



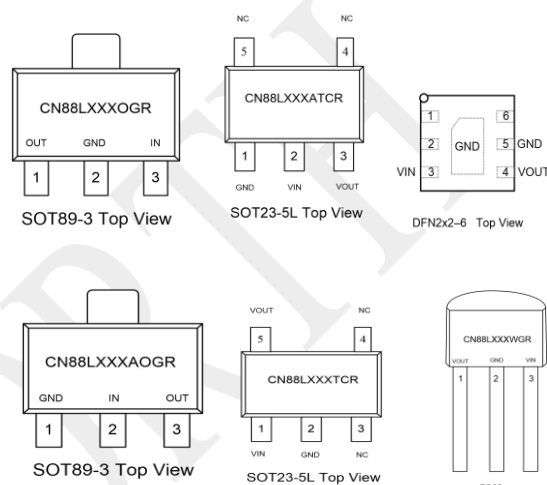
■ 介绍

CN88LXXX系列是高精度，高输入电压，低静态电流，高速，低压差线性稳压器，具有高纹波抑制能力。该器件采用BCD工艺制造。

CN88LXXX提供过热，过流保护，以确保设备在良好的条件下工作。

■ 特征

- 三端调节器
- 供电电压：4.5V~35V
- 输出范围：2.5V,3.3V,4.0V,5.0V,5.6V,12V
- 输出电流高达 150mA
- 输出精度： $<\pm 2\%$
- 静态电流 $6\mu A @ V_{IN} = V_O + 2V$ (Typ)
- 内部热过载保护
- 内部短路限制
- 推荐电容：1uF~10uF



■ 应用领域

- 智能电表
- 开关电源

零件号	输出电压
CN88L025	Vout=2.5V
CN88L033	Vout=3.3V
CN88L040	Vout=4.0V
CN88L050	Vout=5.0V
CN88L056	Vout=5.6V
CN88L120	Vout=12V

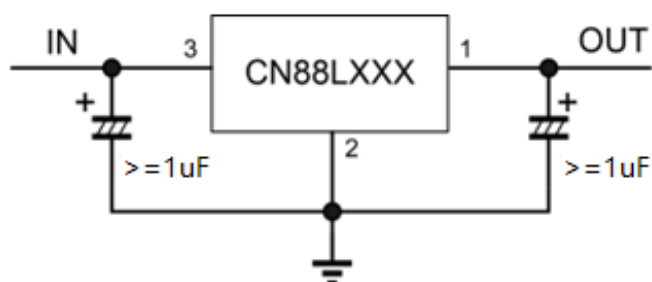
■ 订单信息

零件号	包装类型	数量	标记*
CN88LXXXOGR	SOT89-3	1000 /盘	CN88LXXX/YYWW
CN88LXXXAOGR	SOT89-3	1000/盘	CN88LXXXA/YYWW
CN88LXXXDSR	DFN2x2-6	4000 /盘	CN88XXX/YYWW
CN88LXXXTCR	SOT23-5	3000/盘	5XYW
CN88LXXXATCR	SOT23-5	3000/盘	5XAYW
CN88LXXXWGR	TO92	3000/盘	CN88L050/YYWWGJ

*注：YY / Y =年；WW / W =周；CN88LXXX =产品名称；XXX =电压



■ 典型应用



■ 引脚说明

CN88LXXXOGR 系列

序号	名称	功能
1	OUT	输出
2	GND	地
3	IN	输入

CN88LXXXAOGR 系列

序号	名称	功能
1	GND	地
2	IN	输入
3	OUT	输出

CN88LXXXDSR 系列

序号	名称	功能
1	NC	
2	NC	
3	IN	输入
4	OUT	输出
5	GND	地
6	NC	

**CN88LXXXTCR 系列**

序号	名称	功能
1	IN	输入
2	GND	地
3	NC	
4	NC	
5	OUT	输出

CN88LXXXATCR 系列

序号	名称	功能
1	GND	地
2	IN	输入
3	OUT	输出
4	NC	
5	NC	

CN88LXXXWGR 系列

序号	名称	功能
1	OUT	输出
2	GND	地
3	IN	输入

■ 绝对最大额定值

符号	参数	数据		单位
V_{IN} Range	输入电压范围	-0.3 ~ 40		V
V_{OUT} Range	输出电压范围	-0.3 ~ 12		V
T_J	结温范围	-45~150		°C
T_{STG}	储存温度范围	-65~160		°C
ESD (HBM)	人体模型	2000		V
R_{thJA}	结点对环境的热阻	SOT89-3	100 ⁽¹⁾	°C/W
		DFN2x2-6	140 ⁽¹⁾	°C/W
PD	功耗耗散	SOT89-3	0.8	W
	功耗耗散	SOT23-3	0.4	W

注意 (1) : PCB 上有 6 cm² 铜箔。



■ 电气特性

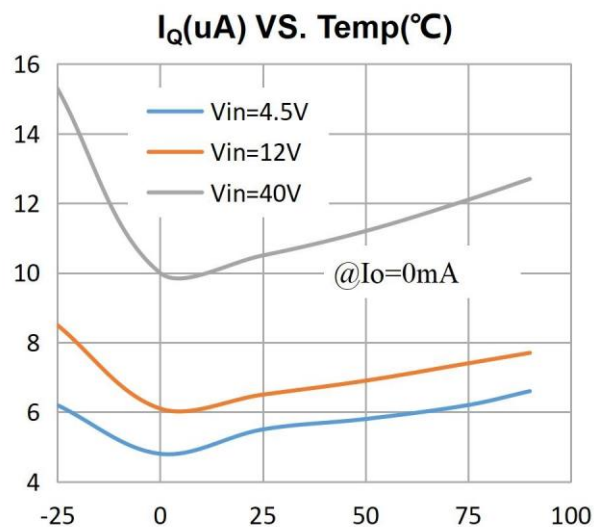
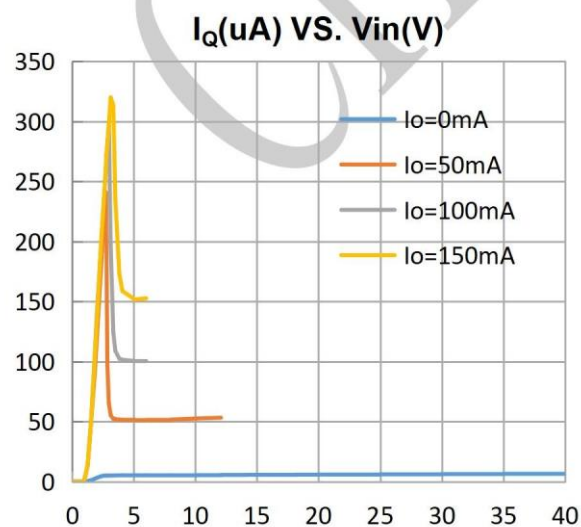
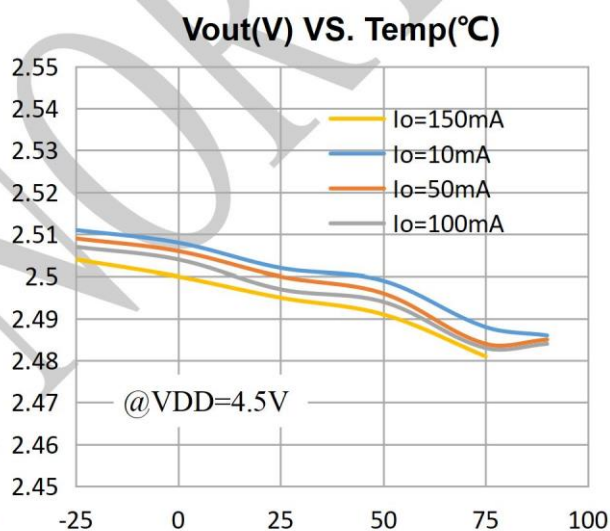
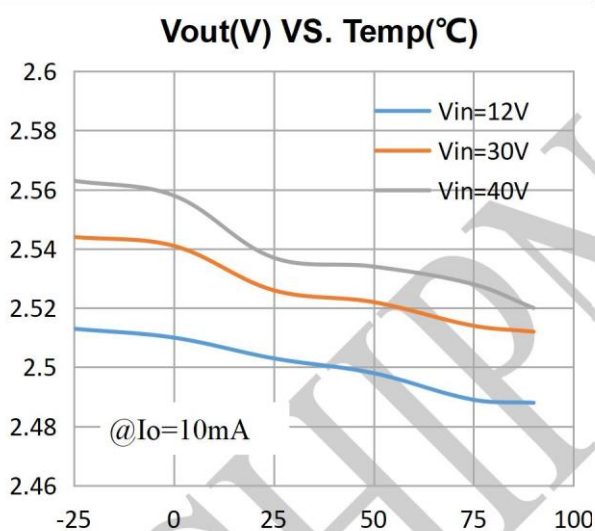
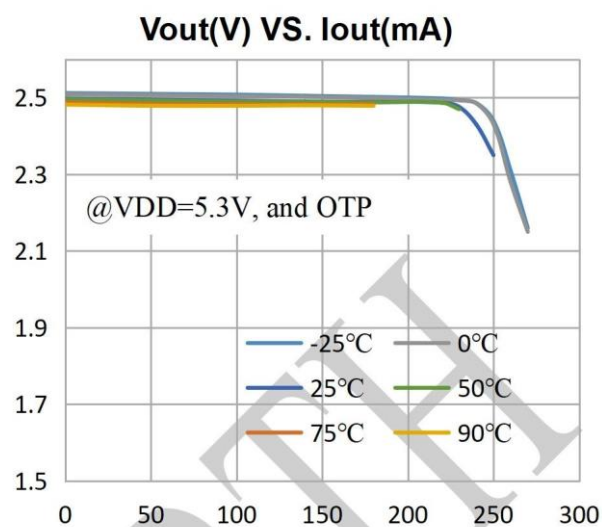
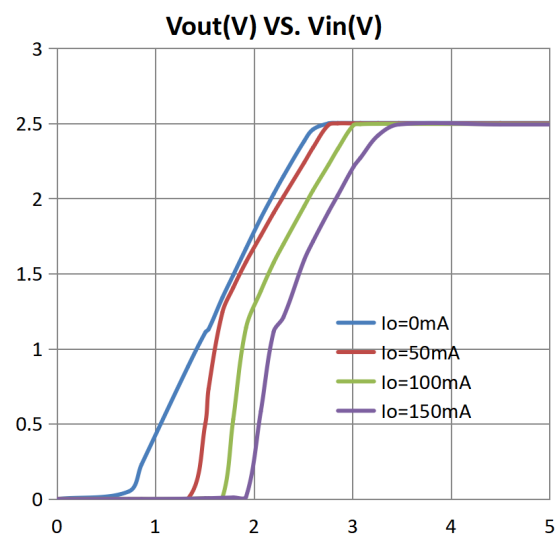
测试条件: $T_A=25^{\circ}\text{C}$, $V_{IN}=12\text{V}$, $I_O=10\text{mA}$, $C_{IN}=1\mu\text{F}$, $C_{OUT}=1\mu\text{F}$, 除非另有说明。

