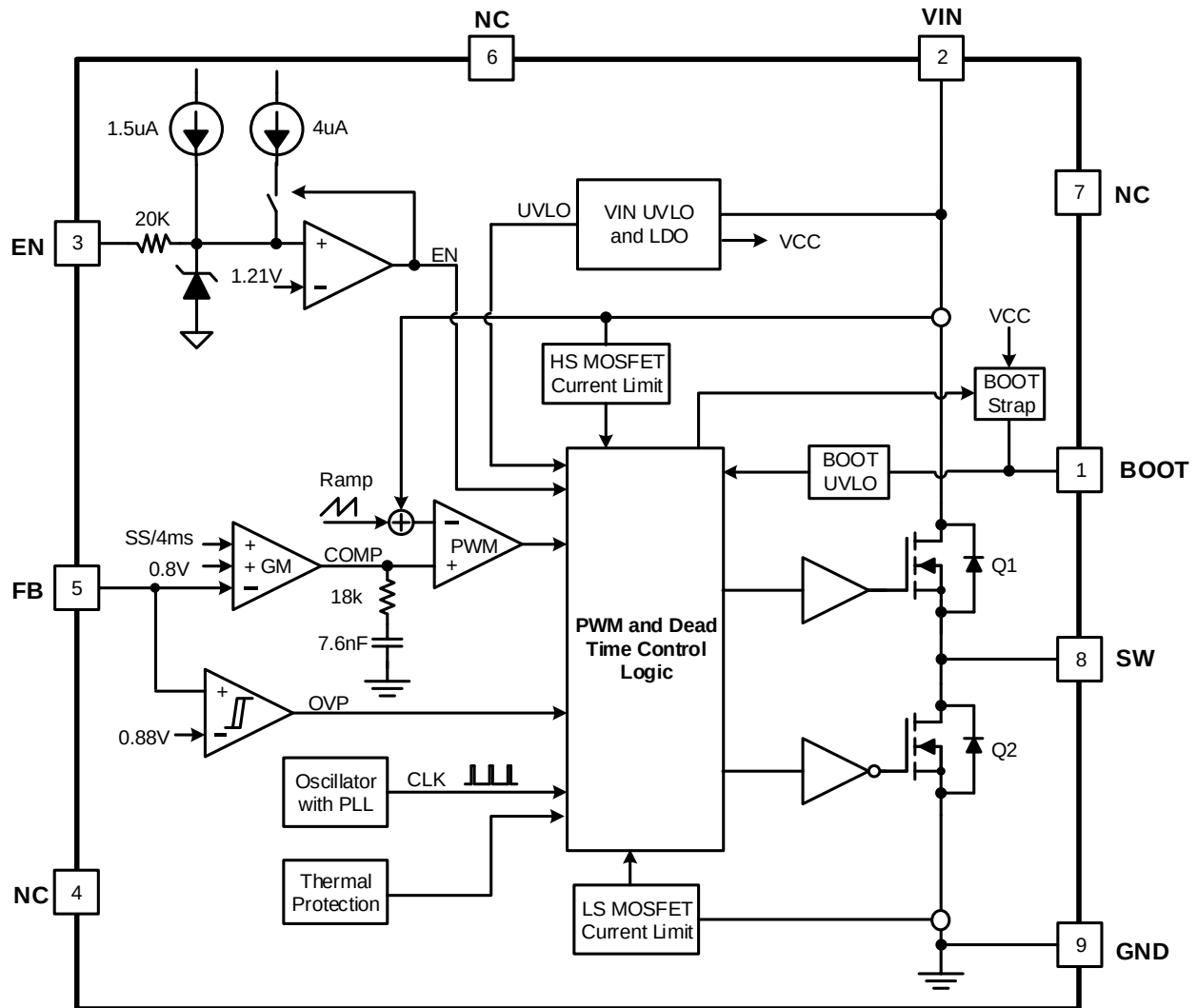
PARAMETER

THERMAL METRIC

ESOP

| SYMBOL                                      | PARAMETER | TEST CONDITION | MIN | TYP | MAX | UNIT |
|---------------------------------------------|-----------|----------------|-----|-----|-----|------|
| <b>Power Supply and Output</b>              |           |                |     |     |     |      |
|                                             |           |                |     |     |     |      |
|                                             |           |                |     |     |     |      |
|                                             |           |                |     |     |     |      |
|                                             |           |                |     |     |     |      |
| <b>Enable, Soft Start and Working Modes</b> |           |                |     |     |     |      |
|                                             |           |                |     |     |     |      |
|                                             |           |                |     |     |     |      |
|                                             |           |                |     |     |     |      |
|                                             |           |                |     |     |     |      |
| <b>Power MOSFETs</b>                        |           |                |     |     |     |      |
|                                             |           |                |     |     |     |      |
|                                             |           |                |     |     |     |      |
| <b>Feedback and Error Amplifier</b>         |           |                |     |     |     |      |
|                                             |           |                |     |     |     |      |
