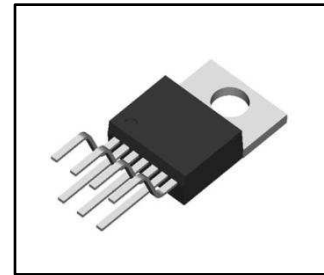


**DESCRIPTION**

The Magic9 is specifically designed for LED lighting applications for AC power system. The main applications are LED lighting.

**FEATURES**

- Constant output current channel : 1
- Maximum sinking output voltage : 320V
- Package : TO220B-7L

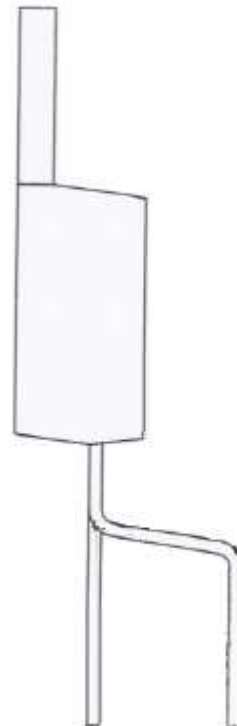


TO220B-7L

**PIN CONFIGURATION**



V	V	V	N	R	L	G
I	C	D	C	E	E	N
N	C	D		X	D	D
				T		

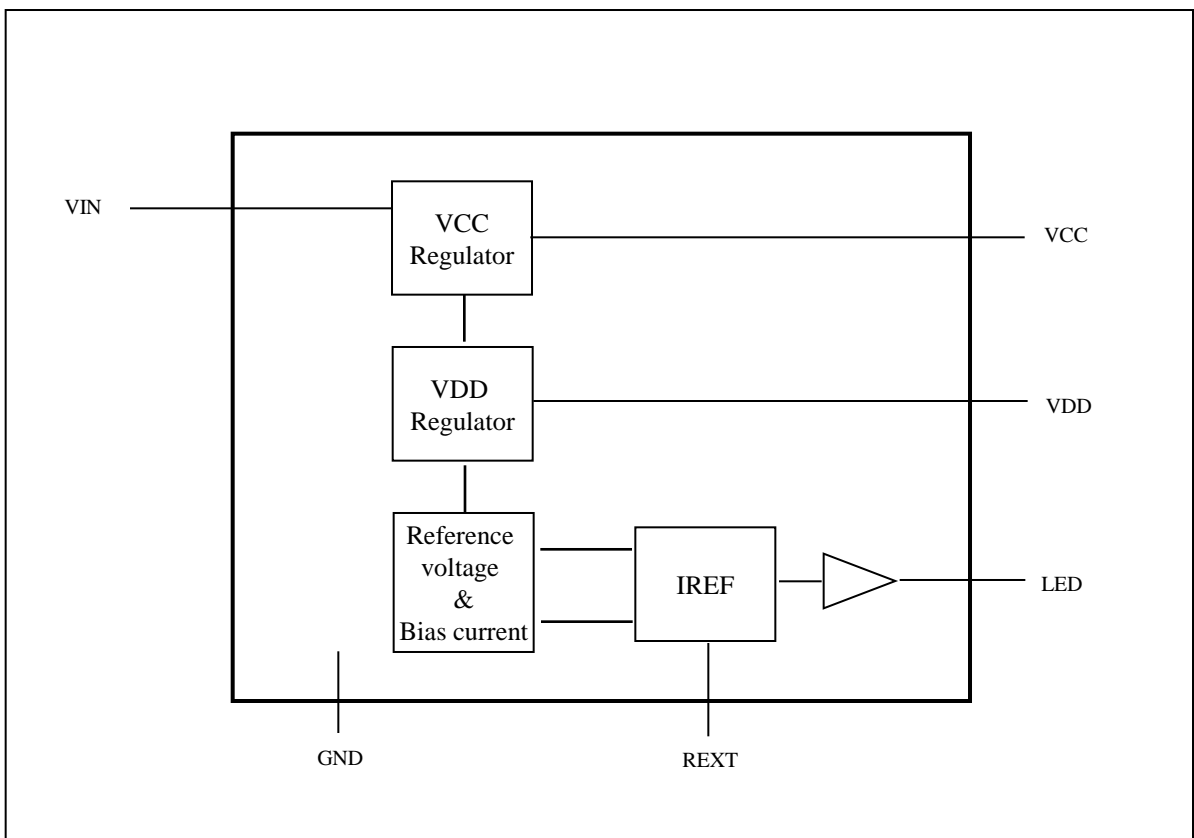


\* This specifications are subject to be changed without notice

## PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	VIN	Power Input Terminal
2	VCC	High Voltage Power Terminal
3	VDD	Internal Logic Power Terminal
4	NC	
5	REXT	Resistor connected to GND
6	LED	LED Driver Terminal
7	GND	Ground Terminal

