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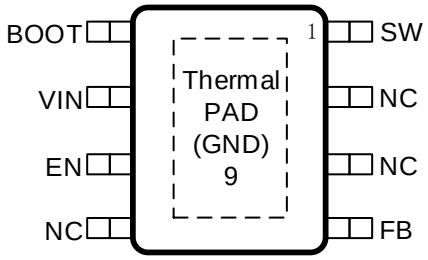
ORDERABLE DEVICE	PACKAGING TYPE	STANDARD PACK QTY	PACKAGE MARKING	PINS	PACKAGE DESCRIPTION

Over operating free-air temperature unless otherwise noted(1)

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(2)	-40	125	C
Storage temperature T_{STG}	-65	150	C



8-Lead Plastic E-SOP

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NAME	NO.	PIN FUNCTION

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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	ESOP

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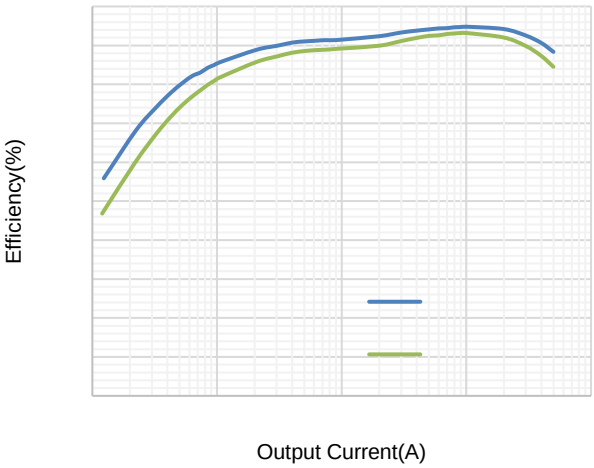
Soft Start Time						
Protection						


Efficiency(%)
Output Current(A)

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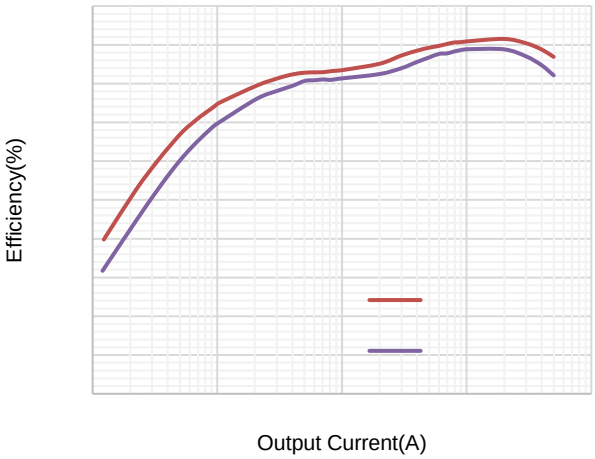
Efficiency(%)
Output Current(A)

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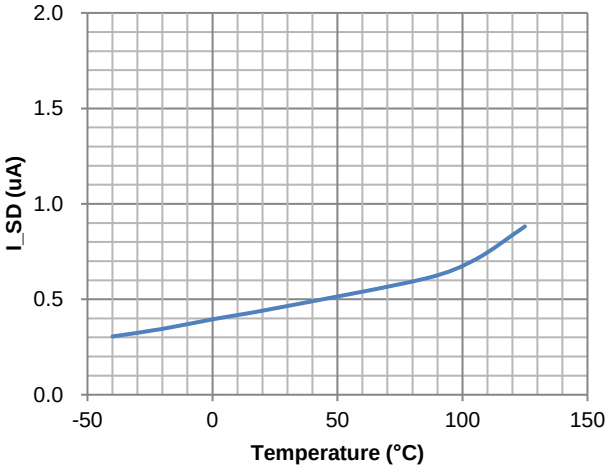
I_SD (uA)
Temperature (°C)