符号	参数	条件	最小值	典型值	最大值	单位
V_I	输入范围		$V_O+0.2\text{V}$	-	35	V
V_O	输出范围	CN88L025	2.45	2.5	2.55	V
		CN88L033	3.234	3.3	3.366	V
		CN88L040	3.92	4	4.08	V
		CN88L050	4.9	5	5.1	V
		CN88L056	5.48	5.6	5.71	V
		CN88L120 $V_{IN}=14\text{V}$	11.76	12	12.24	V
REG_{LINE}	线性调整率	$V_{IN}=V_O+2\text{V}$ - 30V , $I_O=10\text{mA}$		3		mV/V
REG_{LOAD}	负载调整率	$V_{IN}=V_O+2\text{V}$, $I_O=1\text{mA}$ to 150mA		125		$\mu\text{V}/\text{mA}$
I_Q	静态电流	$I_O=0\text{mA}$		6	7.2	μA
$\Delta V_O/\Delta T$	输出温度系数		-	300	-	$\mu\text{V}/^{\circ}\text{C}$
V_D	压差	$I_O=100\text{mA}$	450	500	650	mV
PSRR	电源抑制比	$V_I=8\text{--}16\text{V}$, $f=120\text{Hz}$ $I_O=50\text{mA}$, $T_J=25^{\circ}\text{C}$		45		dB
OTP	过温保护			150		$^{\circ}\text{C}$
OCP	过流保护			320		mA



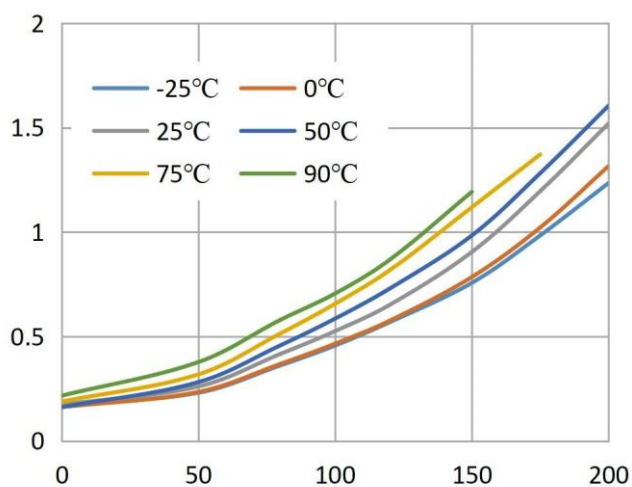
■ 典型参数 (CN88L025)

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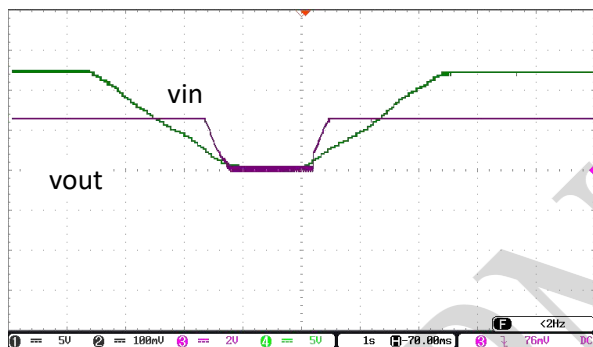




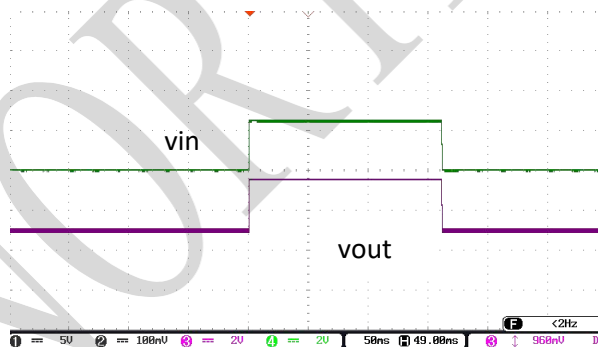
Dropout Voltage(V) VS. Iout(mA)



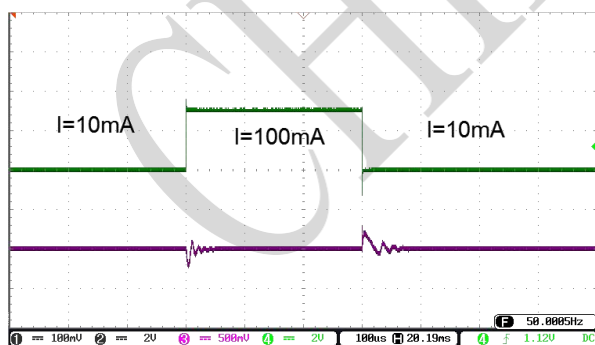
Vin Response(Vout VS. Vin)



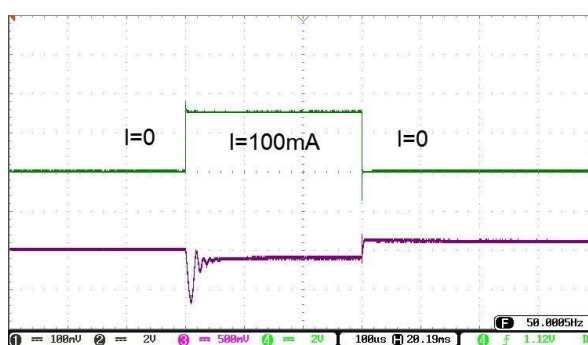
Vin Response(Vout VS. Vin)



Load Response(Vout VS. Iload)



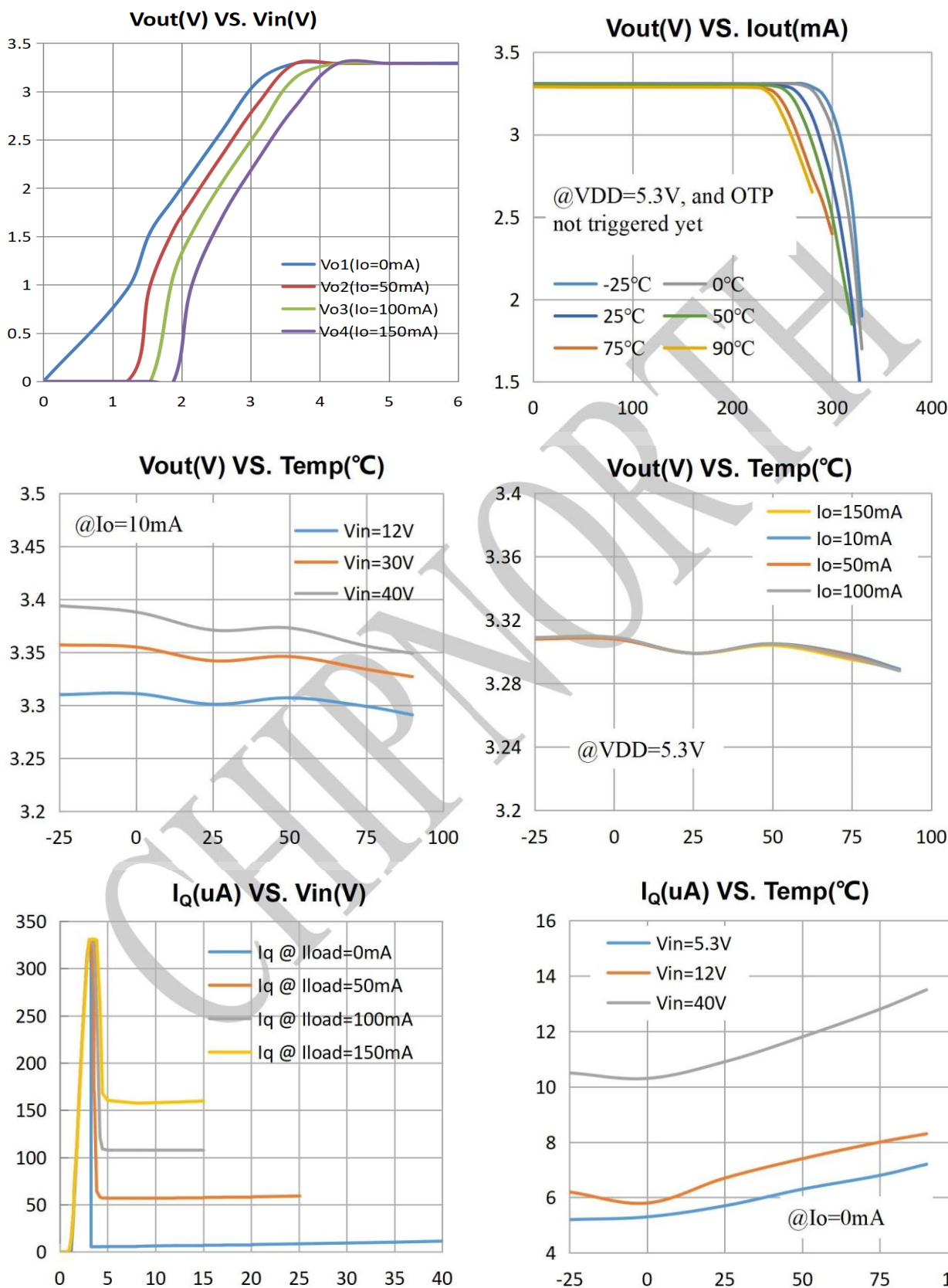
LoadResponse(Vout VS. Iload)