| <b>Current Limit</b>                        |           |                |     |     |     |      |
|                                             |           |                |     |     |     |      |
|                                             |           |                |     |     |     |      |
| <b>Switching Frequency</b>                  |           |                |     |     |     |      |
|                                             |           |                |     |     |     |      |
|                                             |           |                |     |     |     |      |
|                                             |           |                |     |     |     |      |
| <b>Soft Start Time</b>                      |           |                |     |     |     |      |
|                                             |           |                |     |     |     |      |
| <b>Protection</b>                           |           |                |     |     |     |      |
|                                             |           |                |     |     |     |      |
|                                             |           |                |     |     |     |      |



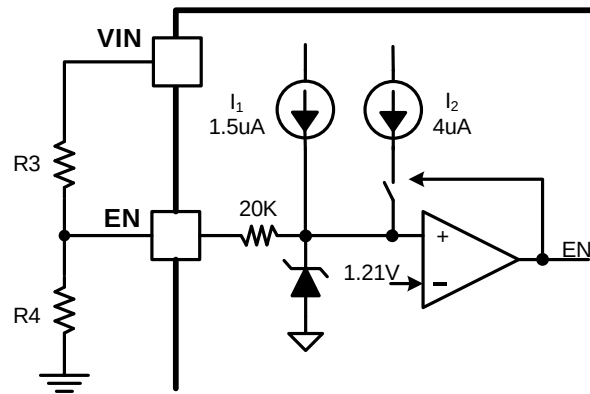


## Overview

## VIN Power

## Under Voltage Lockout UVLO

## Enable and Start up



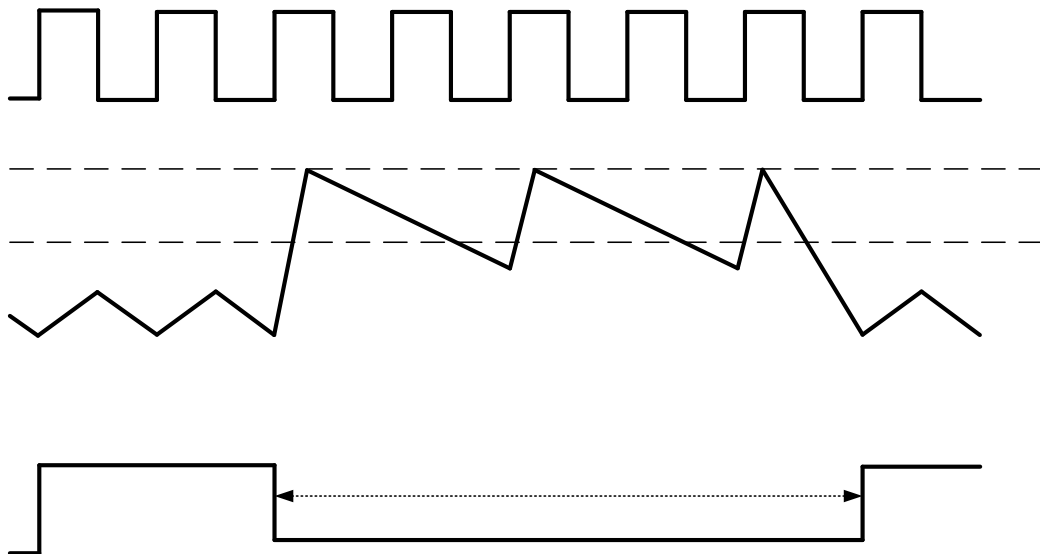
(1)

(2)

EMI Reduction with Frequency Spread Spectrum and Switching Node Ringing-free



## Over Current Protection



## Over Voltage Protection and Minimum On-time

## PSM Working Modes

## Bootstrap Voltage Regulator

Thermal Shutdown

°  
°



## Input Capacitor Selection

(3)

1 \_\_\_\_\_

- 
- 
- 

## Inductor Selection

(4)