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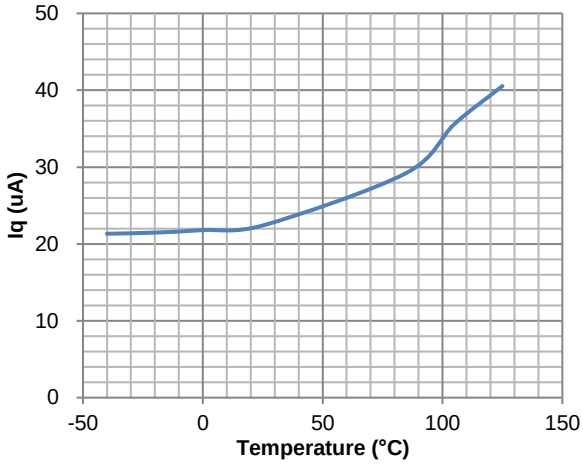
Iq (uA)
Temperature (°C)

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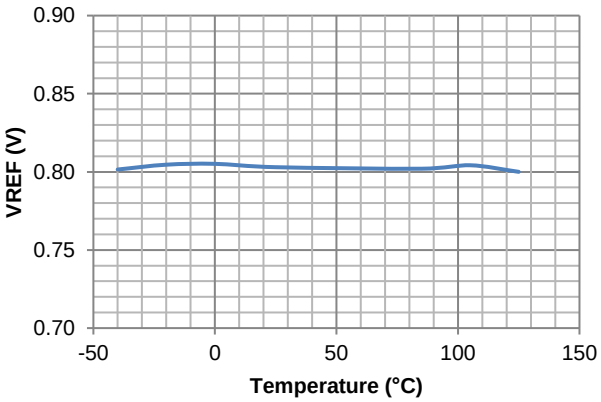
VREF (V)
Temperature (°C)

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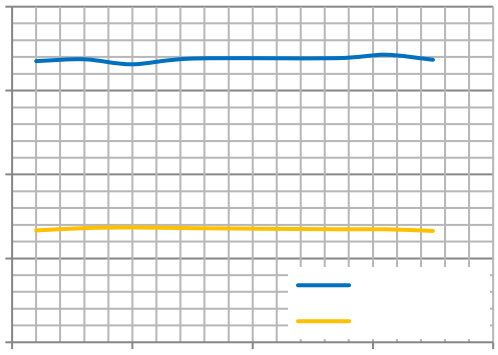