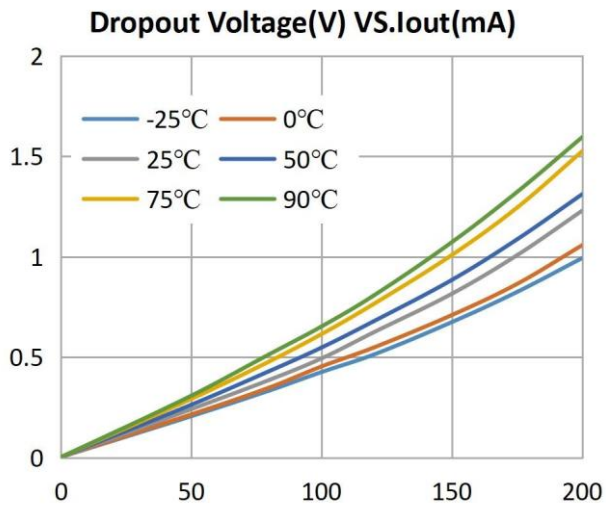




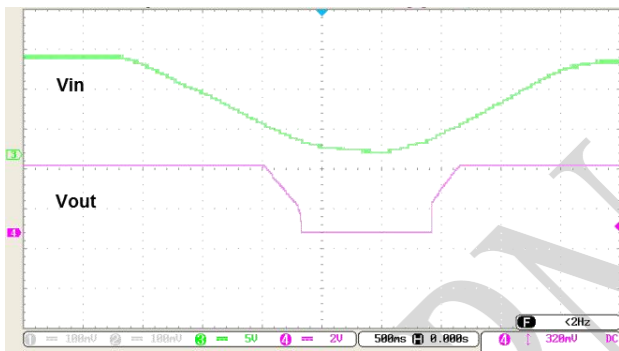
■ 典型参数 (CN88L033)

测试条件: $T_A=25^{\circ}\text{C}$, $V_{\text{IN}}=12\text{V}$, $C_{\text{OUT}}=1\mu\text{F}$, 除非另有说明。

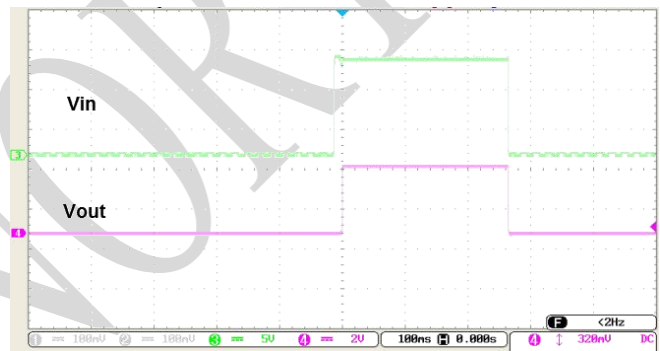




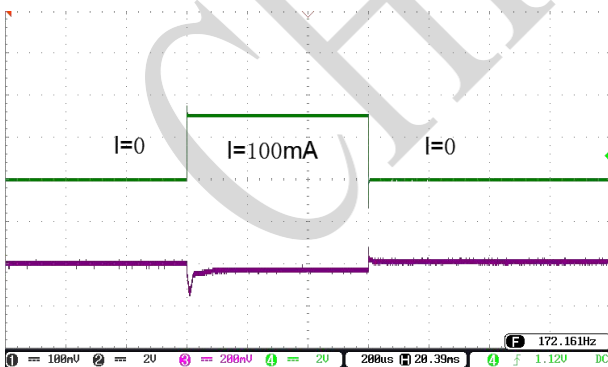
Vin Response(Vout VS. Vin)



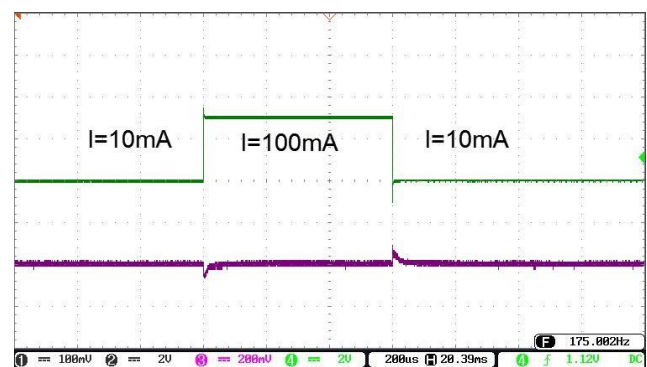
Vin Response(Vout VS. Vin)



Load Response(Vout VS. Iload)



Load Response(Vout VS. Iload)

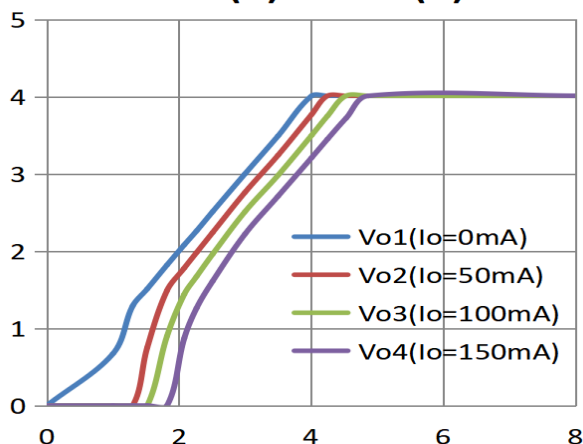




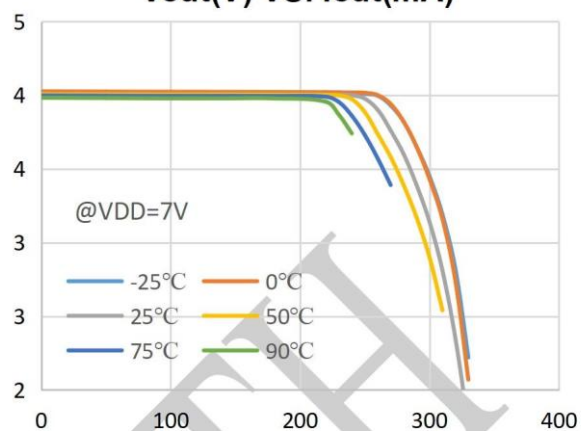
■ 典型参数 (CN88L040)

测试条件: $T_A=25^{\circ}\text{C}$, $V_{\text{IN}}=12\text{V}$, $C_{\text{OUT}}=1\mu\text{F}$, 除非另有说明。

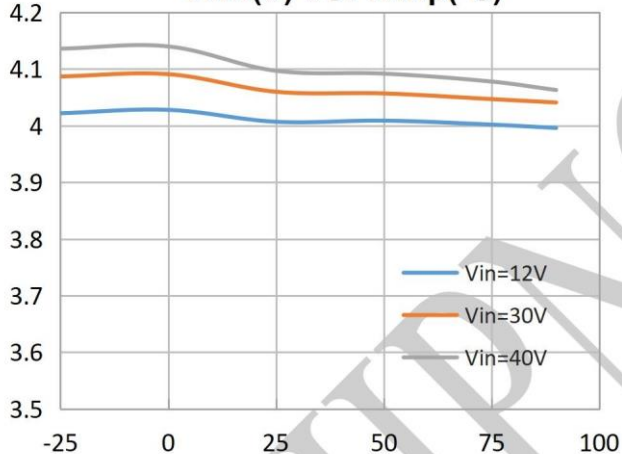
Vout(V) VS. Vin(V)



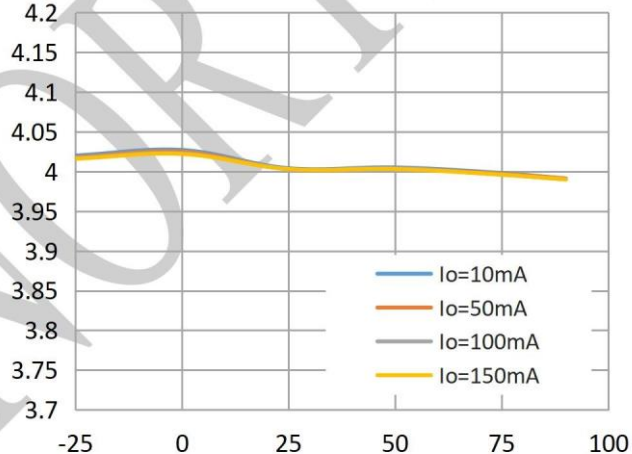
Vout(V) VS. Iout(mA)



