BL78L05G

3－TERMINAL POSITIVE VOLTAGE REGULATORS

## FEATURES

- Maximum Output Current:0.1A

- Output Voltage:5V

- Thermal Overload Protection

- 2% Output Voltage Accuracy

PIN CONNECTION

SOT89-3L	SOP8
"YY" STANDS FOR THE ASSEMBLY YEAR **"WW" STANDS FOR THE ASSEMBLY WEEK** **"ZZ" STANDS FOR THE ASSEMBLY FACTORY** **"SSSSS" STANDS FOR 4th TO 8th CHARACTER** **OR NUMBER OF LOT**	

Absolute Maximum Ratings (Ta=25°C)

Characteristics	Symbol	Value	Unit
Input Voltage	Vi	42	V
Operating Junction Temperature Range	Tj	-40～+125	℃
Power Dissipation	Pd	750	m W
Operating Temperature Range	Topr	-40～+125	℃
Storage Temperature Range	Tstg	-40～+150	℃

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ELECTRICAL CHARACTERISTICS

(unless other wise noted,Vi=10V,Io=40mA,-30<Tj<85℃,C1=0.33μF,Co=0.1μF)（Note1）

| Characteristics	Test Conditions	Symbol	Min	Typ	Max	Unit
Output Voltage	Tj=25℃	Vo	4.9	5	5.1	V
	7V≤Vi≤20V; Io=1mA~40mA		4.8		5.2	V
	7V≤Vi≤Vmax;Io=1mA~70mA		4.8		5.2	V
Load Regulation	Tj=25°C;Io=1mA~100mA	ΔVo		11	60	mV
	Tj=25°C;Io=1mA~40mA			5	6	mV
Line Regulation	Tj=25°C;7V≤Vi≤20V	ΔVo		8	150	mV
	Tj=25°C;8V≤Vi≤20V			6	100	mV
Quiescent Current		Iq		3	5.5	mA
Quiescent Current Change	8V≤Vi≤20V	ΔIq			1.5	mA
	1mA≤Io≤40mA				0.2	mA
Output Noise Voltage	10Hz≤f≤100kHz	VN		63		μV
Temperature Coefficient	Io=5mA	ΔVo/ΔT		0.65		mV/℃
Ripple Rejection	10V≤Vi≤20V;f=120Hz; Tj=25°C	RR	41	60		d B
Dropout Voltage	Tj=25°C	Vd		1.7		V

APPLICATION CIRCUIT
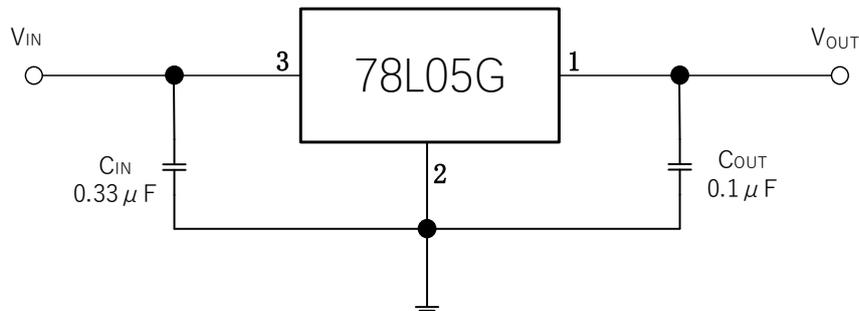
*Bypass capacitors are recommended for optimum stability and transient response and should be located as close as Possible to the regulators.