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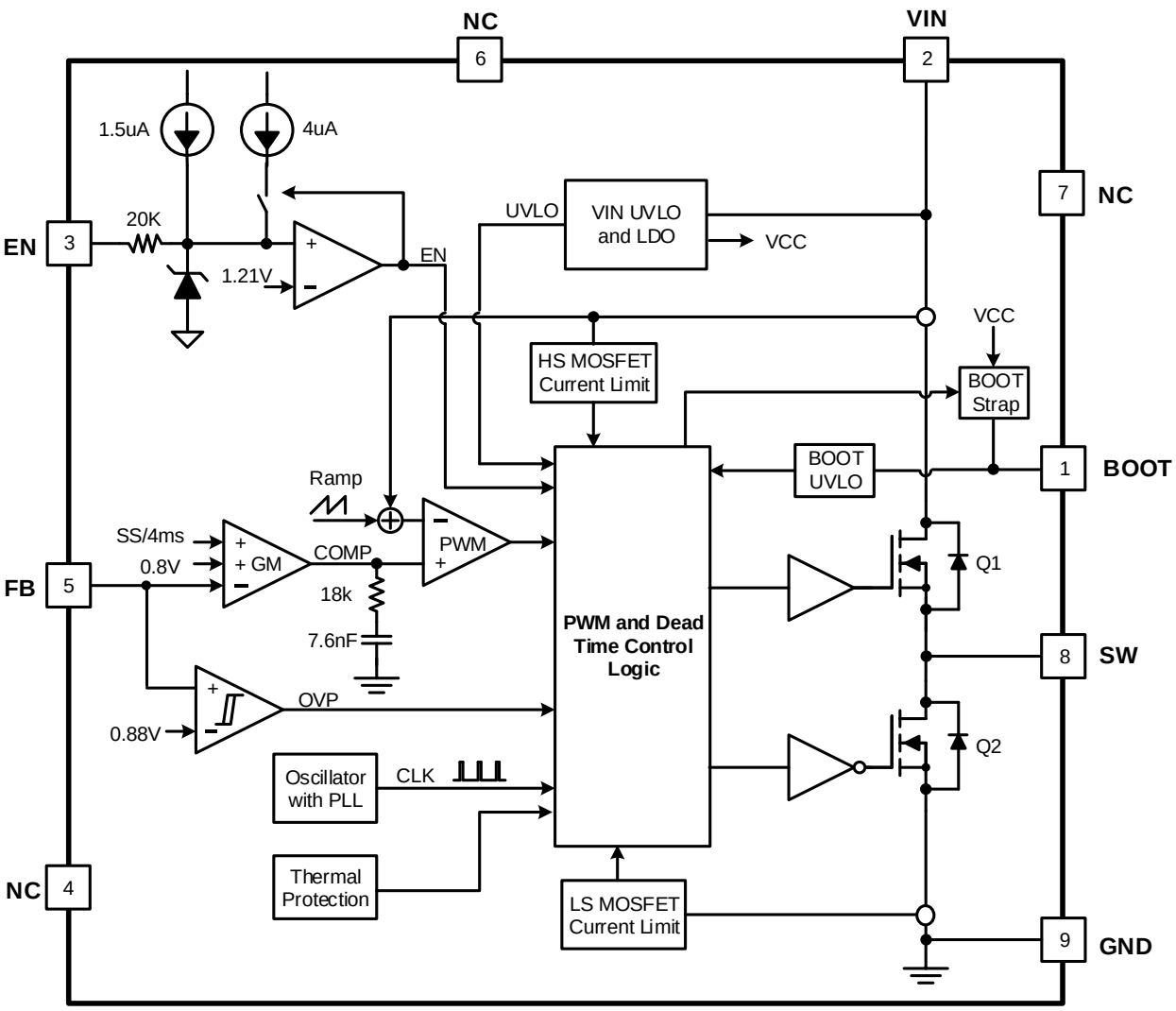
NC
6
VIN
2
1.5uA
4uA
20K
EN
3
1.21V
EN
UVLO
VIN UVLO
and LDO
VCC
7
NC
VCC
HS MOSFET
Current Limit
BOOT
Strap
BOOT
UVLO
1
BOOT
Ramp
SS/4ms
0.8V
+ GM
COMP
PWM
FB
5
18k
7.6nF
PWM and Dead
Time Control
Logic
Q1
8
SW
OVP
0.88V
Q2
Oscillator
with PLL
CLK
Thermal
Protection
LS MOSFET
Current Limit
NC
4
9
GND

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Overview

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VIN Power

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Under Voltage Lockout UVLO

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Enable and Start up

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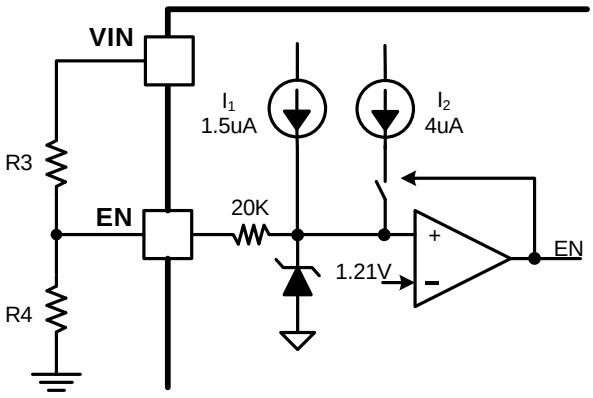

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EMI Reduction with Frequency Spread Spectrum and Switching Node Ringing-free