## BLOCK DIAGRAM



\* This specifications are subject to be changed without notice

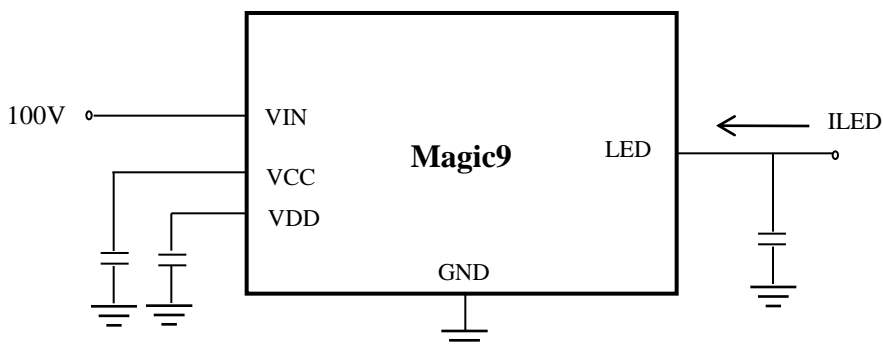
**ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)**

PARAMETER	SYMBOL	RATING	UNIT
Supply Voltage	VIN	350	V
Output Voltage	VCC	20	V
Output Current	I <sub>LED</sub>	120	mA
Power Dissipation	PD	2.5	W
Storage Temperature	T <sub>stg</sub>	-65 ~ 150	°C
Junction Temperature	T <sub>jmax</sub>	150	°C

(Note ) Ambient temperature derated above 25°C in the proportion of 20 mW/ °C

**ELECTRICAL CHARACTERISTICS (Ta = 25°C)**

DC CHARACTERISTICS	SYMBOL	MIN	TYP	MAX	UNIT
VIN Supply Voltage	VIN	0		315	V
LED Driver Output Current ( R <sub>EXT</sub> = 18 kΩ )	I <sub>LED</sub>	58	62	66	mA
VCC Output Voltage	VCC	9		16	V
VDD Output Voltage	VDD	3.5	5	6.5	V
Operating Temperature	T <sub>opr</sub>	-40		85	°C

