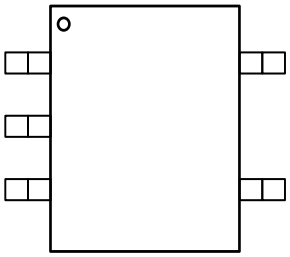
1.7V-6V Vin, 500mA, 8uA I_Q, Low-Dropout Regulator

,

±

±



(1)

(2)

(1)
(2)

(1) .

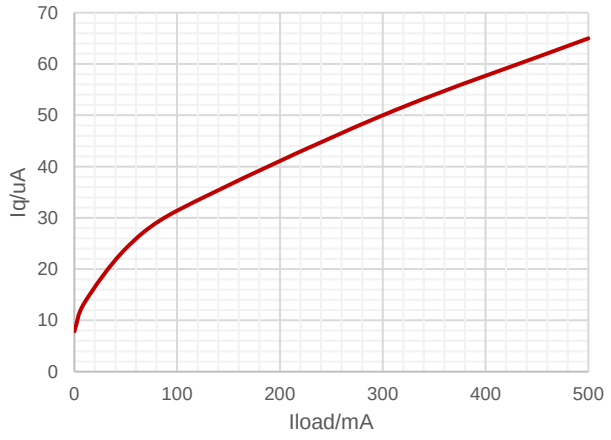
(2) .

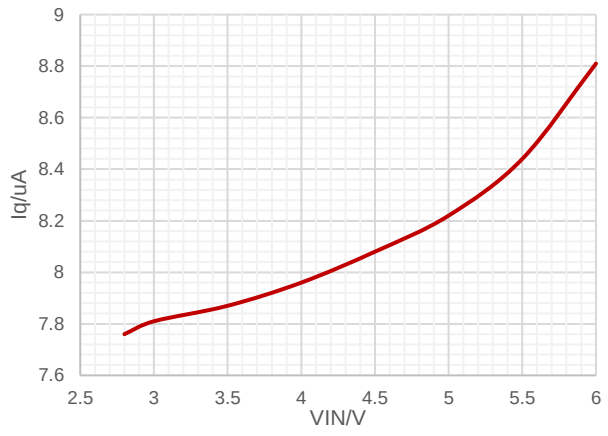
(3)

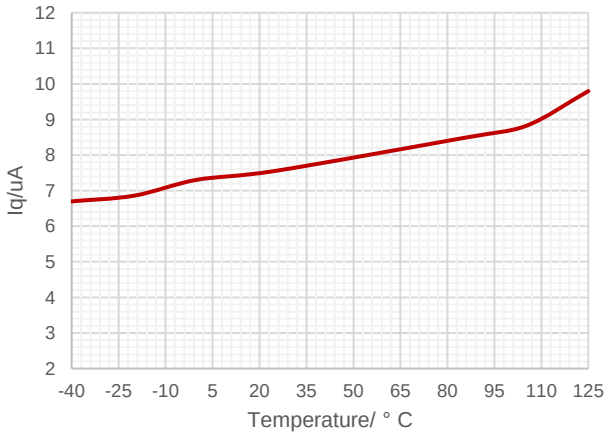
(1)

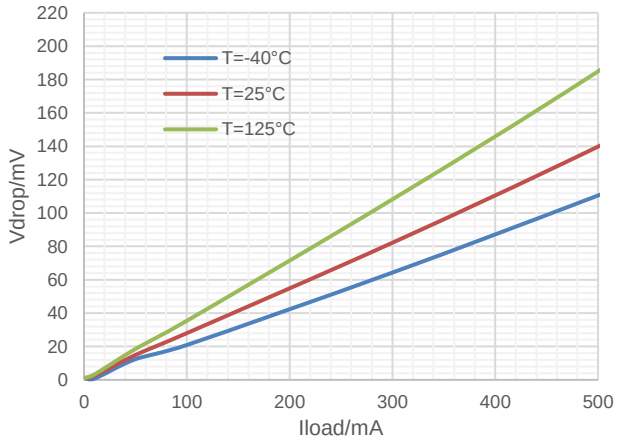
(2)

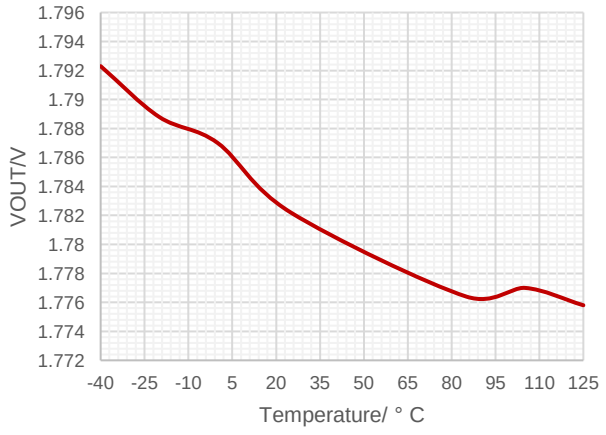
(3)