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Over Current Protection

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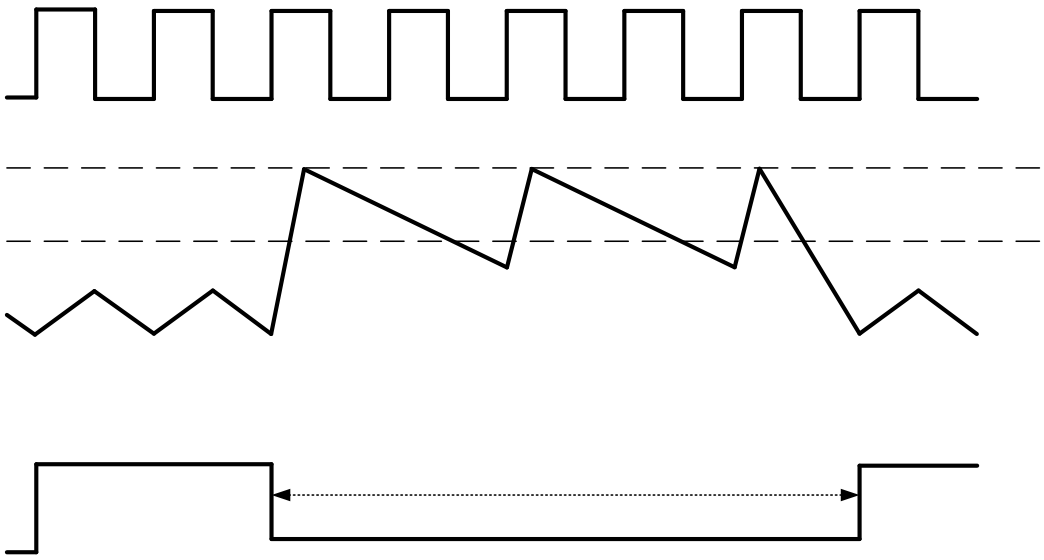

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Over Voltage Protection and Minimum On-time

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PSM Working Modes

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Bootstrap Voltage Regulator

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Thermal Shutdown

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Input Capacitor Selection

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Inductor Selection

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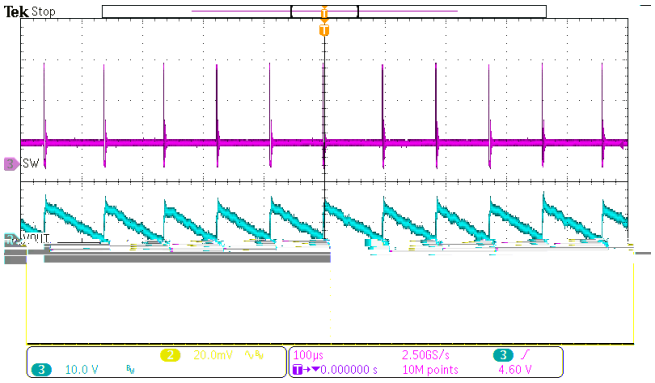
Application Waveforms



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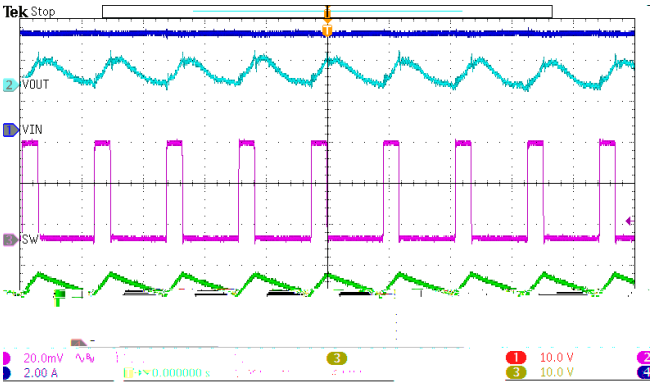