**DC CHARACTERISTIC TEST CIRCUIT**


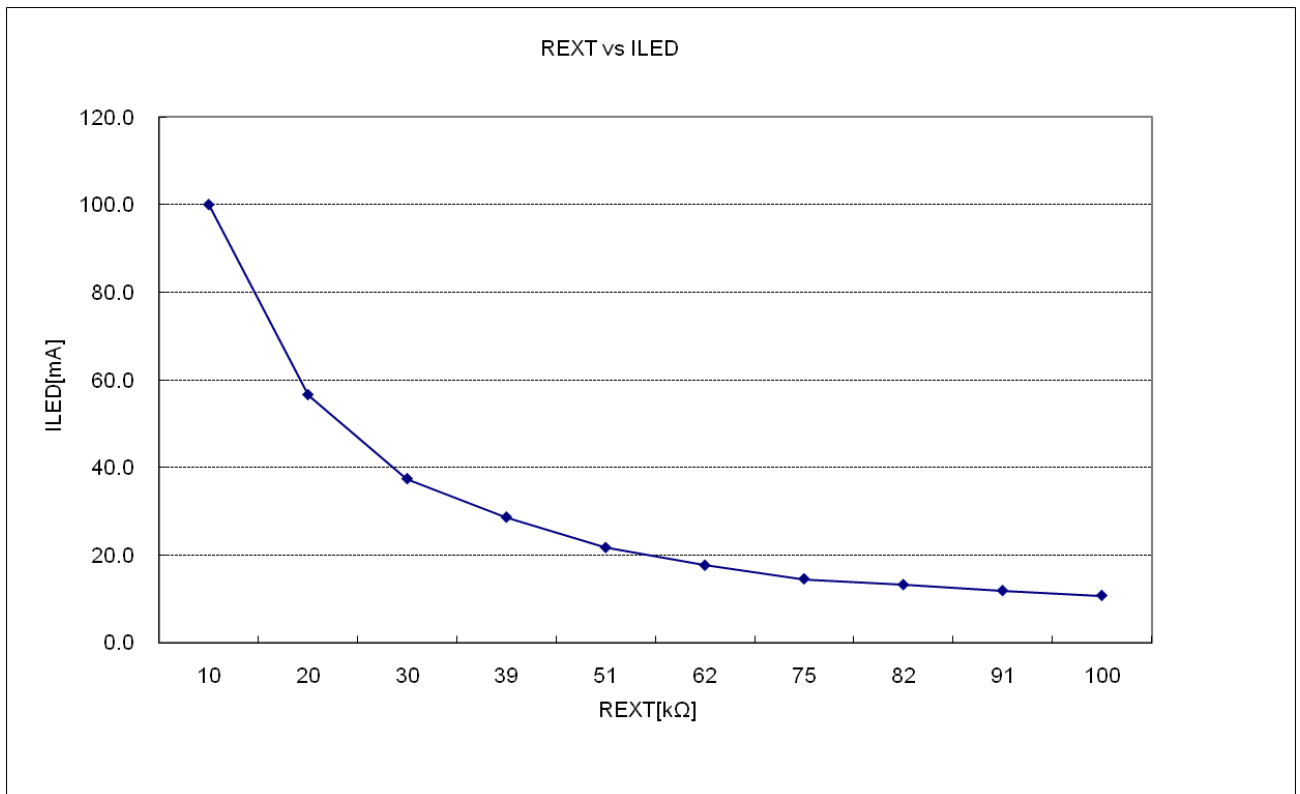
\* This specifications are subject to be changed without notice