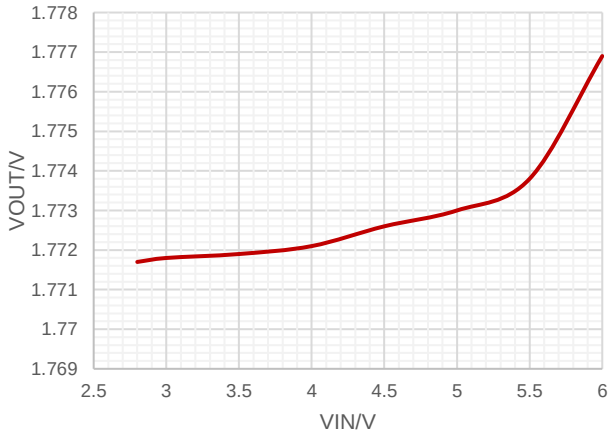

Iq/uA
Iload/mA

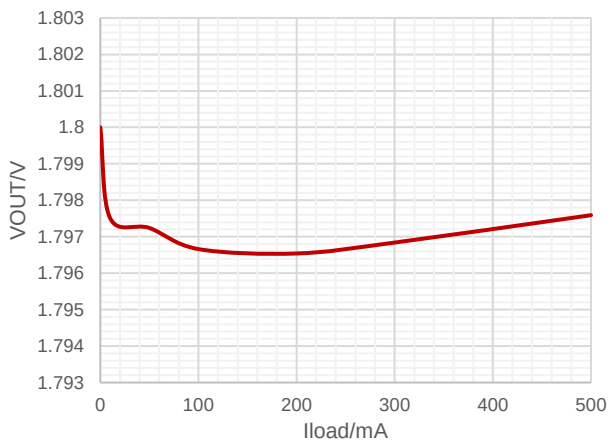

Iq/uA
VIN/V


Iq/uA
Temperature/ ° C


T=-40°C
T=25°C
T=125°C
Vdrop/mV
Iload/mA


VOUT/V
Temperature/ ° C


VOUT/V
VIN/V



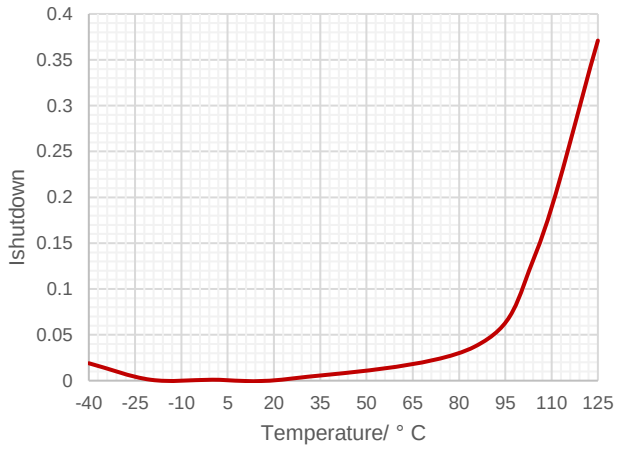


Figure 8. Shutdown Current vs Ambient Temperature

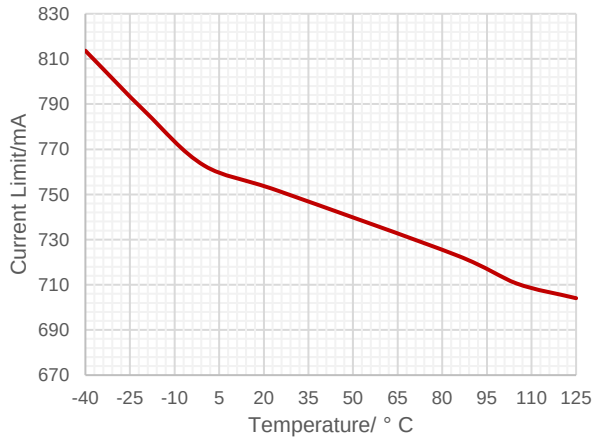


Figure 9. Output Current Limit vs Ambient Temperature

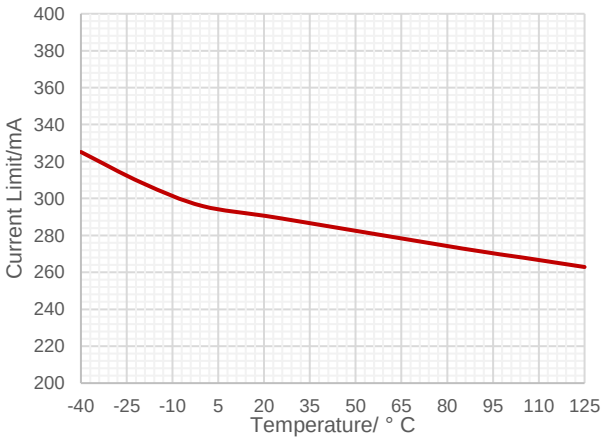
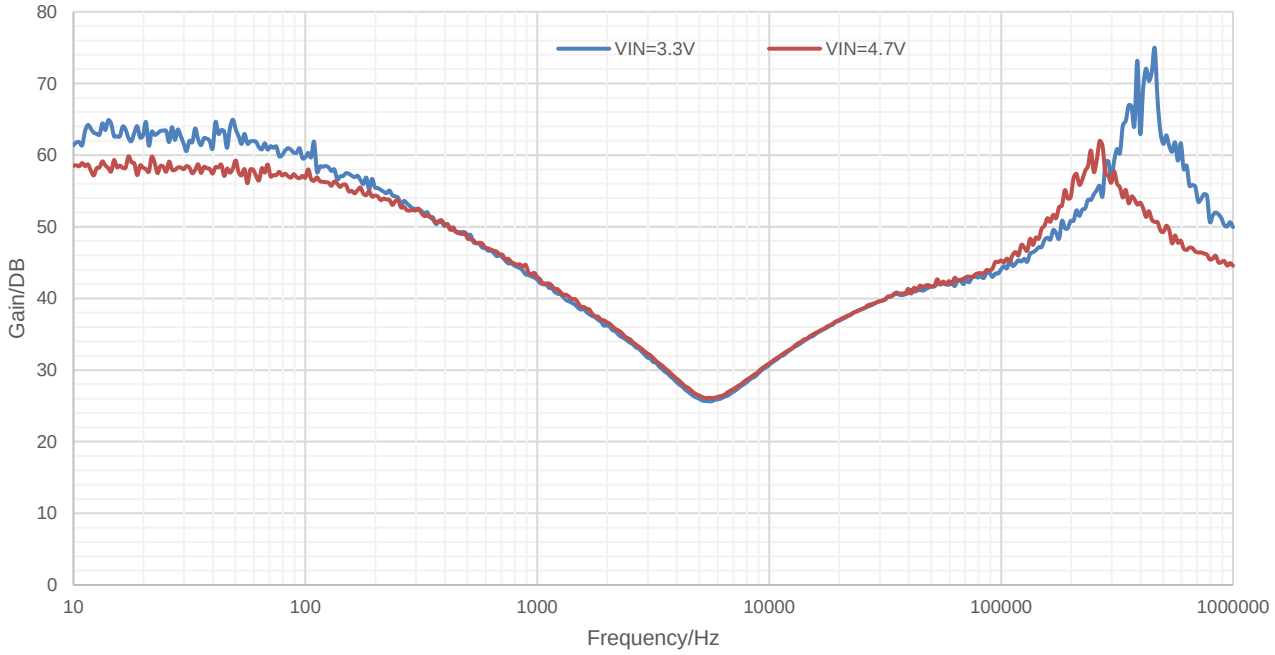
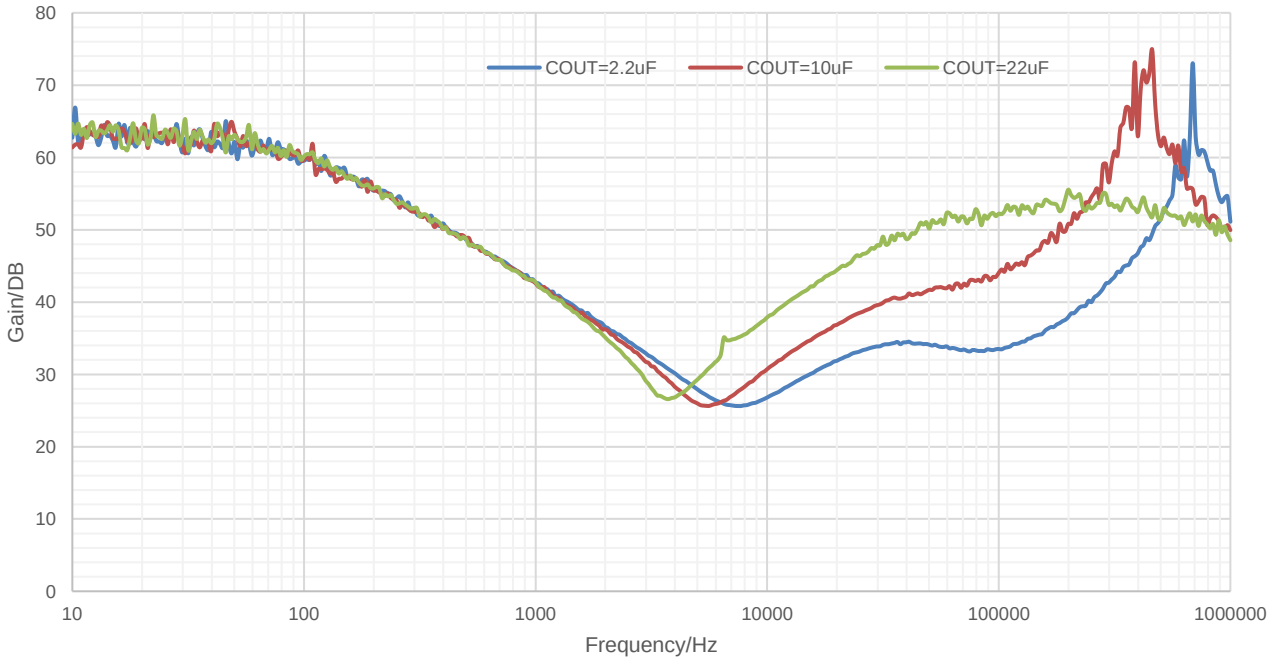
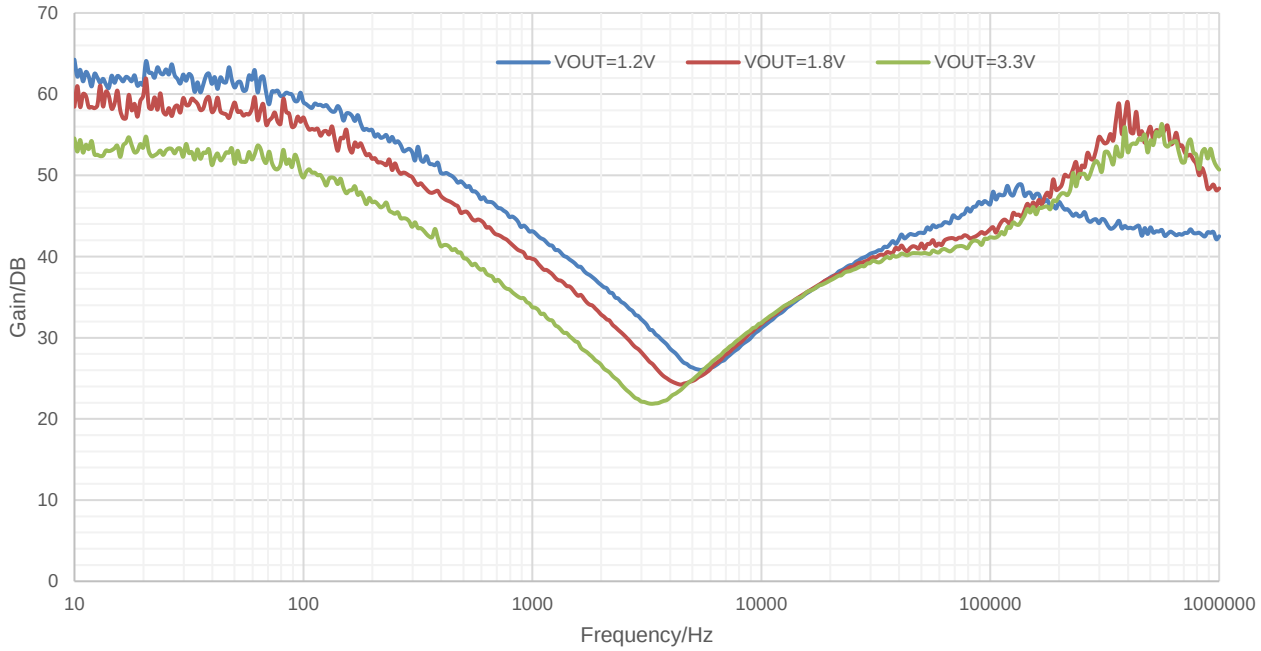
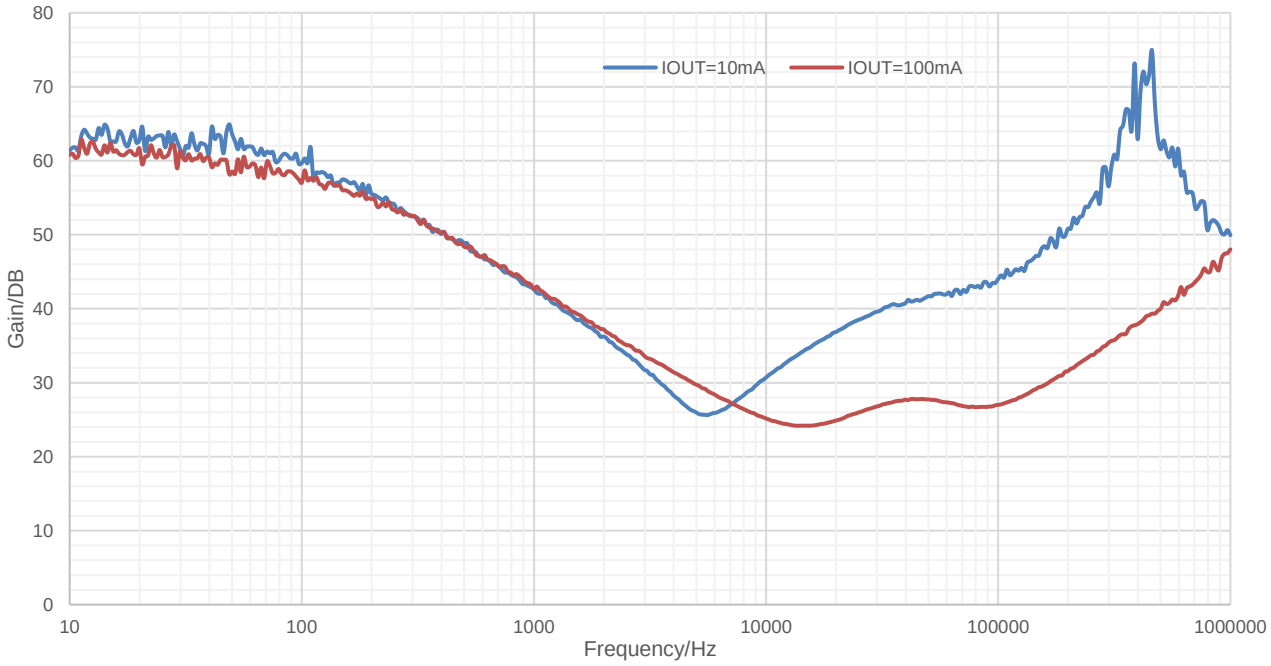