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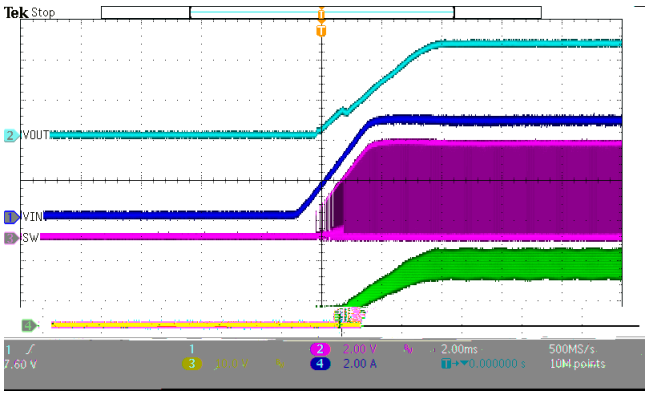

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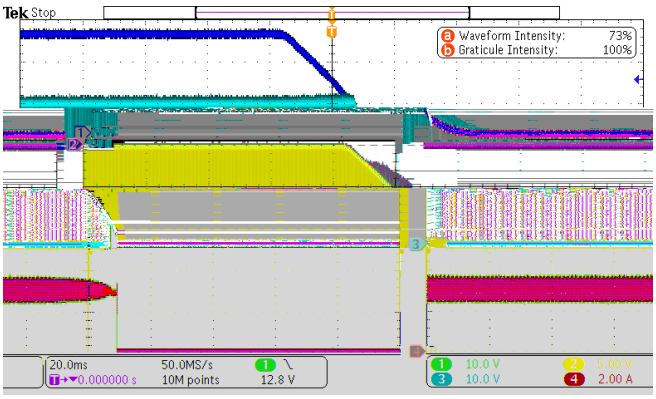

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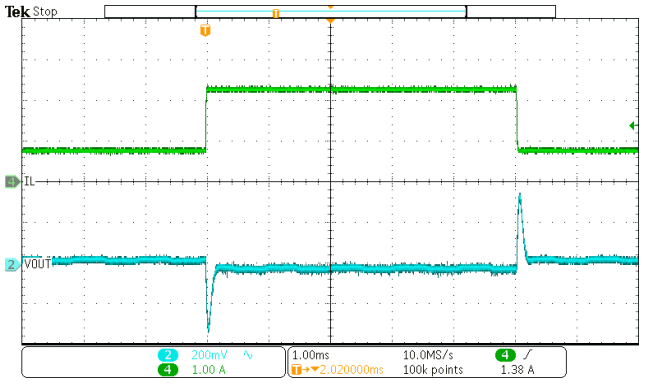

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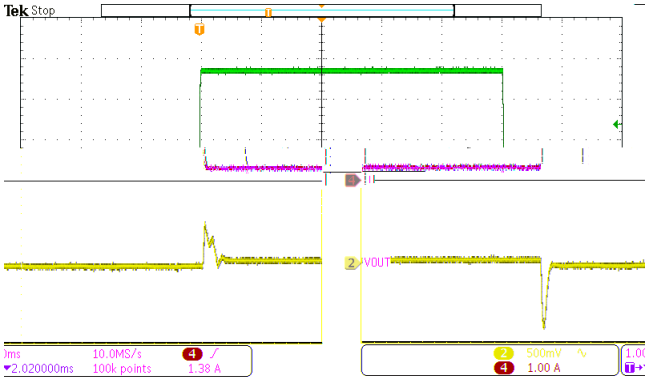