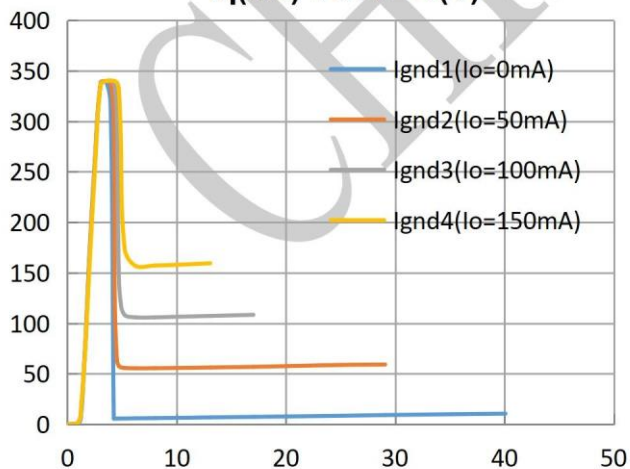
Vout(V) VS. Temp(°C)



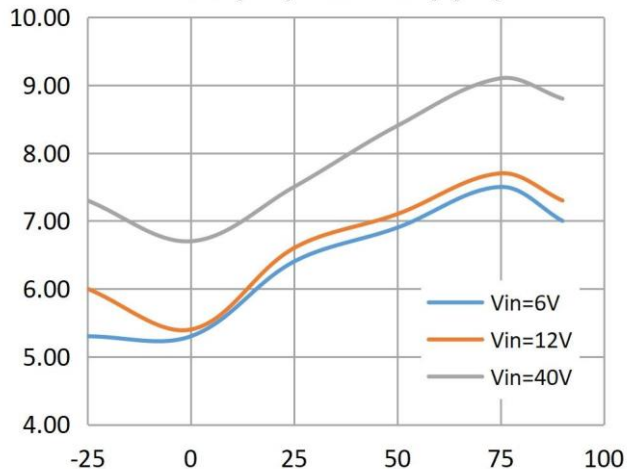
Vout(V) VS. Temp(°C)



Iq(uA) VS. VDD(V)

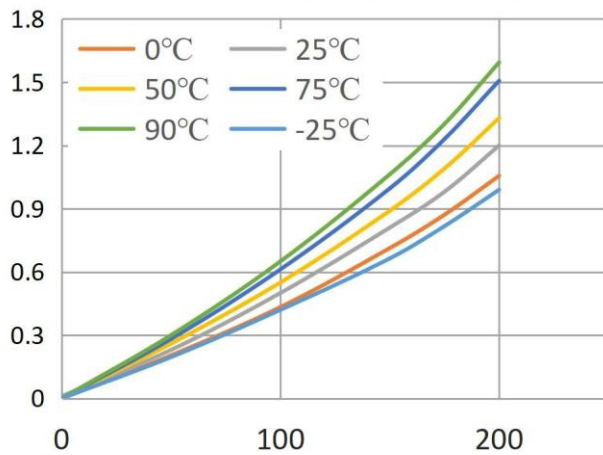


IQ (uA) VS. Temp(°C)

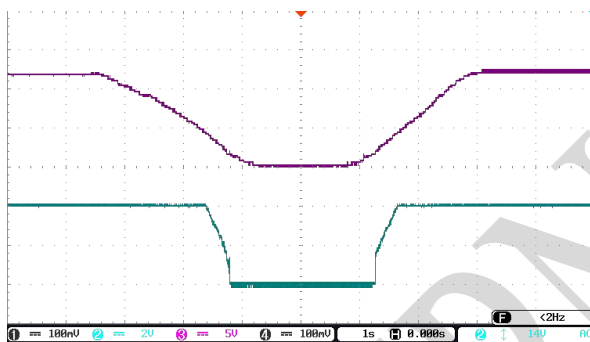




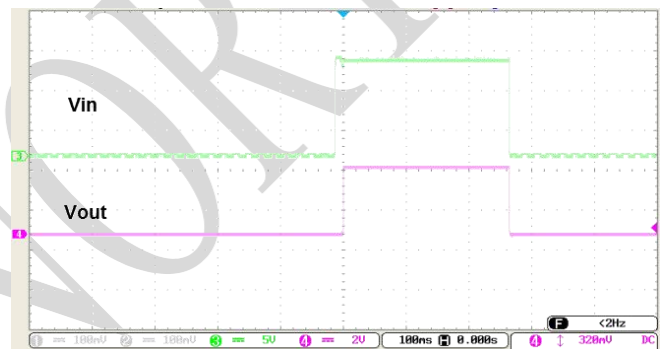
Dropout Voltage(V) VS. Iout(mA)



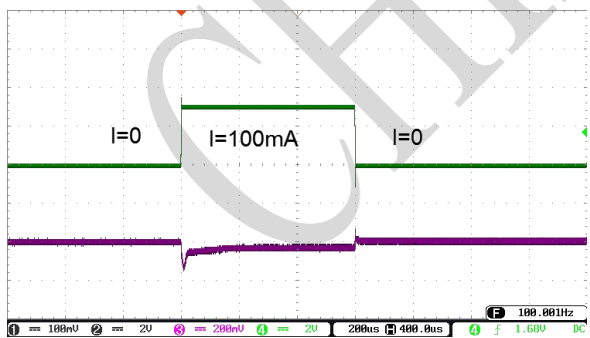
Vin Response(Vout VS. Vin)



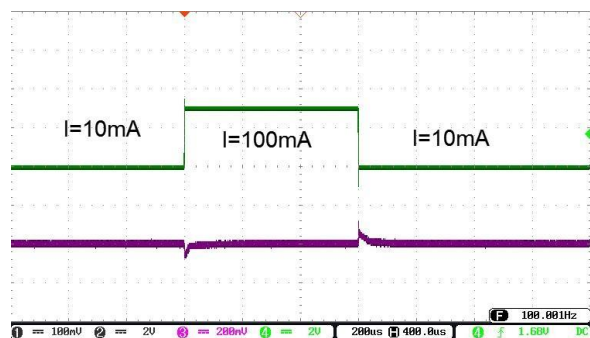
Vin Response(Vout VS. Vin)



Load Response(Vout VS. Iload)