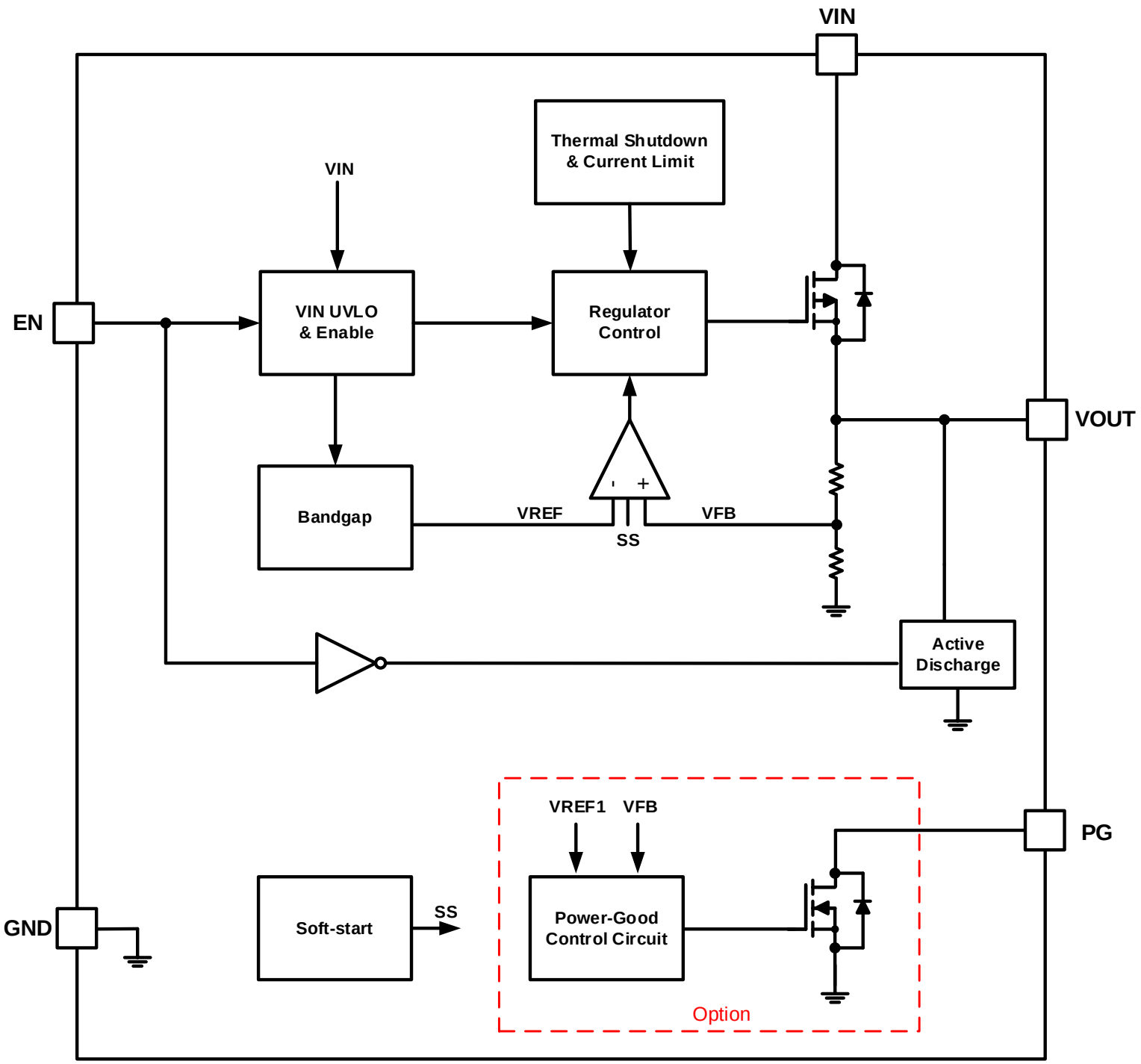
Figure 10. Short Current Limit vs Ambient Temperature

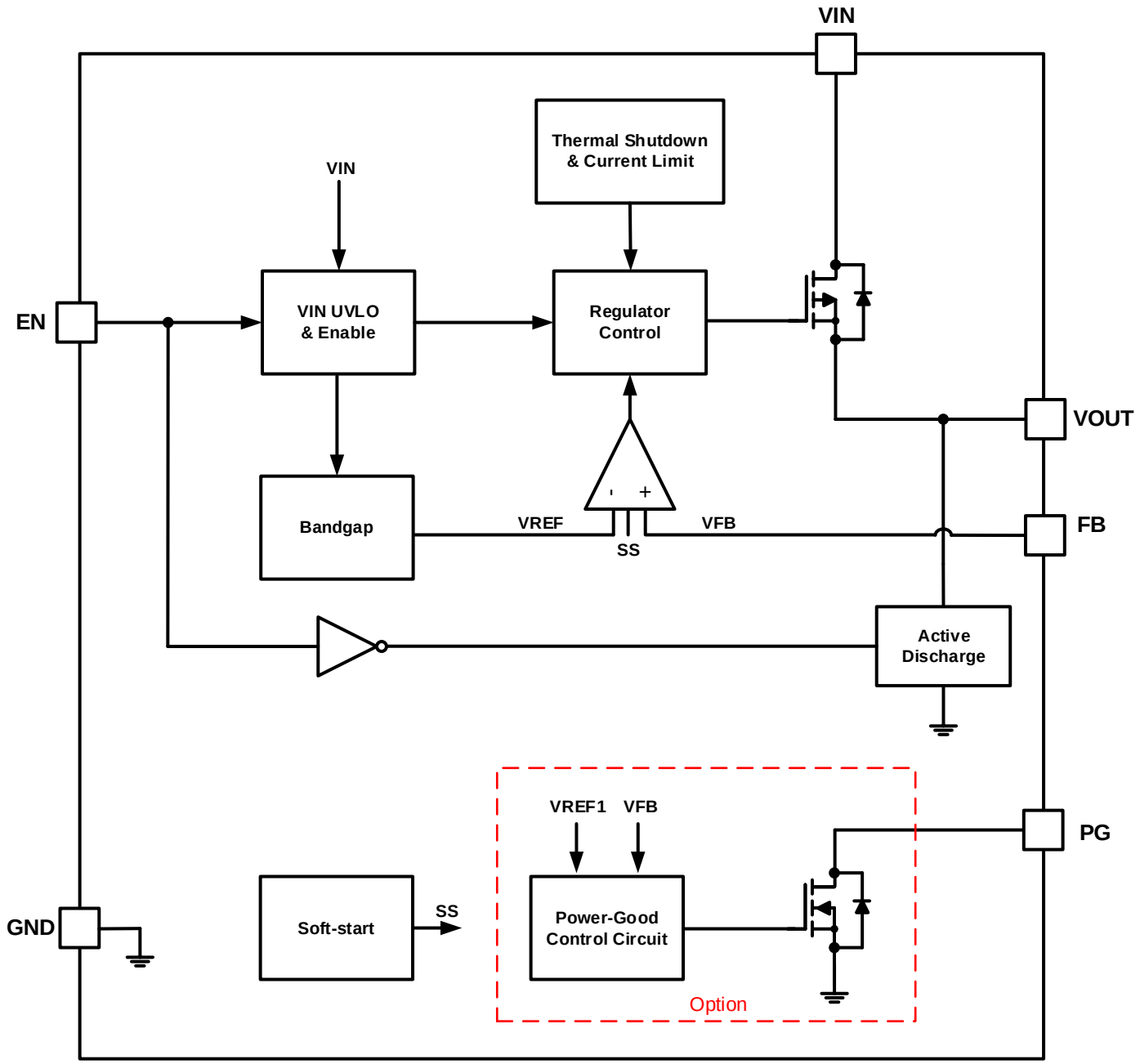

VIN=3.3V
VIN=4.7V
Gain/DB
Frequency/Hz
80
70
60
50
40
30
20
10
0
10
100
1000
10000
100000
1000000