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Layout Guideline

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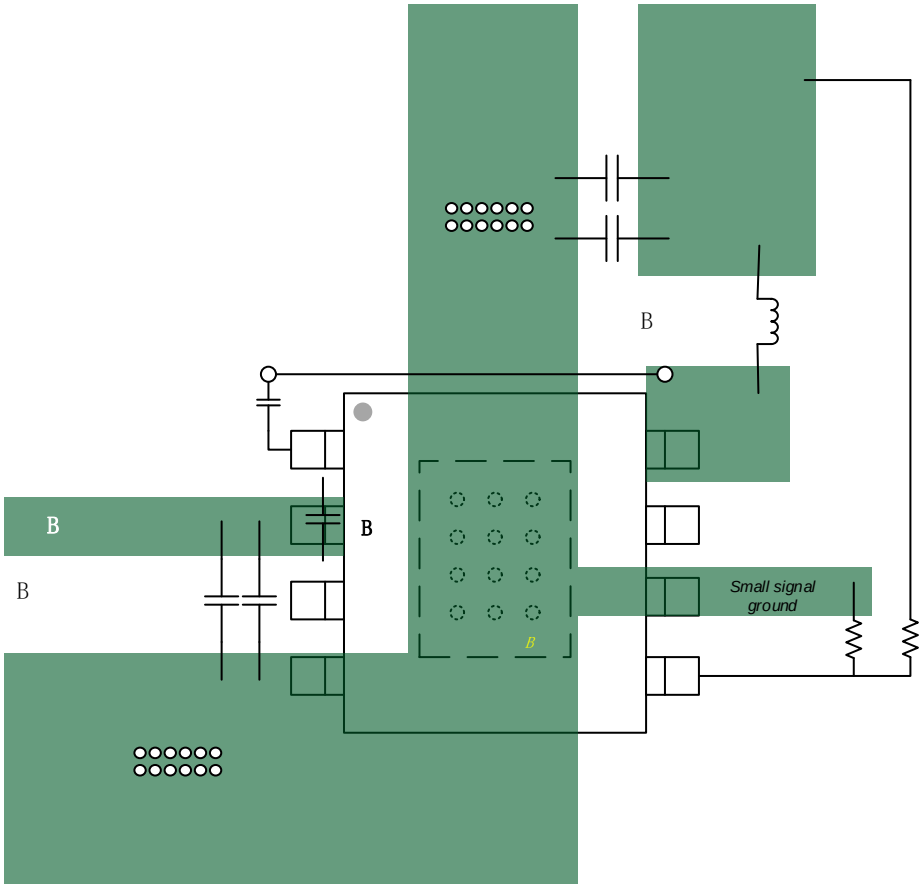

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Thermal Considerations

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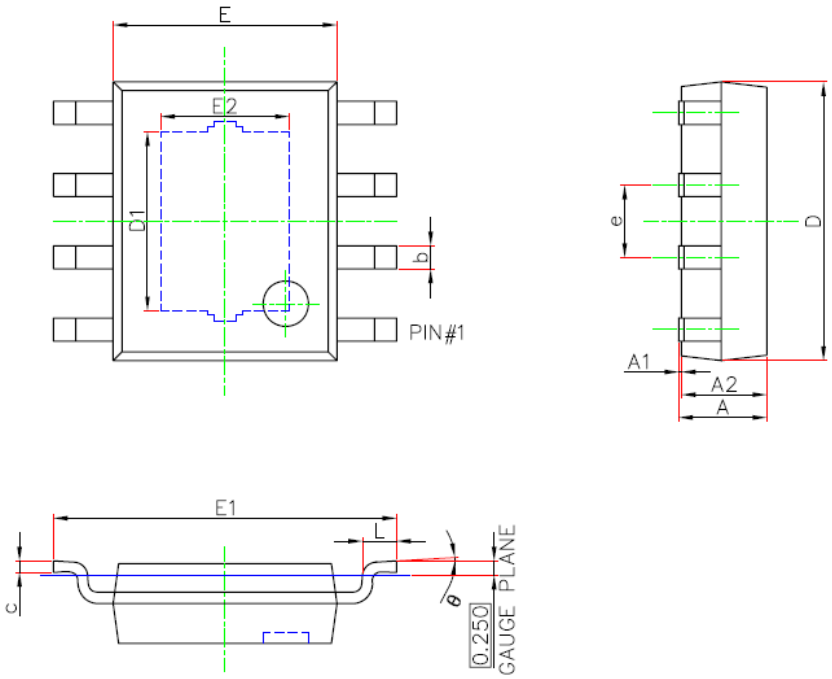