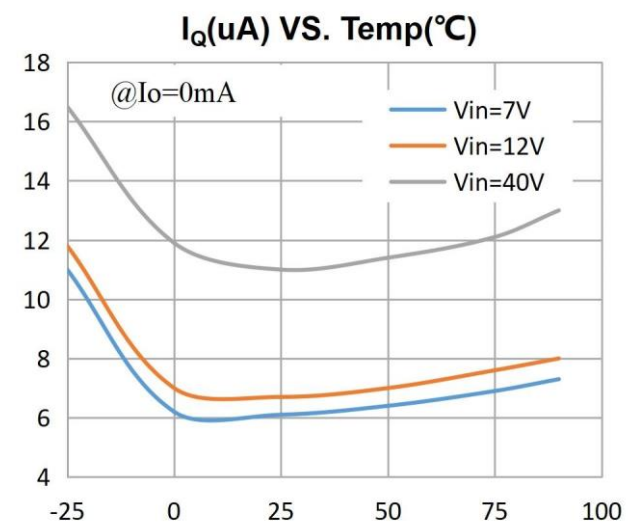
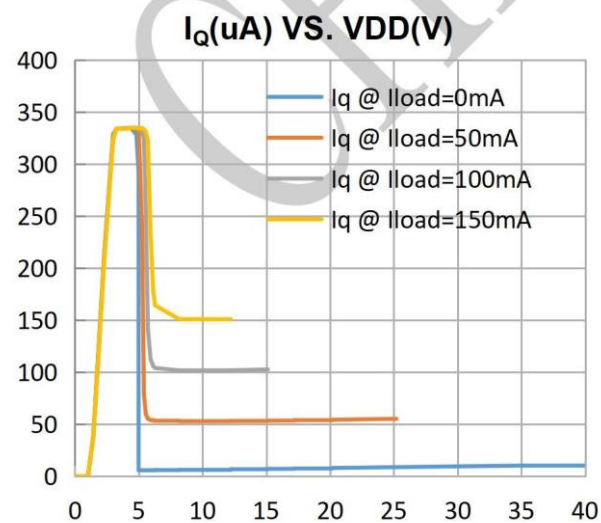
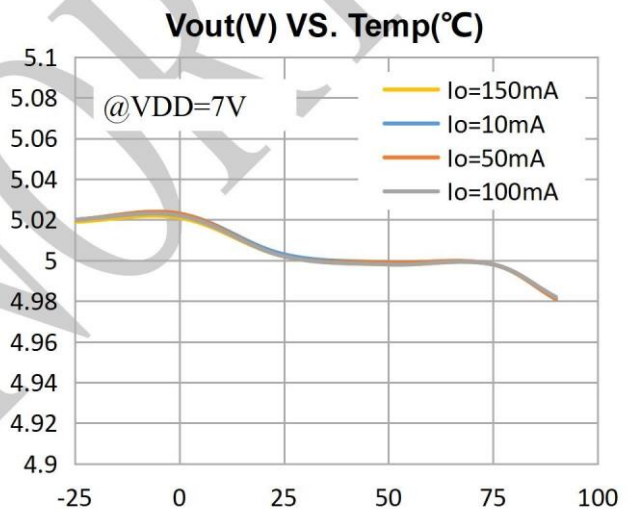
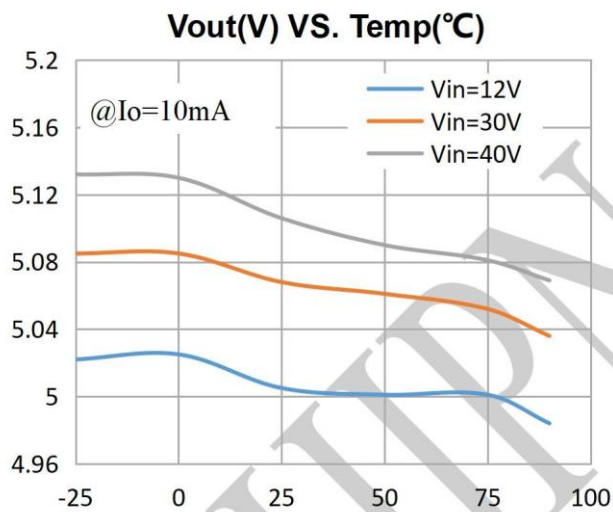
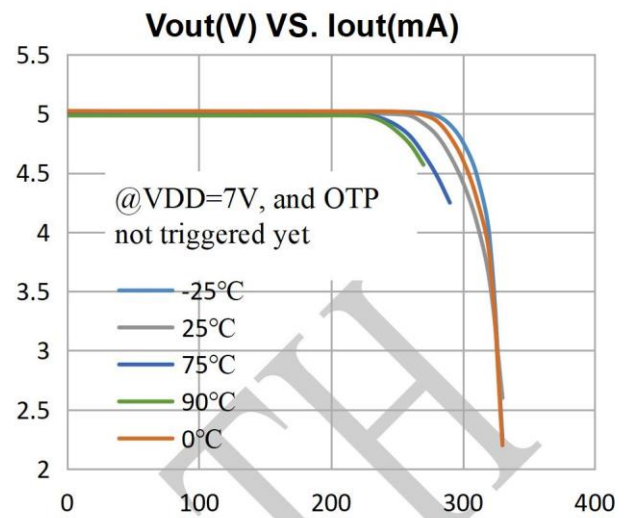
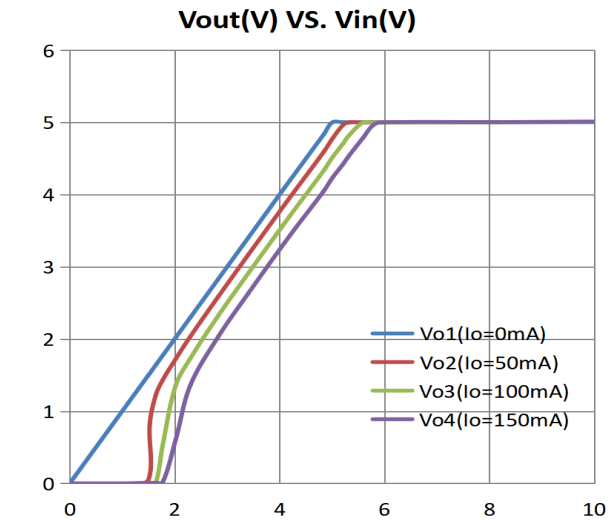
Load Response(Vout VS. Iload)





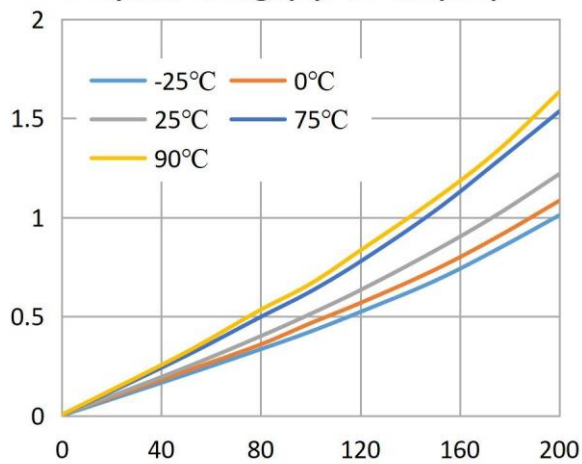
■ 典型参数 (CN88L050)

测试条件: $T_A=25^\circ\text{C}$, $V_{IN}=12\text{V}$, $C_{OUT}=1\mu\text{F}$, 除非另有说明。

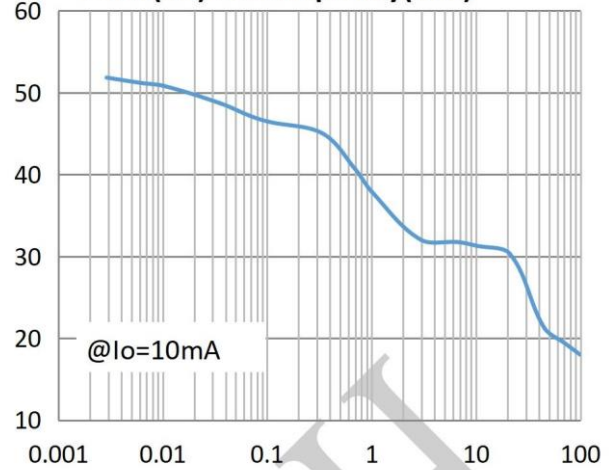




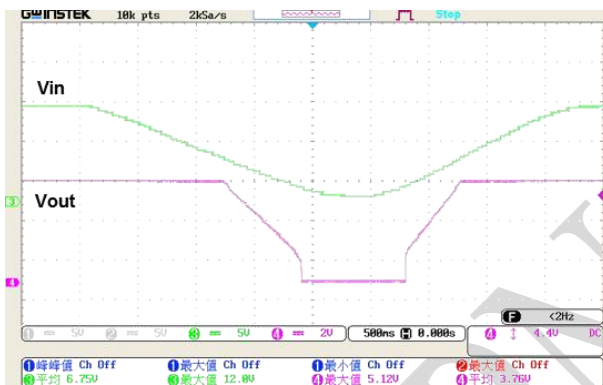
Dropout Voltage(V) VS. Iout(mA)



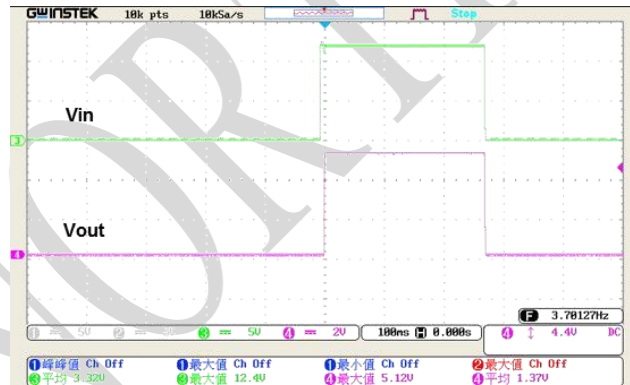
PSRR(dB) VS. Frequency(KHz)



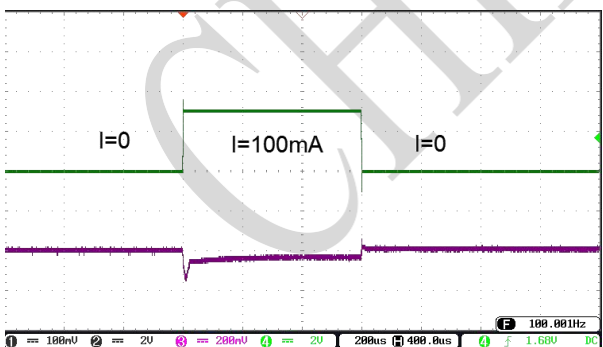
Vin Response(Vout VS. Vin)



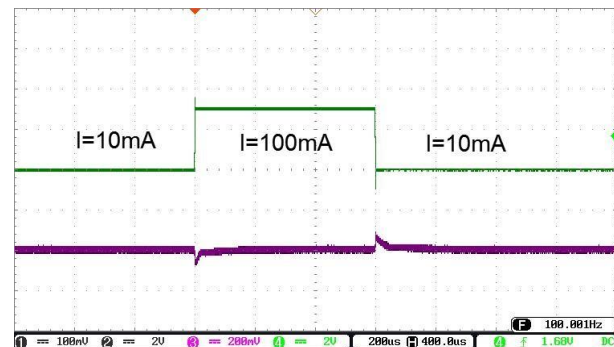
Vin Response(Vout VS. Vin)



Load Response(Vout VS. Iload)