COUT=2.2uF
COUT=10uF
COUT=22uF
Gain/DB
Frequency/Hz
80
70
60
50
40
30
20
10
0
10
100
1000
10000
100000
1000000

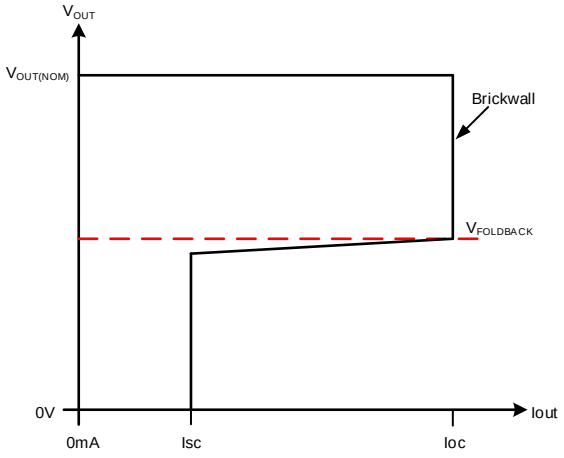

VOUT=1.2V
VOUT=1.8V
VOUT=3.3V
Gain/DB
Frequency/Hz
70
60
50
40
30
20
10
0
10
100
1000
10000
100000
1000000

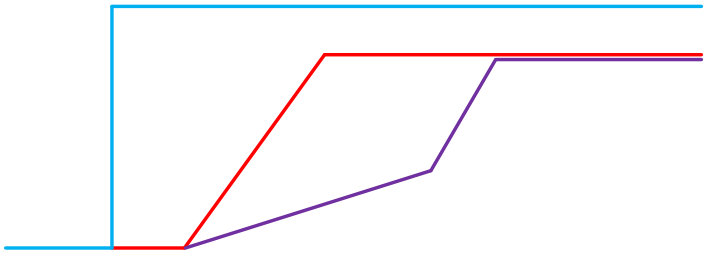

IOUT=10mA
IOUT=100mA
Gain/DB
Frequency/Hz
80
70
60
50
40
30
20
10
0
10
100
1000
10000
100000
1000000


VIN
Thermal Shutdown
& Current Limit
VIN
EN
VIN UVLO
& Enable
Regulator
Control
VOUT
Bandgap
VREF
VFB
SS
Active
Discharge
VREF1
VFB
PG
GND
Soft-start
SS
Power-Good
Control Circuit
Option

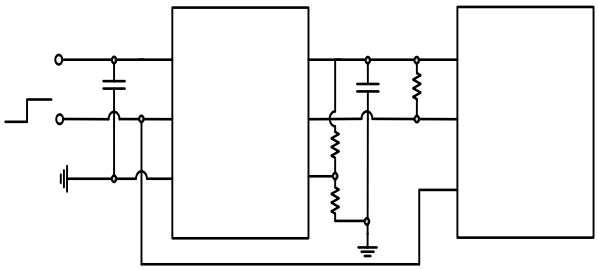

VIN
Thermal Shutdown
& Current Limit
VIN
EN
VIN UVLO
& Enable
Regulator
Control
VOUT
Bandgap
VREF
SS
VFB
FB
Active
Discharge
VREF1
VFB
PG
GND
Soft-start
SS
Power-Good
Control Circuit
Option

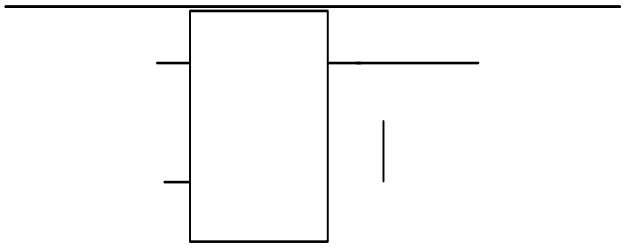
The SCT71005Q product provide adjustable output which can adjust the output voltage from 0.5V to 5V.