TYPICAL CHARACTERISTICS

Output Characteristics
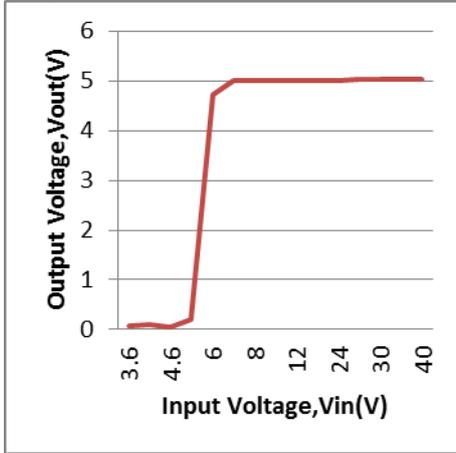
Quiescent Current vs Input Voltage
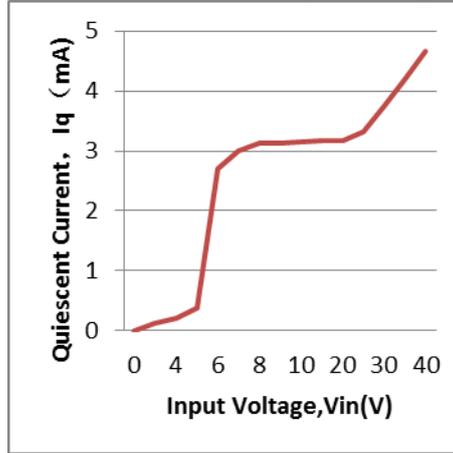
Input Voltage vs Bias Current
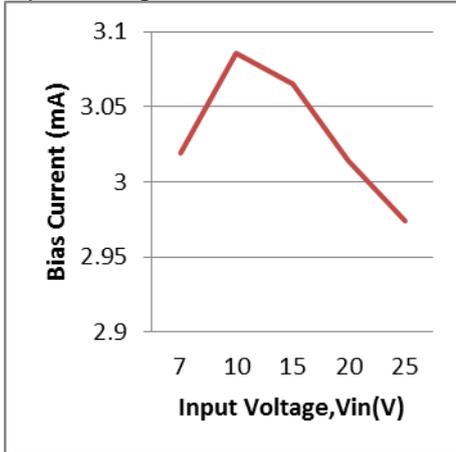
Load Current vs Bias Current
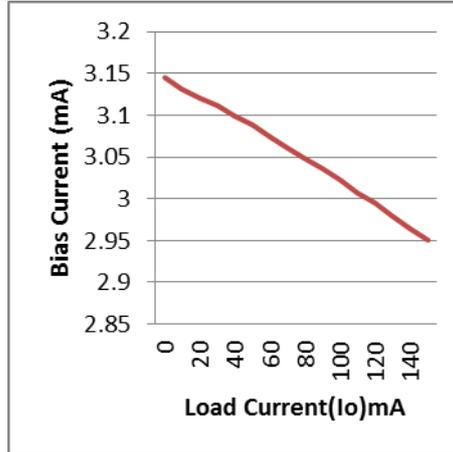
Output fluctuation
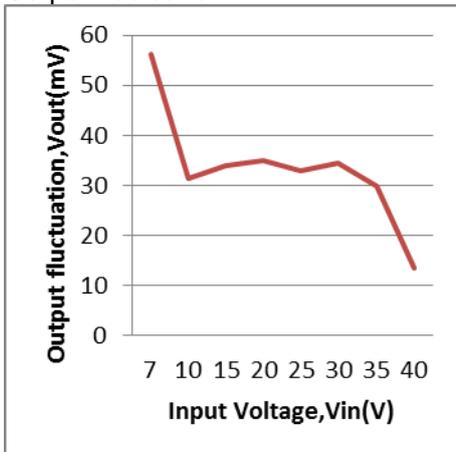
Ambient temperature vs Power dissipation

Vin=10V
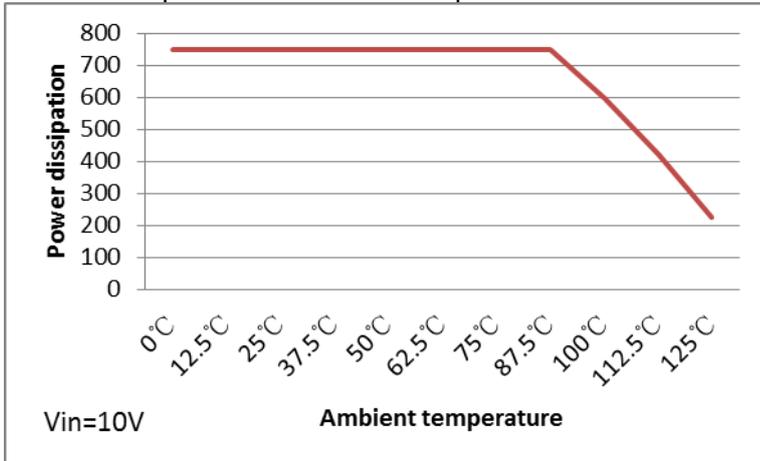
Load current temperature vs Minimum voltage difference
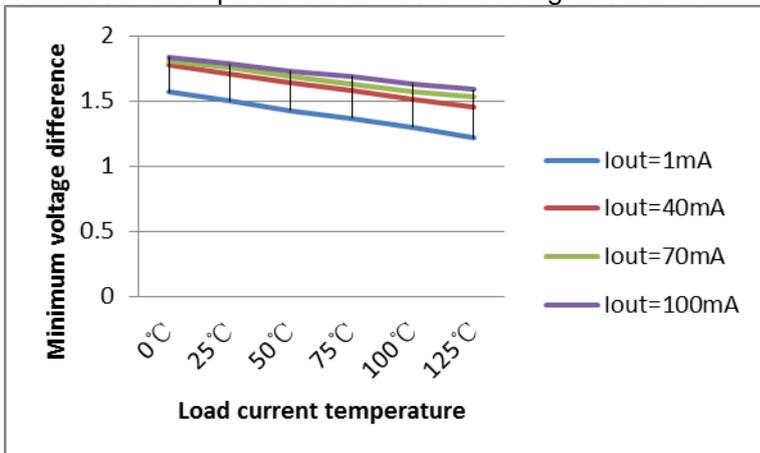