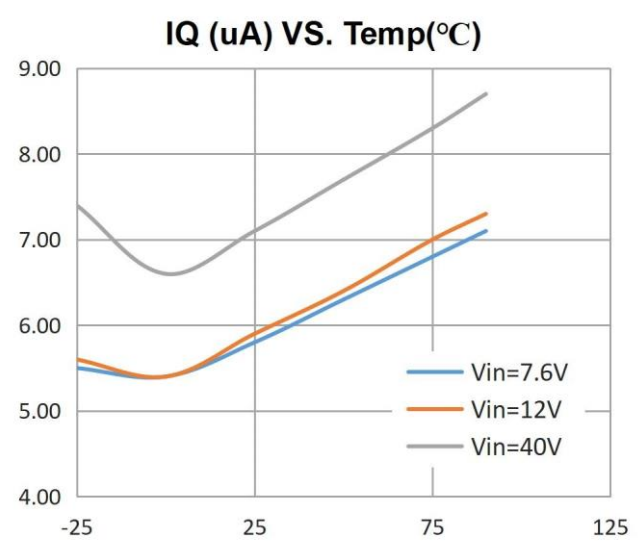
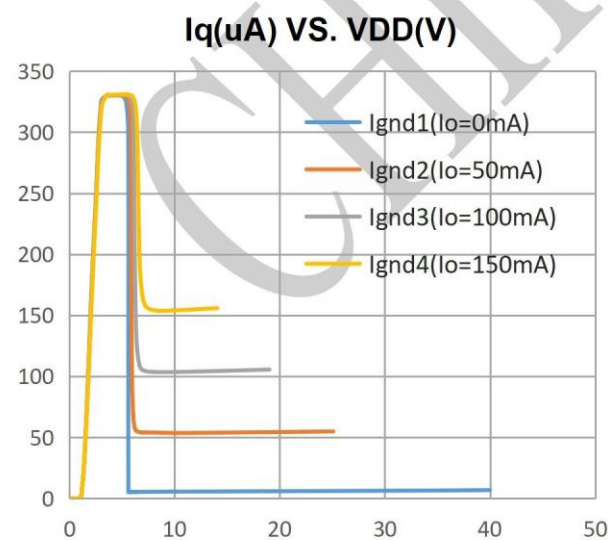
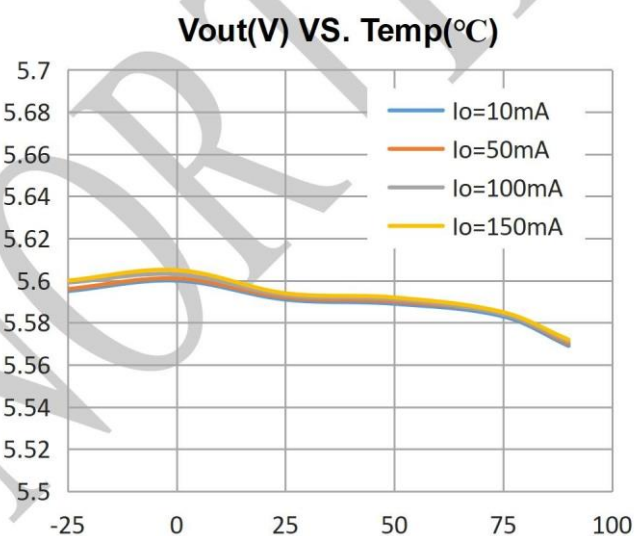
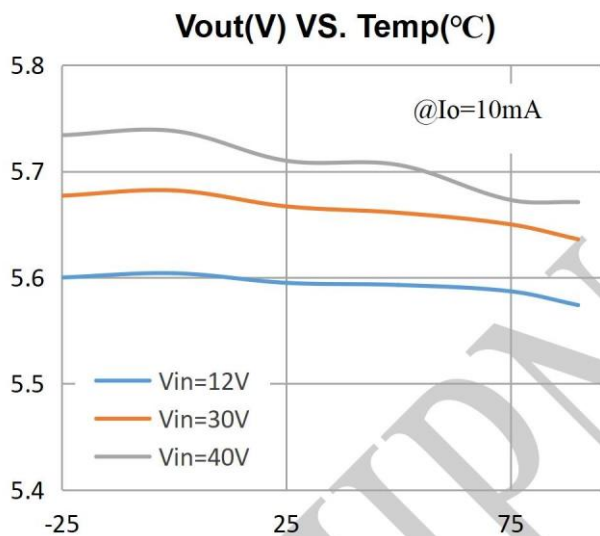
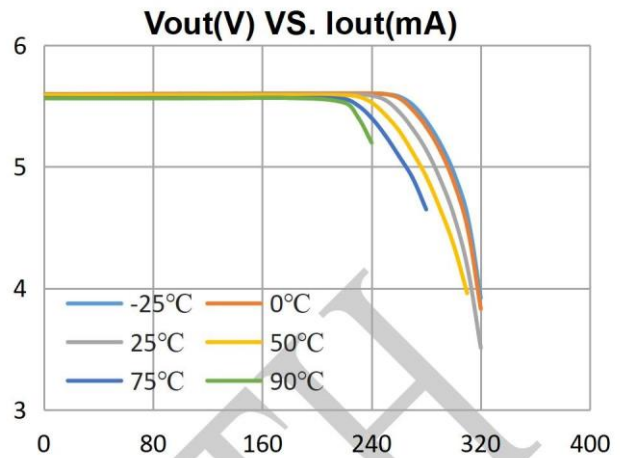
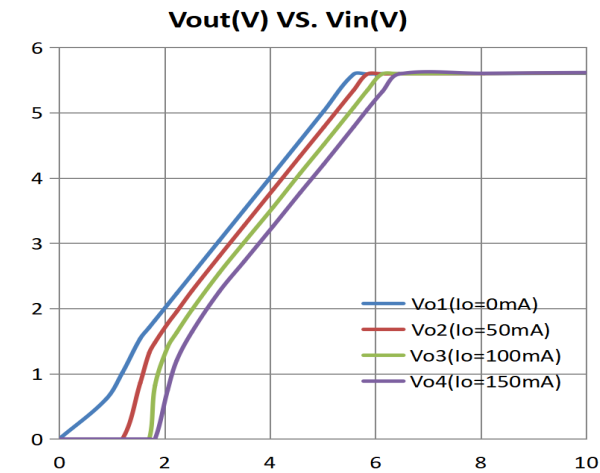
Load Response(Vout VS. Iload)

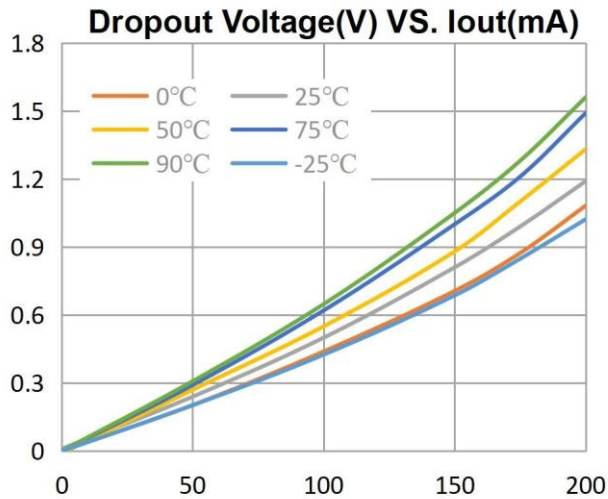




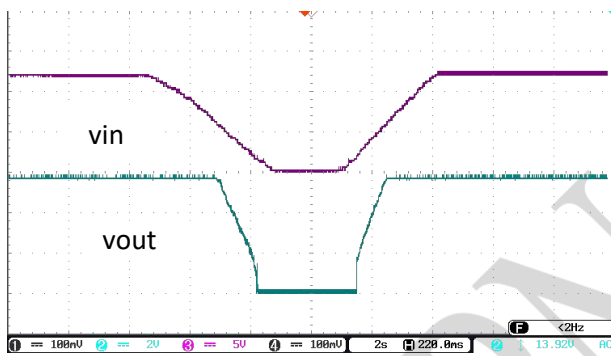
■ 典型参数 (CN88L056)

测试条件: $T_A=25^{\circ}\text{C}$, $V_{IN}=12\text{V}$, $C_{OUT}=1\mu\text{F}$, 除非另有说明。

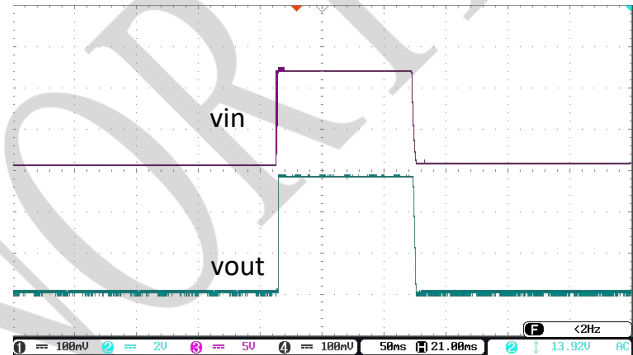




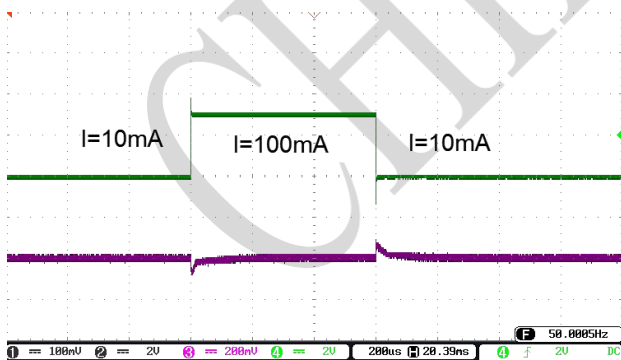
Vin Response(Vout VS. Vin)