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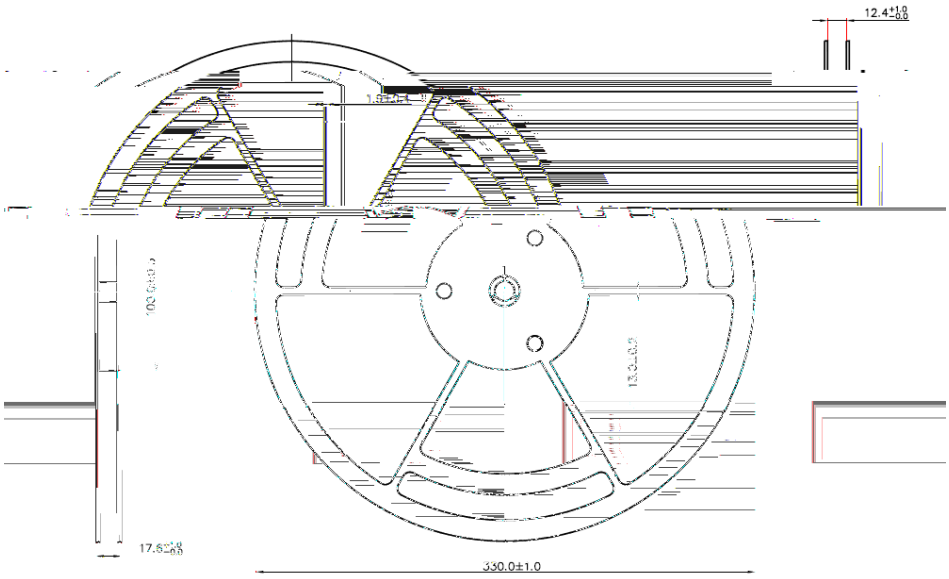
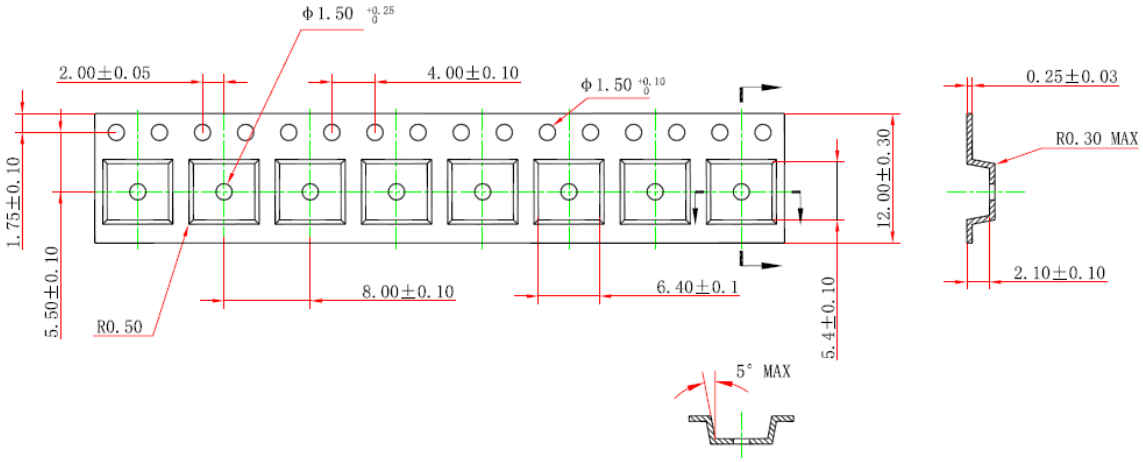

12.4+1.0 -0.5
330.0±1.0


Φ1.50 +0.25 0
2.00±0.05
4.00±0.10
Φ1.50 +0.10 0
1.75±0.10
5.50±0.10
R0.50
8.00±0.10
6.40±0.1
12.00±0.30
5.4±0.10
5° MAX
0.25±0.03
R0.30 MAX
2.10±0.10