## ADJUSTING OUTPUT CURRENT

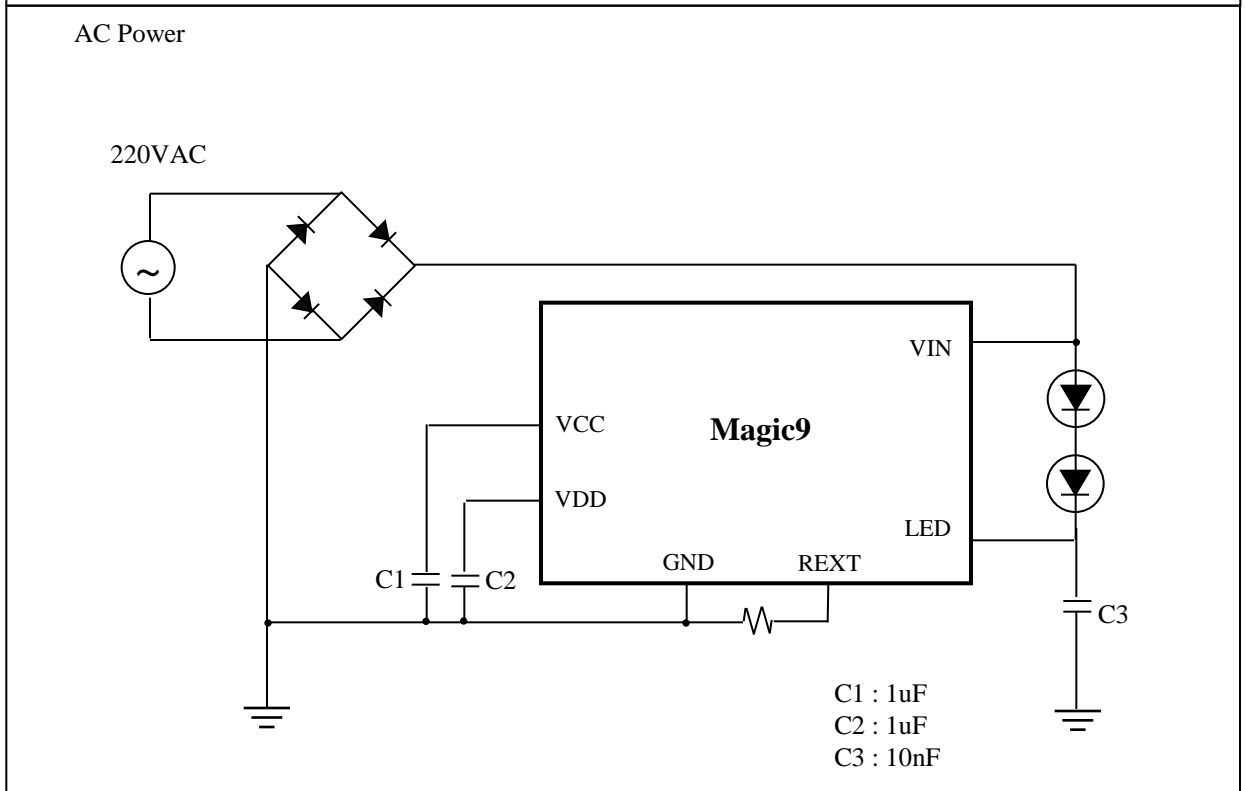
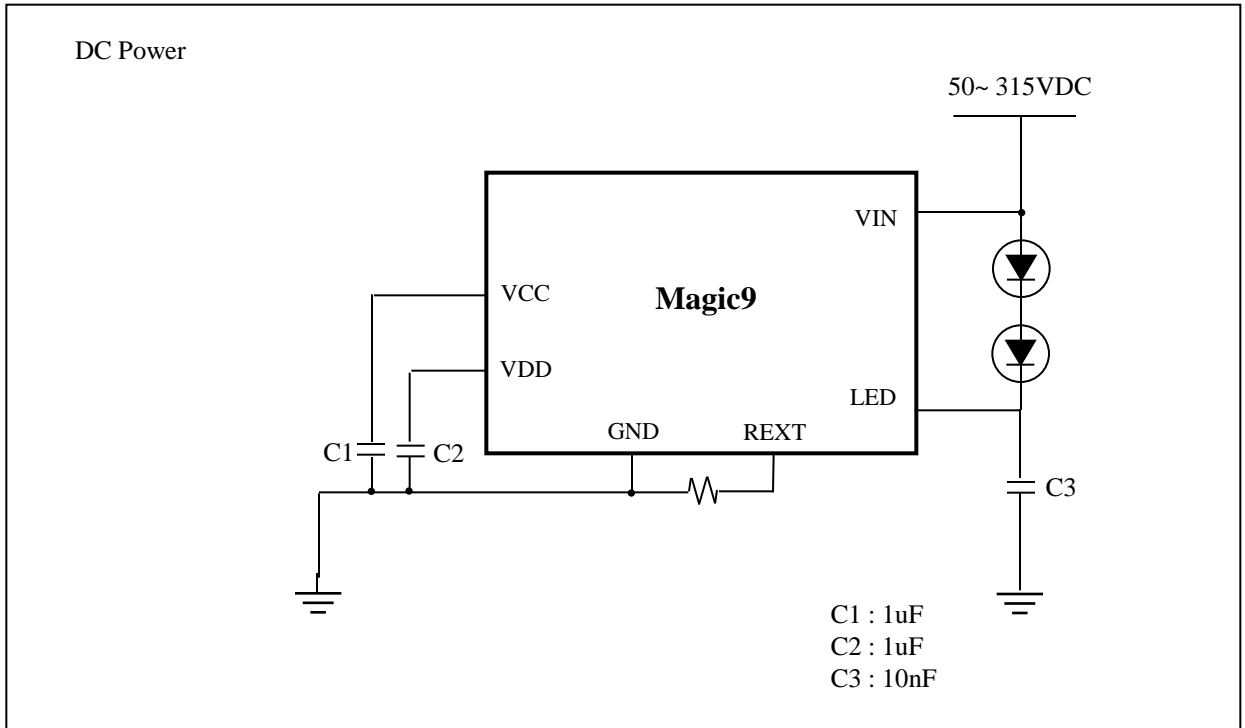
The output current is determined by an external resistor(1% range).