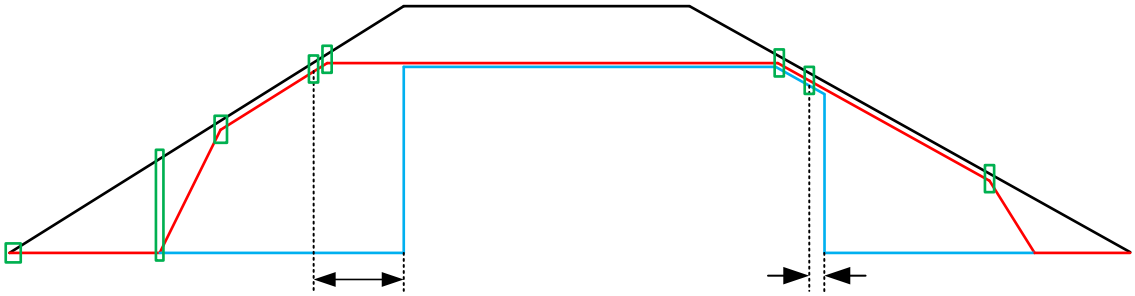

VOUT
VOUT(NOM)
Brickwall
VFOLDBACK
0V
Iout
0mA
Isc
Ioc

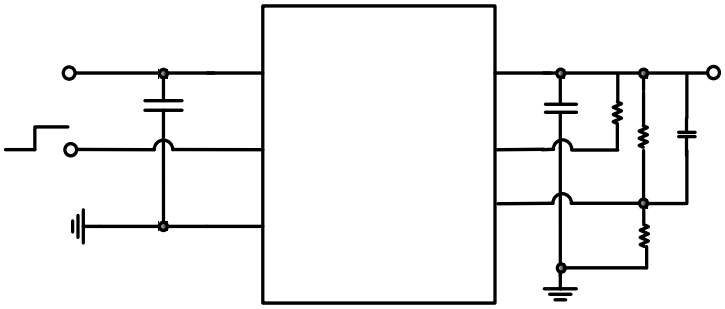


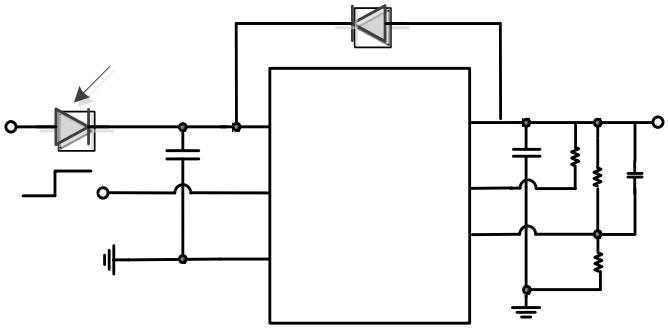
≥

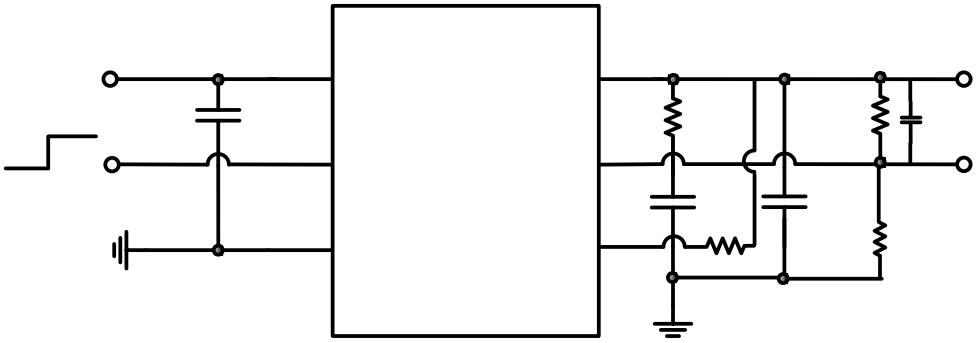


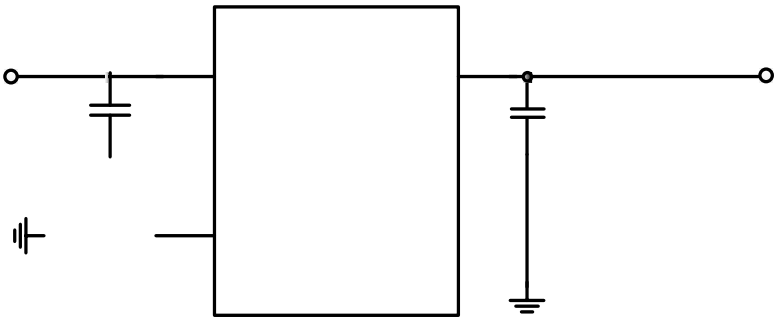


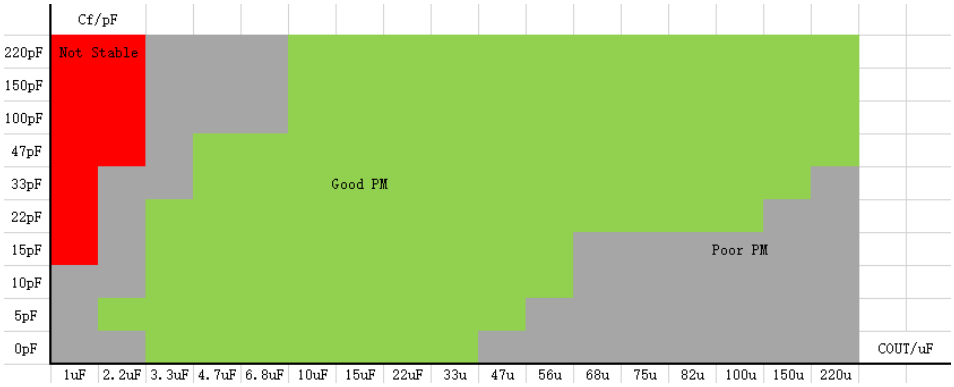


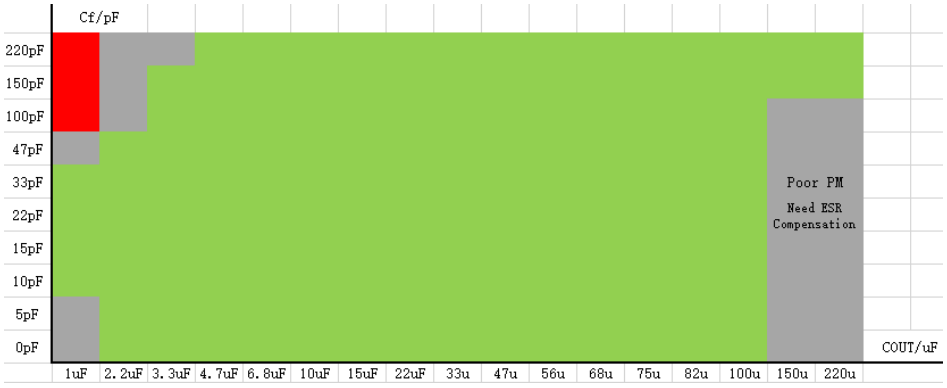


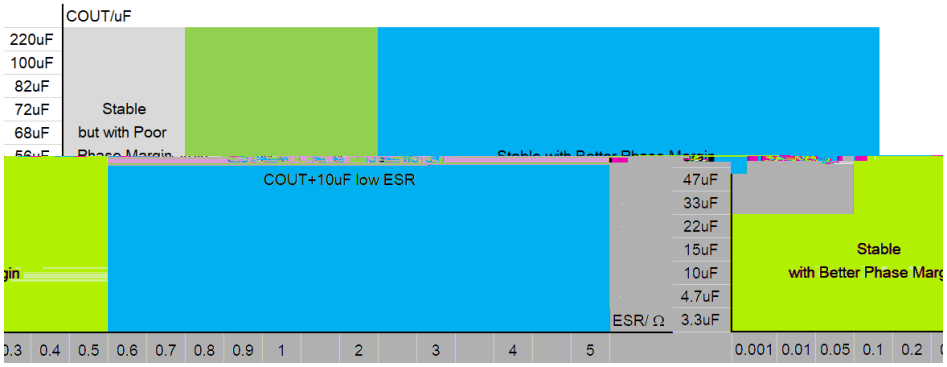




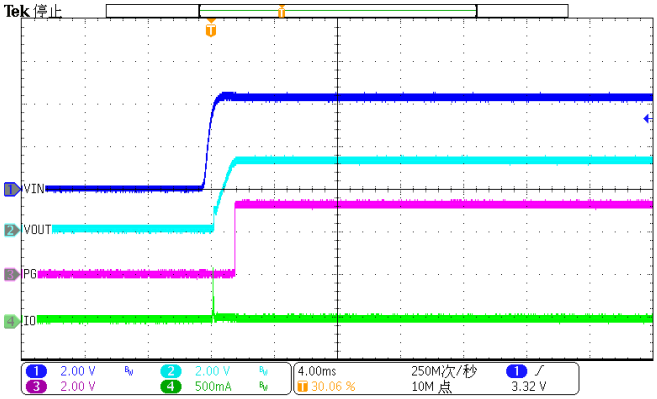


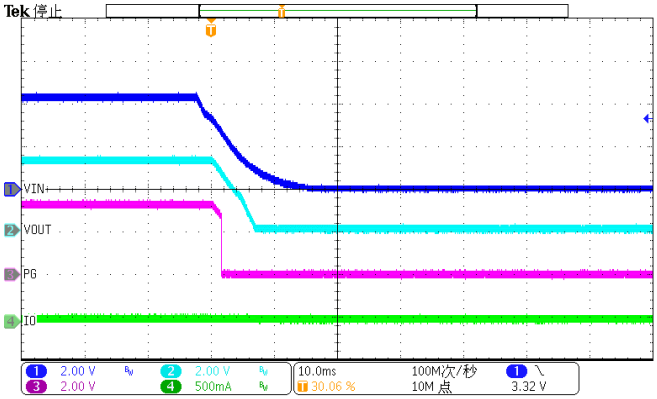

Cf/pF
220pF
150pF
100pF
47pF
33pF
22pF
15pF
10pF
5pF
0pF
Not Stable
Good PM
Poor PM
COUT/uF
1uF
2.2uF
3.3uF
4.7uF
6.8uF
10uF
15uF
22uF
33u
47u
56u
68u
75u
82u
100u
150u
220u

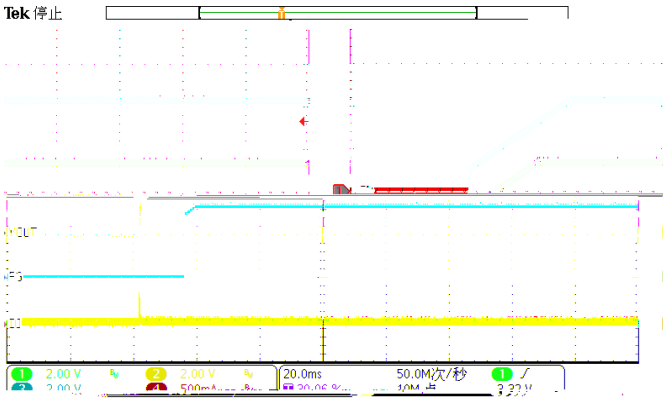

Cf/pF
220pF
150pF
100pF
47pF
33pF
22pF
15pF
10pF
5pF
0pF
Poor PM
Need ESR
Compensation
COUT/uF
1uF
2.2uF
3.3uF
4.7uF
6.8uF
10uF
15uF
22uF
33u
47u
56u
68u
75u
82u
100u
150u
220u

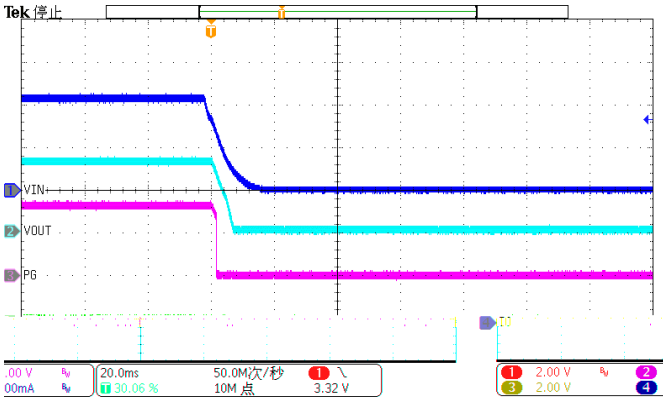

COUT/uF
220uF
100uF
82uF
72uF
68uF
Stable
but with Poor
COUT+10uF low ESR
47uF
33uF
22uF
15uF
10uF
4.7uF
3.3uF
ESR/ Ω
Stable
with Better Phase Marg
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
2
3
4
5
0.001
0.01
0.05
0.1
0.2