Dropout Characteristics
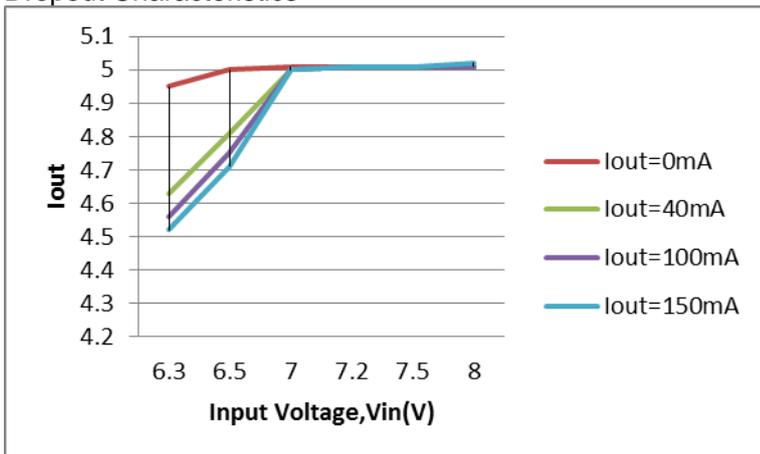
ORDER INFORMATION

1	BL78L05G	SOT89-3L	Packaged by Tianshui Huatian Technology
2	BL78L05G-SOP8	SOP8	Packaged by Wuxi Hongguang Electronic Limited

Storage conditions and packaging

- Warranty period：Two years
- Packing method：Reel
- Minimum packaging
  SOT89-3L：1000
  SOP8：2500

OUTLINEDRAWING & Tray information

1.BL78L05G（SOT89-3L）
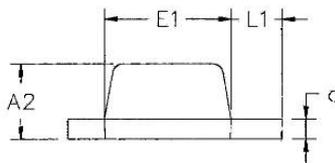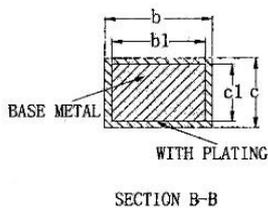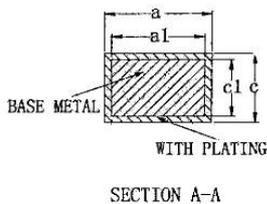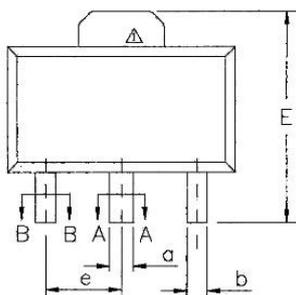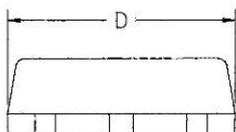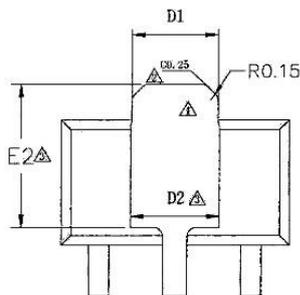
SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A2	1.40	1.50	1.60
b	0.38	—	0.46
b1	0.37	0.40	0.43
c	0.38	—	0.42
c1	0.37	0.38	0.39
a	0.46	—	0.56
a1	0.45	0.48	0.51
D	4.40	4.50	4.60
D1	1.62	—	1.83
E	3.95	—	4.25
E1	2.40	2.50	2.60
e	1.50BSC		
L1	0.89	—	1.20