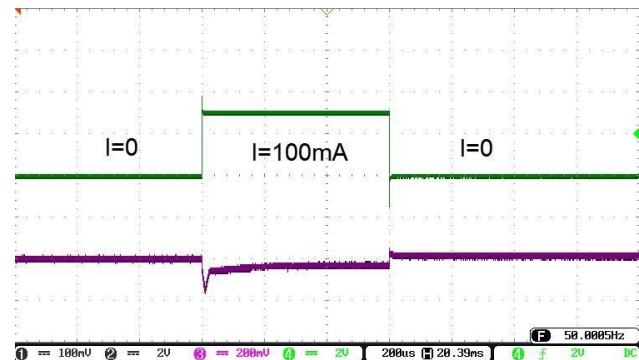
Vin Response(Vout VS. Vin)



Load Response(Vout VS. Iload)



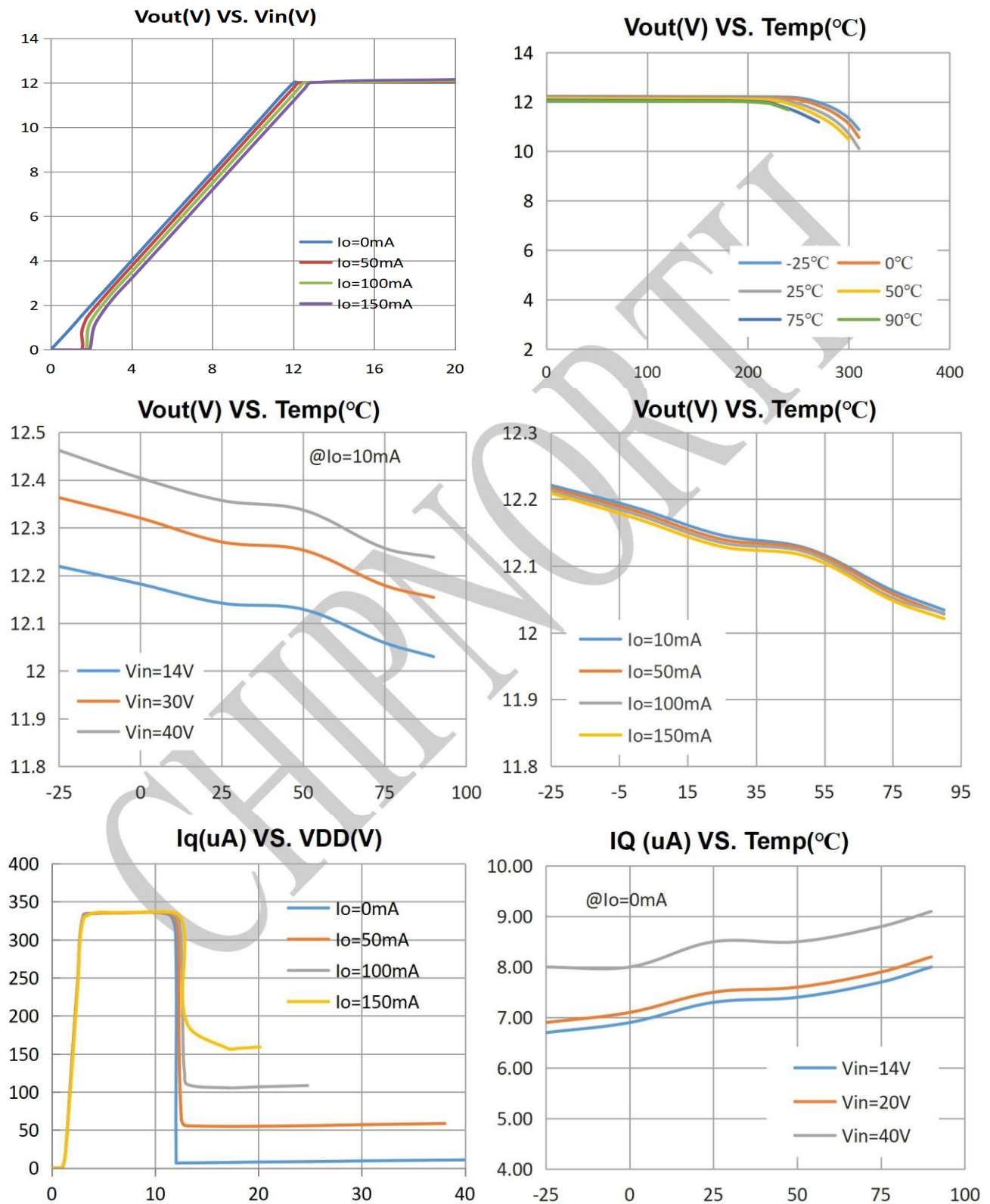
Load Response(Vout VS. Iload)





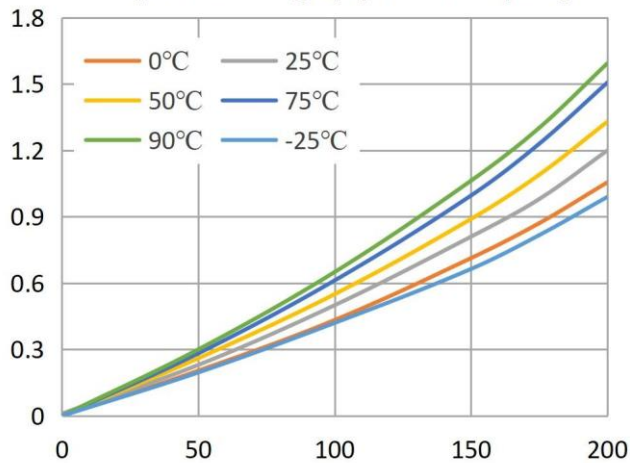
■ 典型参数 (CN88L120)

测试条件: $T_A=25^{\circ}\text{C}$, $V_{IN}=12\text{V}$, $C_{OUT}=1\mu\text{F}$, 除非另有说明。

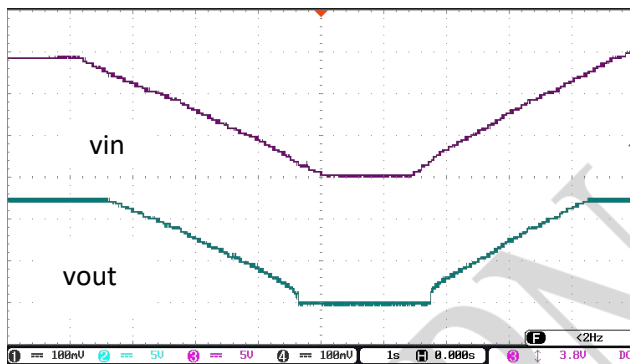




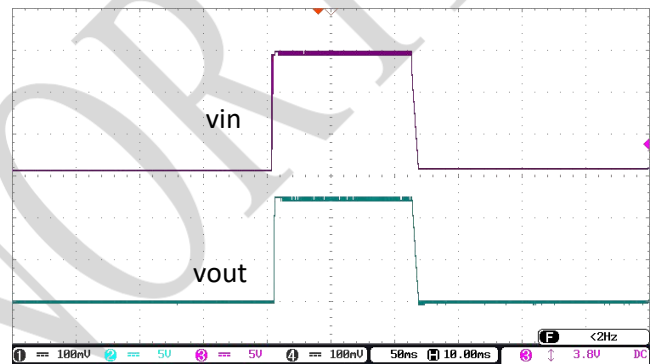
Dropout Voltage(V) VS. Iout(mA)



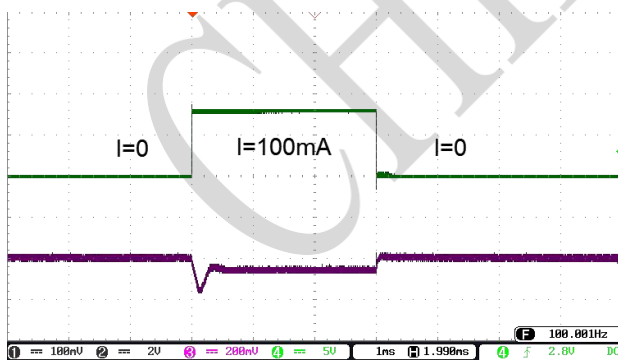
Vin Response(Vout VS. Vin)



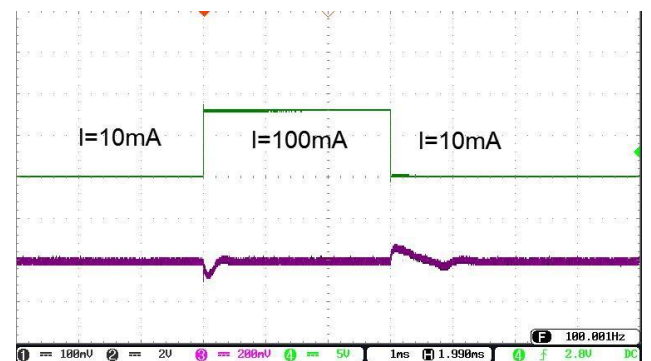
Vin Response(Vout VS. Vin)



Load Response(Vout VS. Iload)



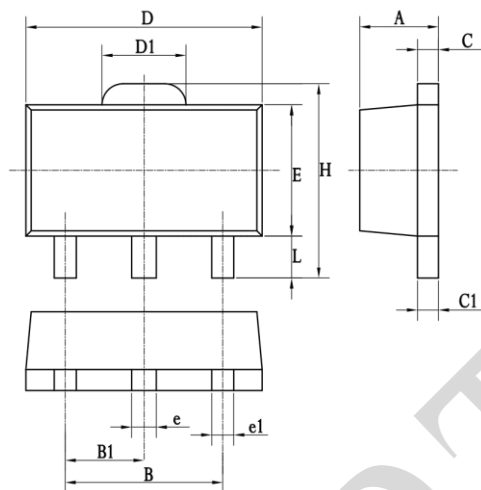
Load Response(Vout VS. Iload)