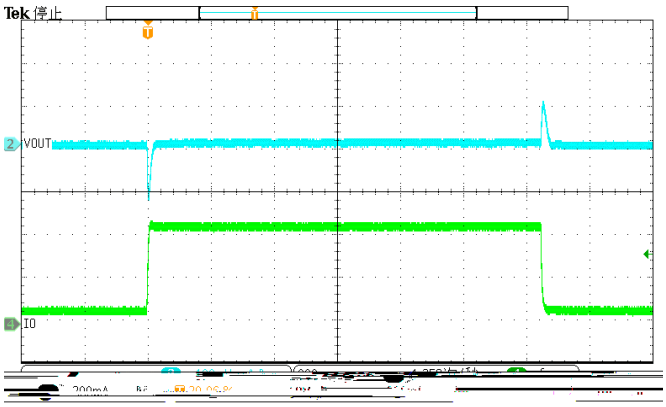
			℃

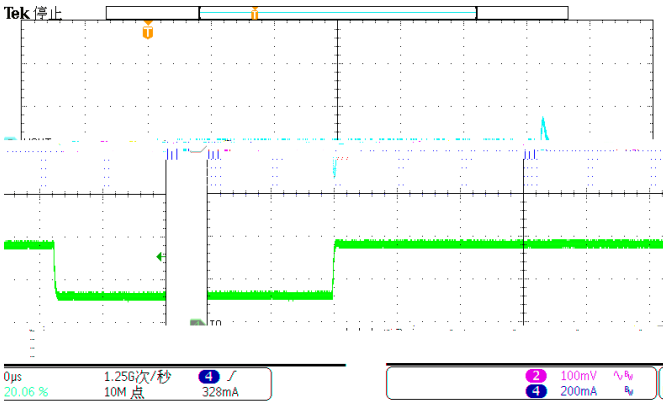

Tek 停止
VIN
VOUT
PG
IO
2.00 V
2.00 V
2.00 V
500mA
4.00ms
30.06 %
250M次/秒
10M 点
3.32 V

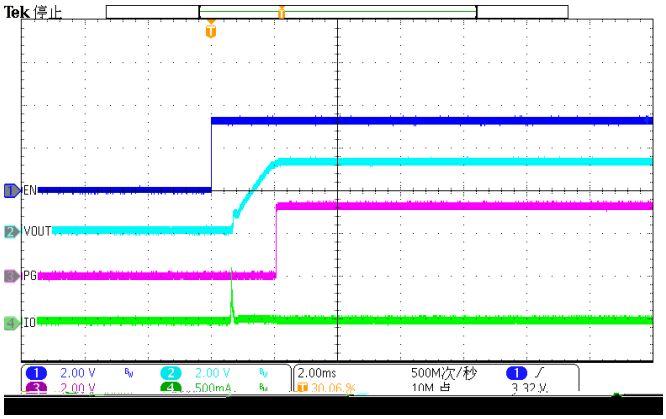

Tek 停止
VIN
VOUT
PG
IO
2.00 V
2.00 V
2.00 V
500mA
10.0ms
30.06 %
100M次/秒
10M 点
3.32 V

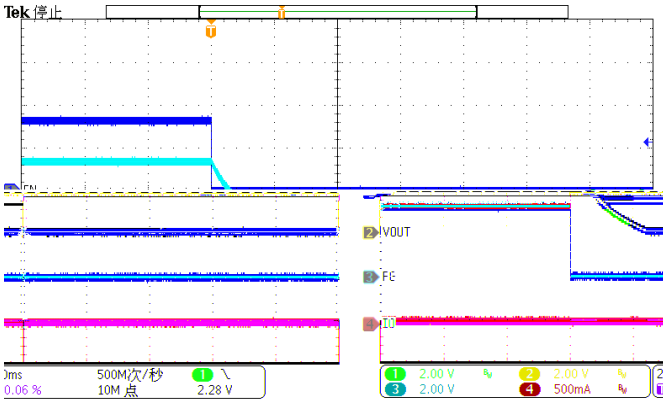

Tek 停止
2.00 V
2.00 V
20.0ms
50.0M次/秒

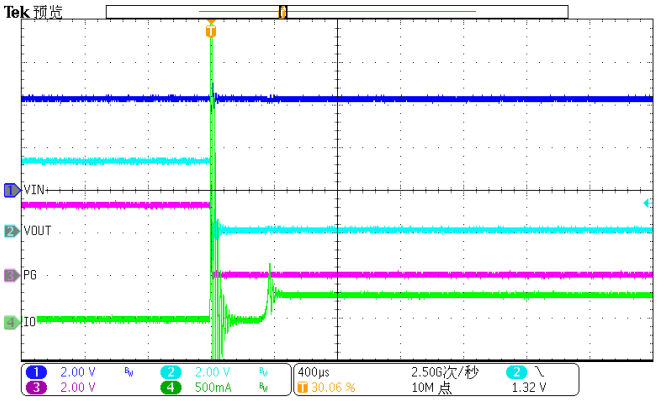

Tek 停止
VIN
VOUT
PG
IO
20.0ms
30.06 %
50.0M次/秒
10M 点
3.32 V
2.00 V
2.00 V

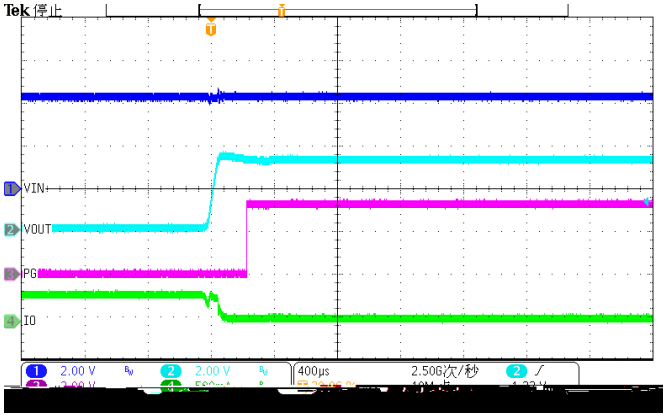

Tek 停止
VOUT
IO

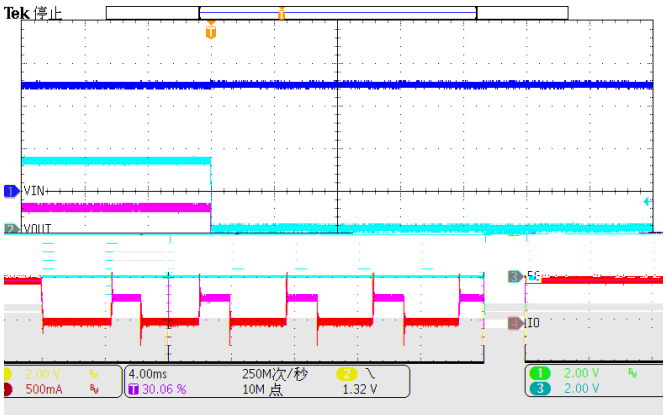

Tek 停止
0µs
20.06 %
1.25G次/秒
10M 点
328mA
100mV
200mA

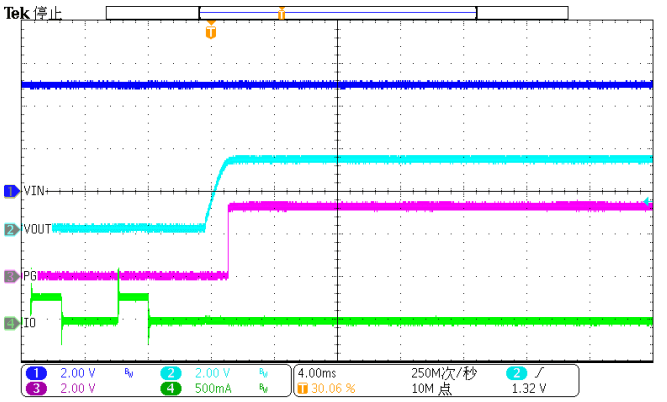

Tek 停止
EN
VOUT
PG
IO
2.00 V
2.00 V
2.00 V
500mA
2.00ms
500M次/秒
10M 点
30.06 %
3.32 V

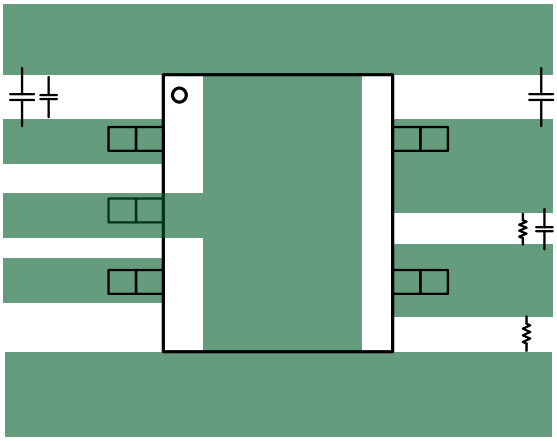

Tek 停止
VOUT
PG
IO
500M次/秒
10M 点
2.28 V
2.00 V
2.00 V
2.00 V
500mA

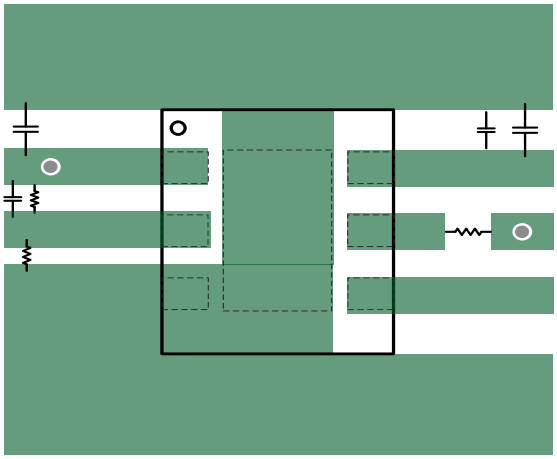

Tek 预览
VIN
VOUT
PG
IO
2.00 V
2.00 V
2.00 V
500mA
400µs
2.50G次/秒
10M 点
30.06 %
1.32 V