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- 

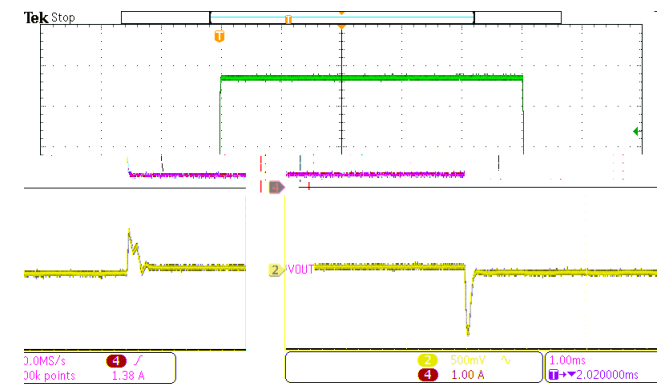
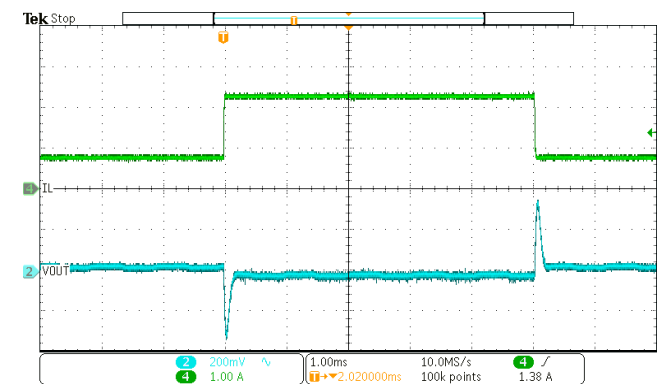
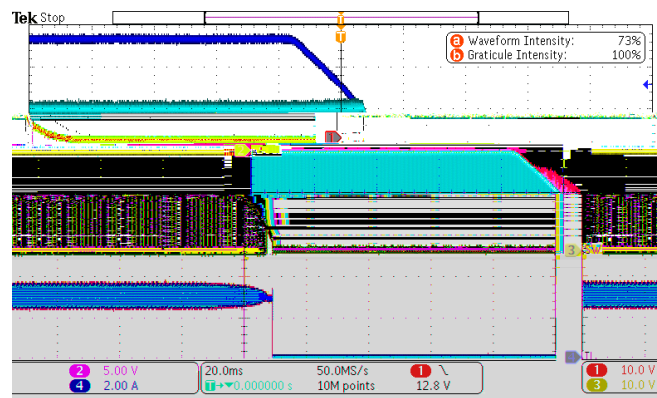
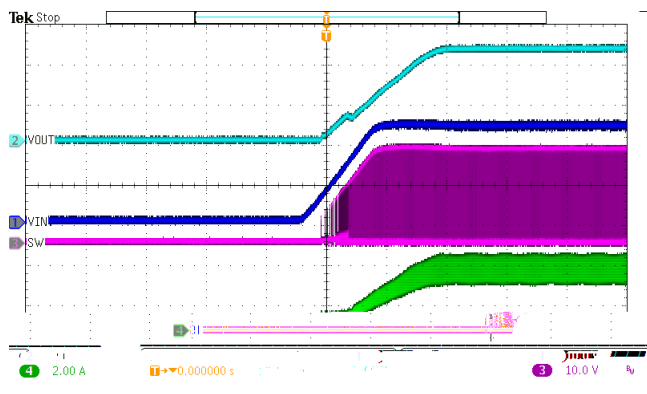
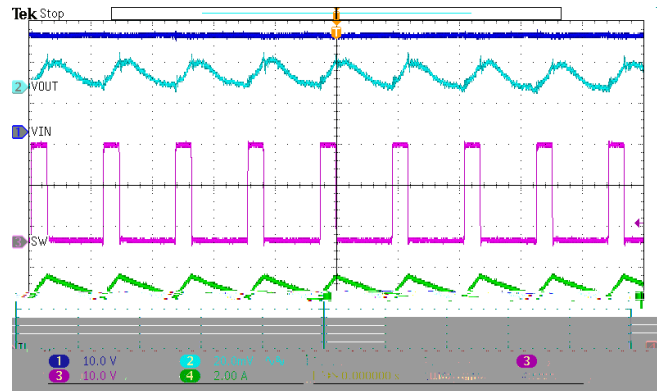
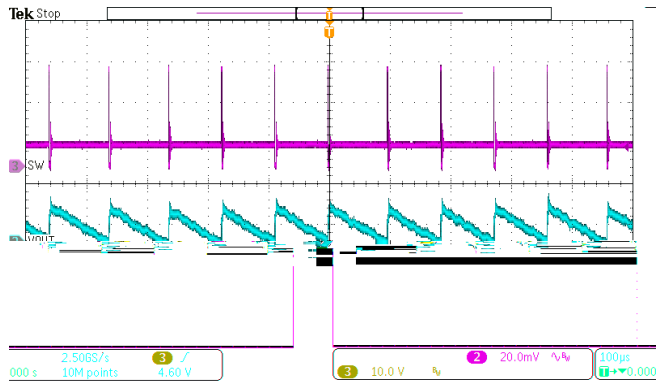
(5)