■ 封装信息

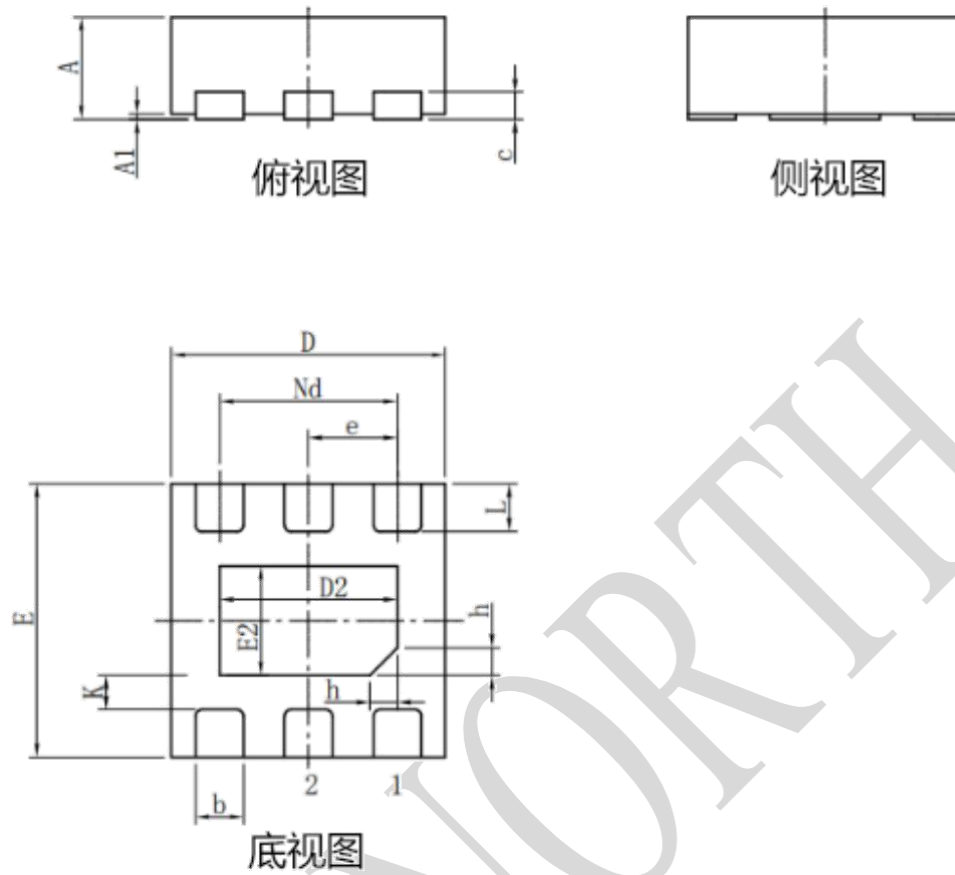
SOT89-3



符号	毫米			英寸		
	最小	标准	最大	最小	标准	最大
A	1.4	1.5	1.6	-	-	-
B	2.8	3	3.2	-	-	-
B1	1.4	1.5	1.6	-	-	-
C	0.3	0.4	0.5	-	-	-
C1	0.3	0.4	0.5	-	-	-
D	4.4	4.5	4.6	-	-	-
D1	1.4	1.6	1.8	-	-	-
E	2.4	2.5	2.6	-	-	-
e	0.37	0.47	0.57	-	-	-
e1	0.22	0.42	0.62	-	-	-
H	-	-	4.25	-	-	-
L	0.8	-	-	-	-	-



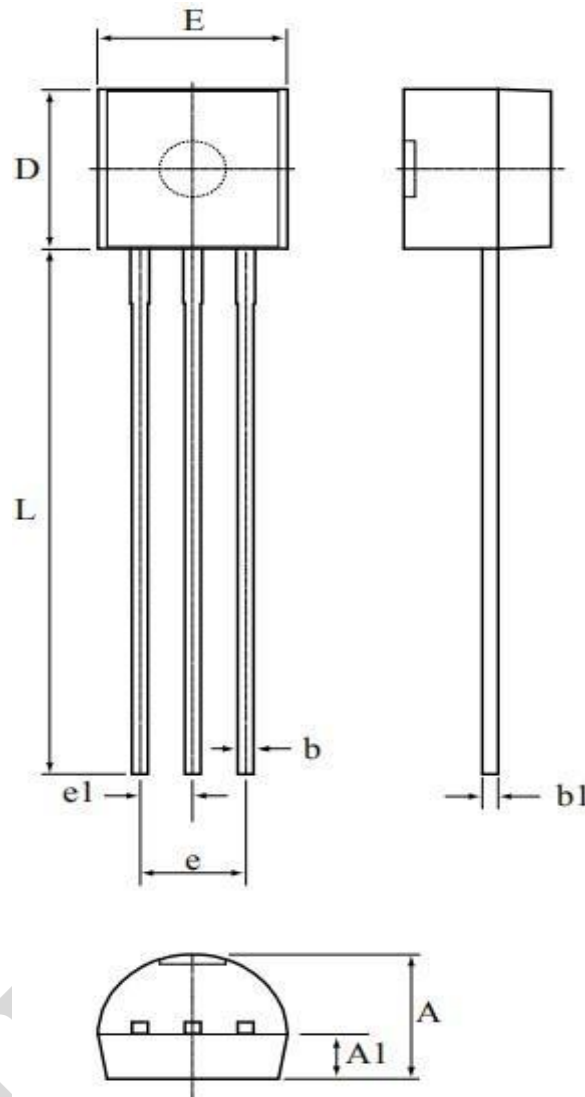
DFN2x2-6



尺寸 标注	最小 (mm)	标准 (mm)	最大 (mm)	尺寸 标注	最小 (mm)	标准 (mm)	最大 (mm)
A	0.70	0.75	0.80	E2	0.90	1.00	1.10
A1	0.00	0.02	0.05	e	0.650BSC		
b	0.25	0.30	0.35	Nd	1.300BSC		
c	0.18	0.20	0.25	K	0.20	-	-
D	1.90	2.00	2.10	L	0.20	0.25	0.30
D2	1.50	1.60	1.70	H	0.15	0.20	0.25
E	1.90	2.00	2.10				



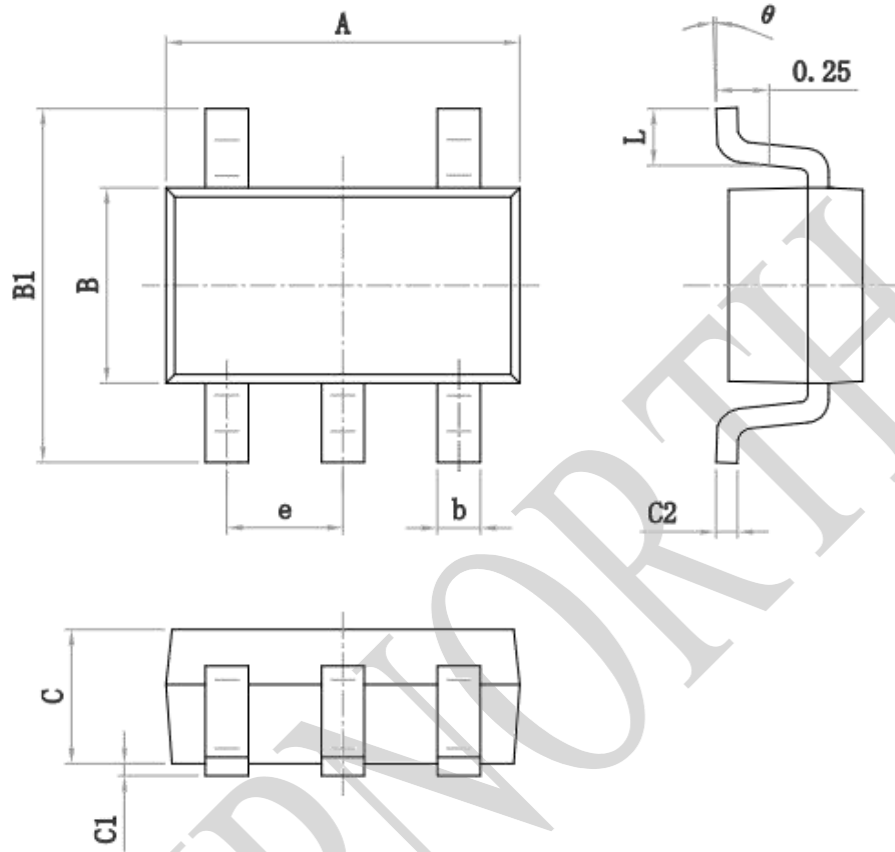
T092



SYMBOLS	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	3.400	4.700	0.134	0.185
A1	1.000	1.400	0.039	0.055
b	0.360	0.510	0.014	0.020
b1	0.360	0.510	0.014	0.020
D	4.300	4.850	0.170	0.191
E	4.300	4.850	0.170	0.191
e	2.420	2.660	0.095	0.105
e1	1.150	1.390	0.045	0.055
L	12.700 MIN		0.500 MIN	



SOT23-5



尺寸 标注	最小(mm)	最大(mm)	尺寸 标注	最小(mm)	最大(mm)
A	2.82	3.02	C	1.05	1.15
e	0.95 (BSC)		C1	0.03	0.15
b	0.28	0.45	C2	0.12	0.23
B	1.50	1.70	L	0.35	0.55
B1	2.75	3.05	θ	0°	8°