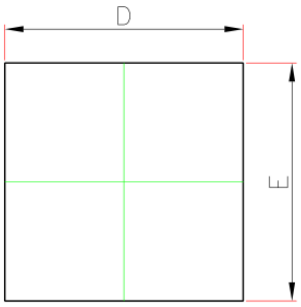

Tek 停止
VIN
VOUT
PG
IO
2.00 V
2.00 V
400µs
2.50G次/秒


Tek 停止
VIN
VOUT
PG
IO
500mA
4.00ms
250M次/秒
10M 点
30.06 %
1.32 V
2.00 V
2.00 V

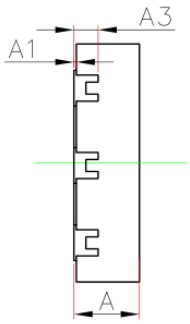

Tek 停止
VIN
VOUT
PG
IO
2.00 V
2.00 V
2.00 V
500mA
4.00ms
250M次/秒
10M 点
30.06 %
1.32 V



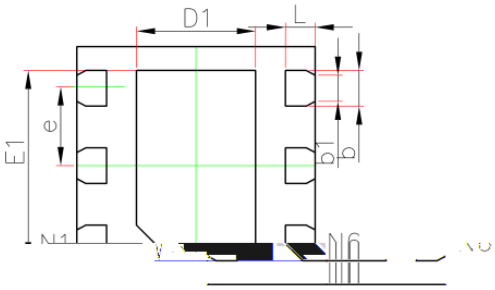




TOP VIEW



SIDE VIEW



BOTTOM VIEW

1.
2.
3.
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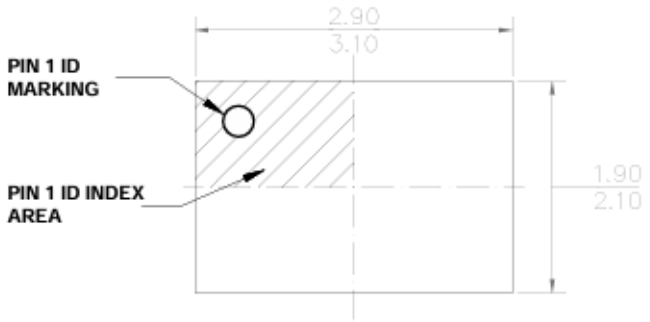
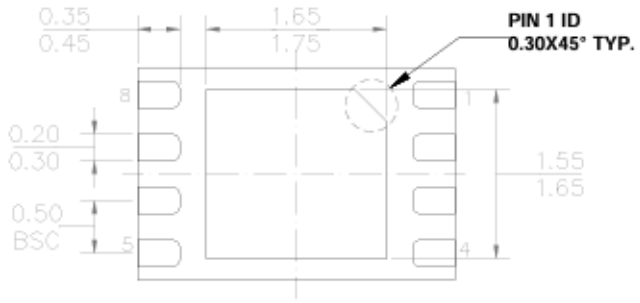
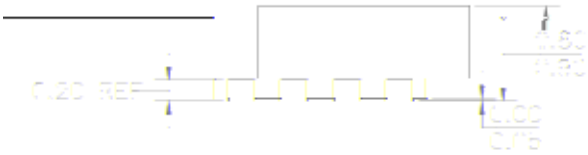
6.



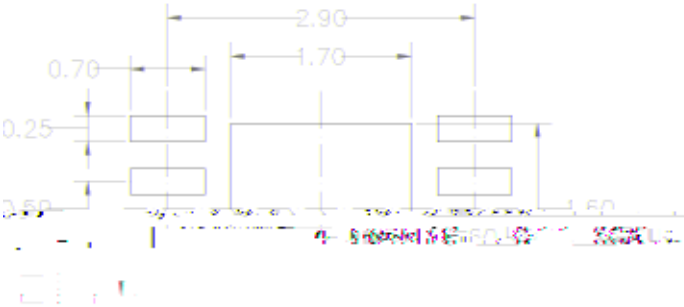
TOP VIEW



BOTTOM VIEW



SIDE VIEW



NOTE:

1) ALL DIMENSIONS ARE IN MILLIMETERS.
2) LEAD COPLANARITY SHALL BE 0.08 MILLIMETERS MAX.
3) JEDEC REFERENCE IS MO-220

1.
2.
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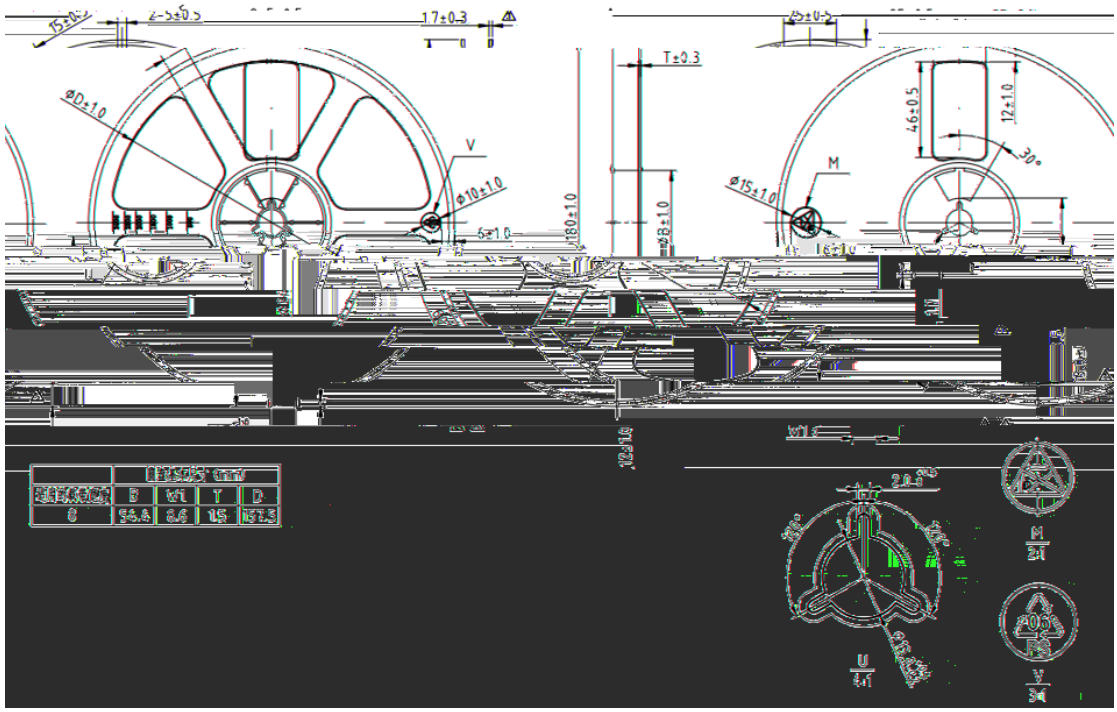
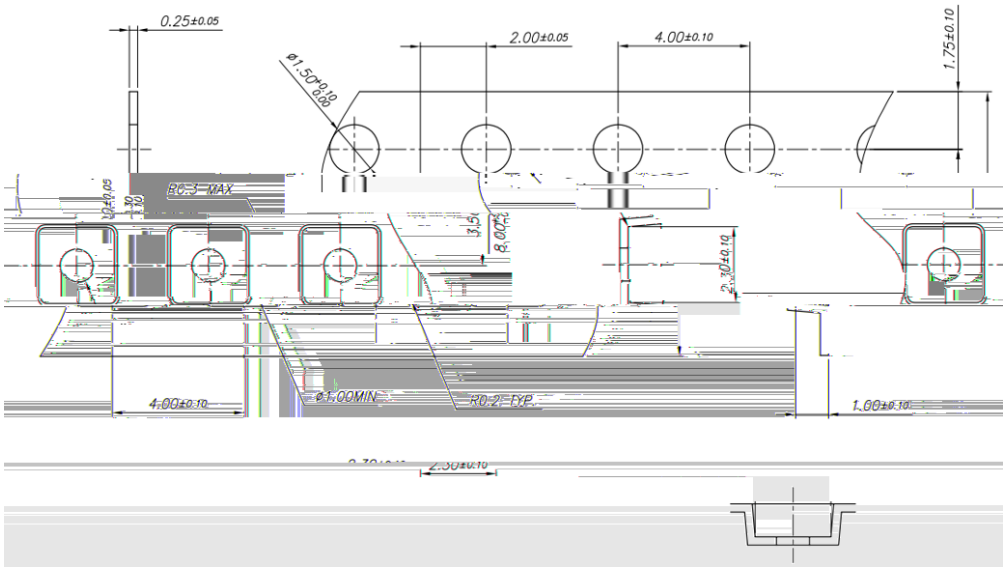
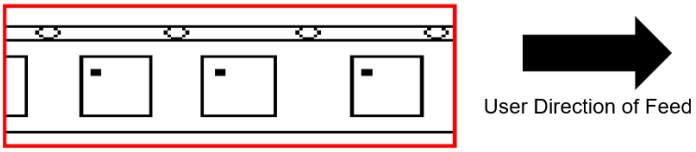
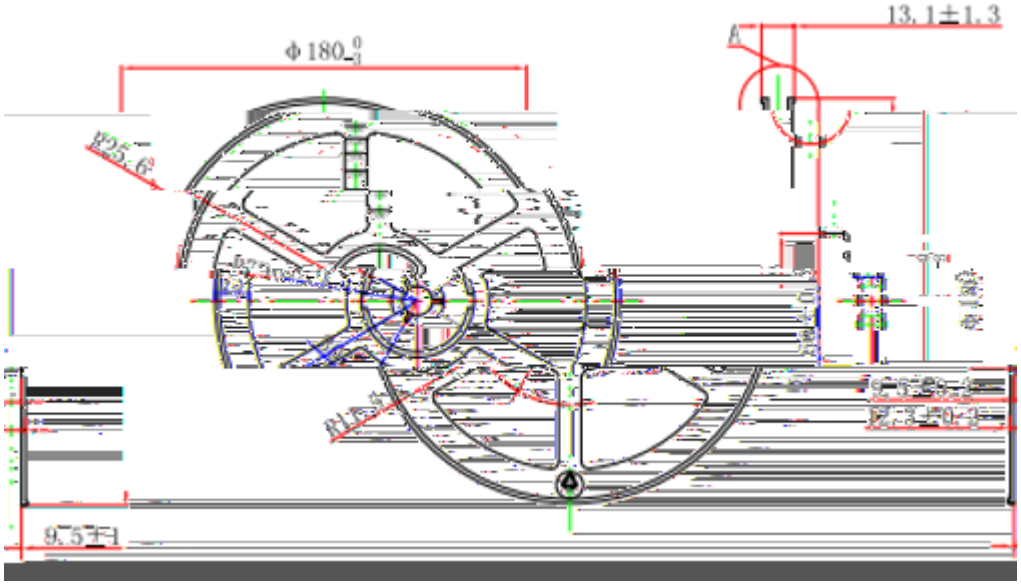