The relationship between ILED and REXT are follows;

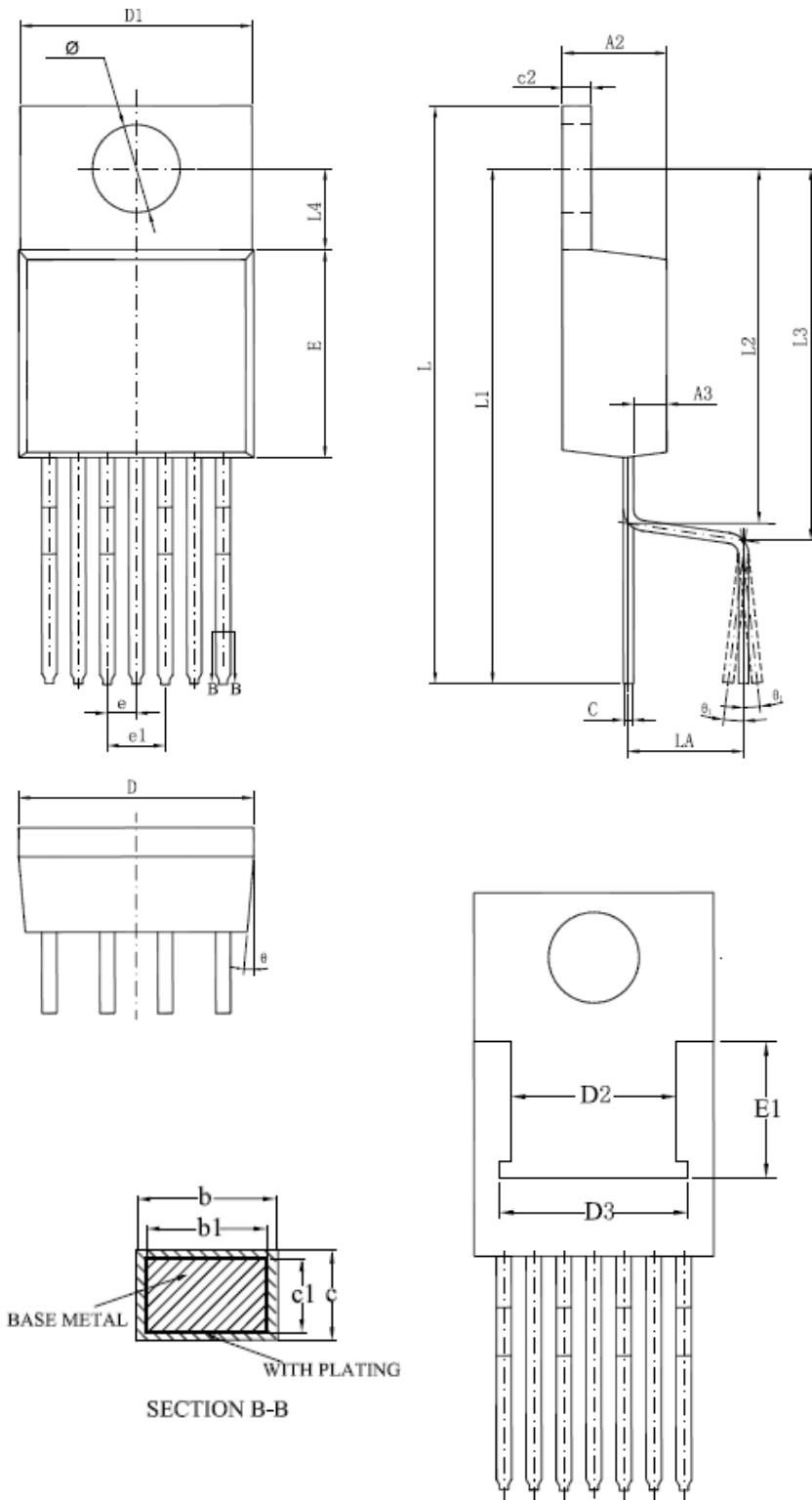
$$I_{LED} [A] = 1100 / R_{EXT}$$



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**TYPICAL APPLICATION**


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**TO220B-7L**


SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A2	4.47	4.57	4.67
A3	1.47	1.52	1.57
b	0.63	-	0.73
b1	0.62	0.65	0.68
c	0.37	-	0.44
c1	0.36	0.38	0.39
c2	1.26	-	1.32
D	10.00	10.10	10.20
D1	10.06	10.26	10.46
D2	7.00REF		
D3	8.00REF		
E	8.30	8.40	8.50
E1	5.80REF		
L	25.07	25.27	25.47
L1	22.32	22.52	22.72
L2	14.72	14.92	15.12
L3	16.77	16.97	17.17
L4	3.46	3.56	3.66
e	1.27BSC		
e1	2.54BSC		
LA	4.78	5.08	5.38
$\varnothing$	3.79	3.84	3.89
$\theta$	-	5°	-
$\theta_1$	0°	-	3°
L/F Pad size (mil)	177 * 177		

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