L/F Size(mil) Size(mm)	D2	E2
66.9*63	1.75REF	2.84REF
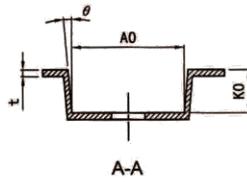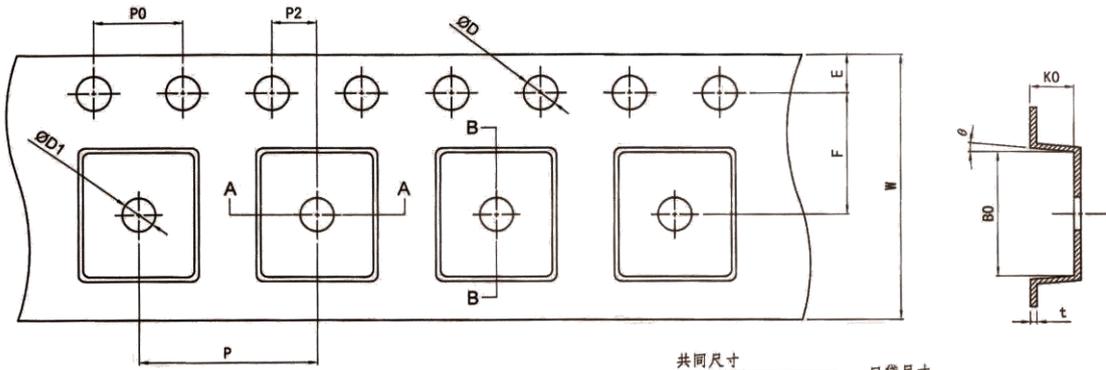
共同尺寸

外观	尺 寸(mm)
E	1.75±0.10
F	5.50±0.05
P2	2.00±0.05
D	$1.50^{+0.1}_{0}$
D1	1.50±0.1
P0	4.00±0.10
10P0	40.00±0.20

口袋尺寸

外观	尺 寸(mm)	
W	12.00±0.10	
P	8.00±0.10	
A0	4.80±0.10	
B0	4.40±0.10	
K0	1.80±0.10	
t	0.30±0.05	⚠
θ	3 — 5° TYP	⚠

3.BL78L05G（SOP8)
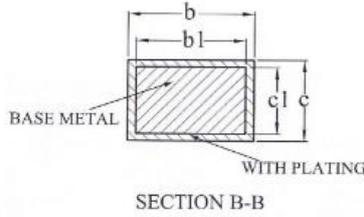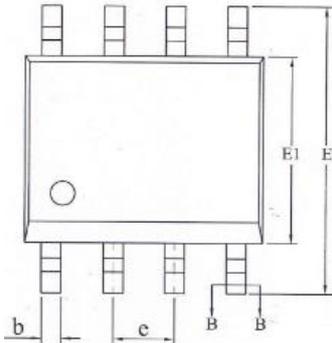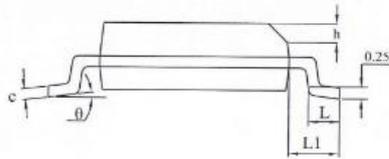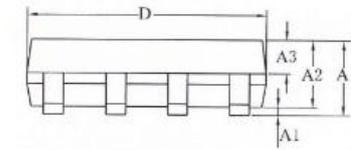
SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	—	—	1.75
A1	0.10	—	0.225
A2	1.30	1.40	1.50
A3	0.60	0.65	0.70
b	0.39	—	0.47
b1	0.38	0.41	0.44
c	0.20	—	0.24
c1	0.19	0.20	0.21
D	4.80	4.90	5.00
E	5.80	6.00	6.20
E1	3.80	3.90	4.00
e	1.27BSC		
h	0.25		0.50
L	0.50	—	0.80
L1	1.05REF		
θ	0	—	8°

BASE METAL

WITH PLATING

SECTION B-B

產品尺寸規格				(UNIT:mm)				
規格	W	P1	E	F	D0	D1	P0	P2	10P0
尺寸	$12.0^{+0.30}_{-0.10}$	8.0±0.1	1.75±0.1	5.5±0.05	$1.5^{+0.10}_{-0}$	$1.5^{+0.25}_{-0}$	4±0.1	2±0.05	40±0.2
規格	A0	A1	B0	B1	K0	K1	T		
尺寸	6.40±0.10		5.40±0.10		2.10±0.10		0.25±0.03		

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B

12.00

B

A | A

B—B

0.25 ± 0.03

T

5°

5.40 ± 0.10

B0

5°

6.40 ± 0.10

K_0

2.10 ± 0.1

A_0

A—A