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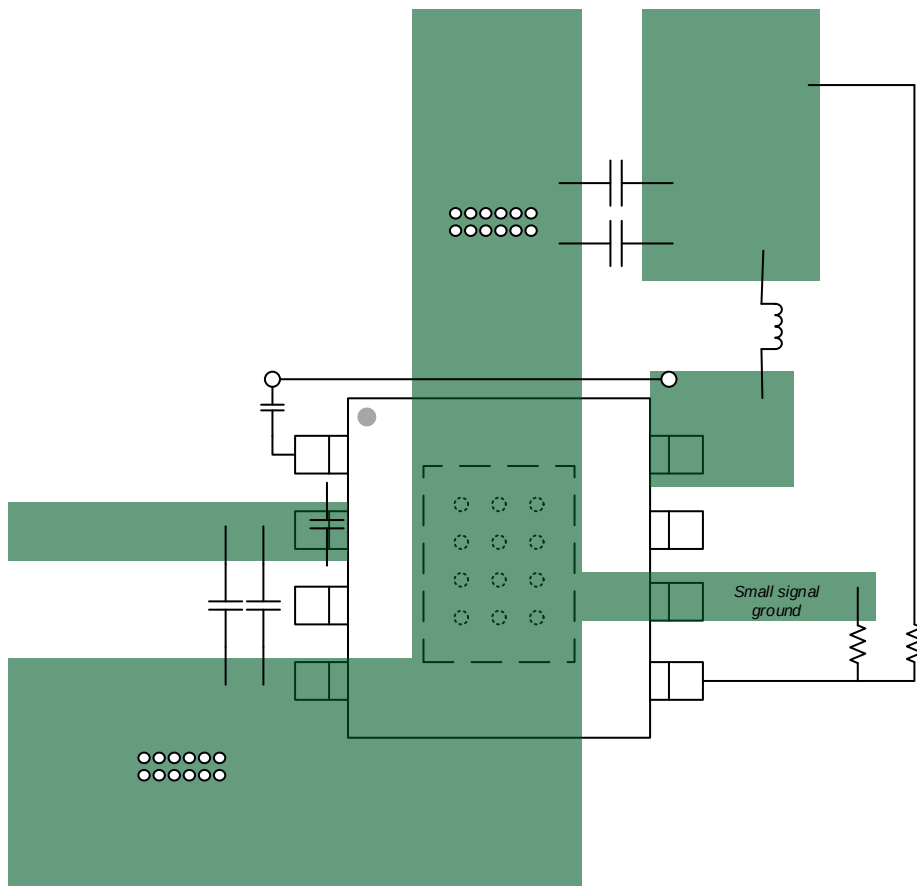


## Application Waveforms



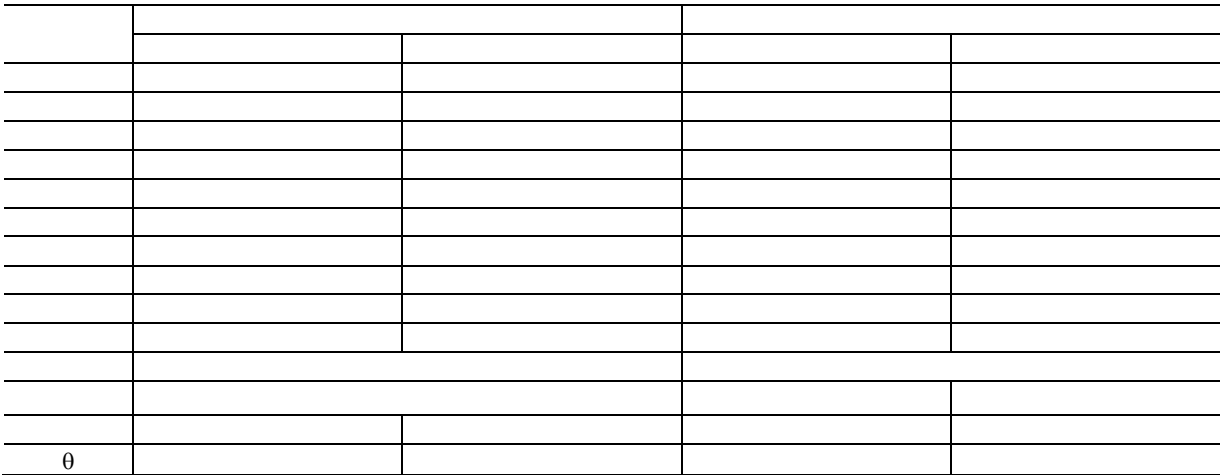


## Layout Guideline



## Thermal Considerations

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