User Direction of Feed



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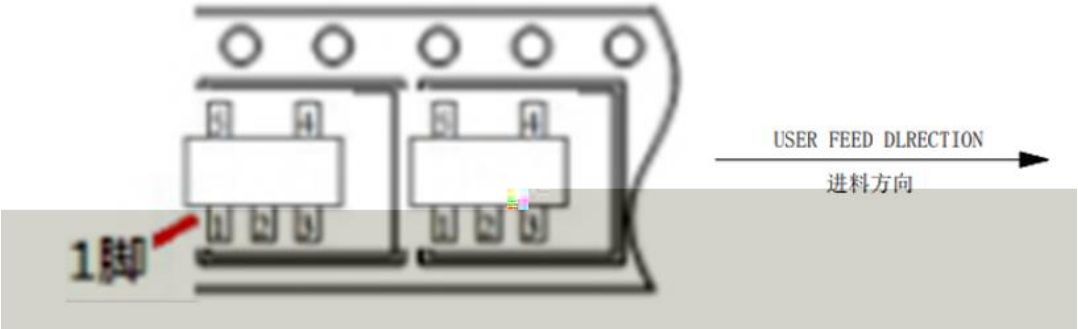
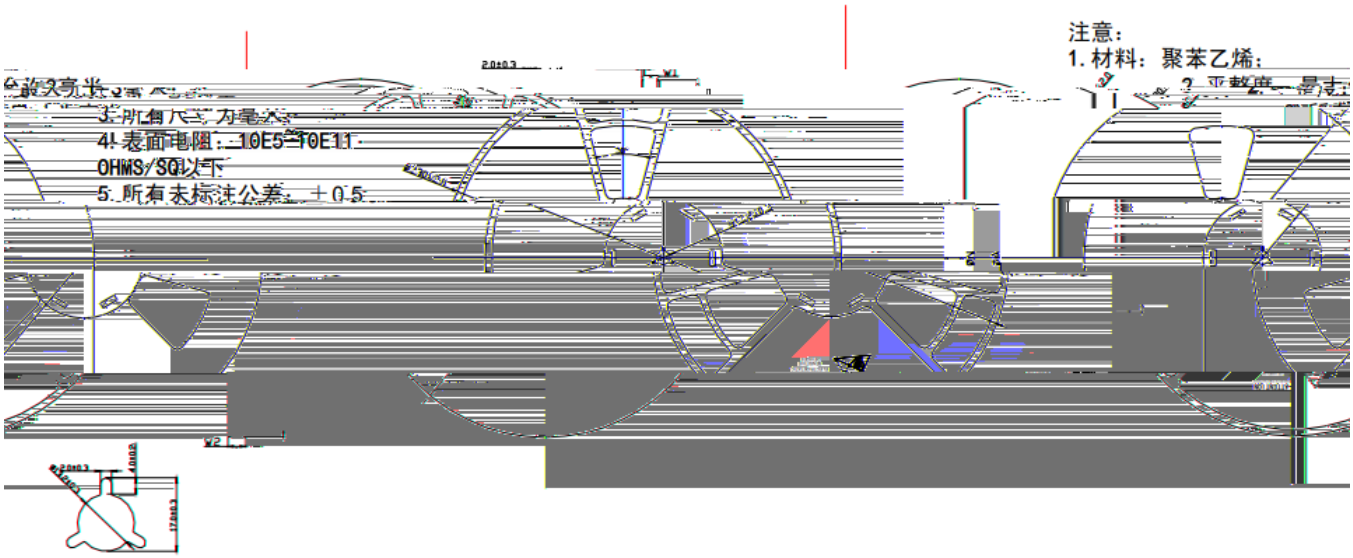
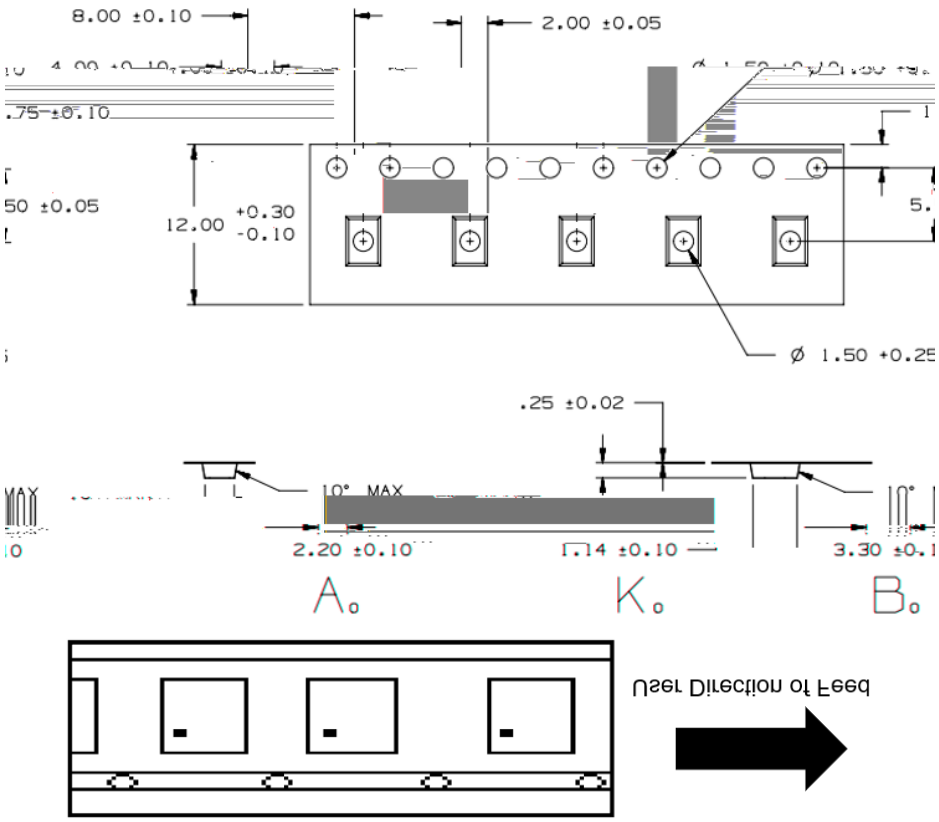



注意：
1. 材料：聚苯乙烯；
3. 所有尺寸 为毫米；
4. 表面电阻：10E5—10E11
OHMS/SQ以下
5. 所有未标注公差：±0.5


8.00 ±0.10
2.00 ±0.05
12.00 +0.30 -0.10
Ø 1.50 +0.25
.25 ±0.02
10° MAX
2.20 ±0.10
1.14 ±0.10
3.30 ±0.1
A₀
K₀
B₀
User Direction of Feed