

Magic9

Data sheet

** This specifications are subject to be changed without notice*

Magic9 Revision History

Version	Contents	Date
0.0	- First Version	2011.08.23

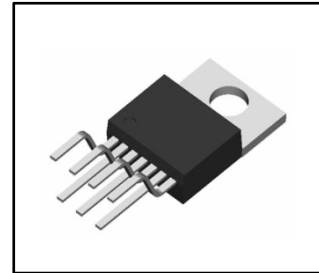
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DESCRIPTION

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

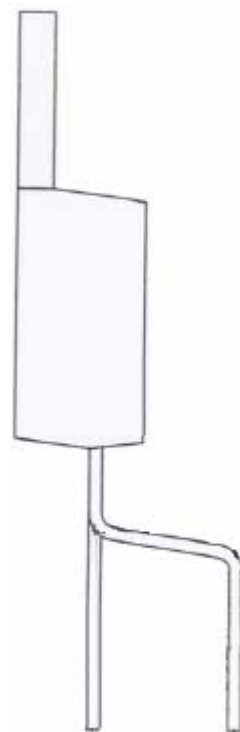
FEATURES

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



TO220B-7L

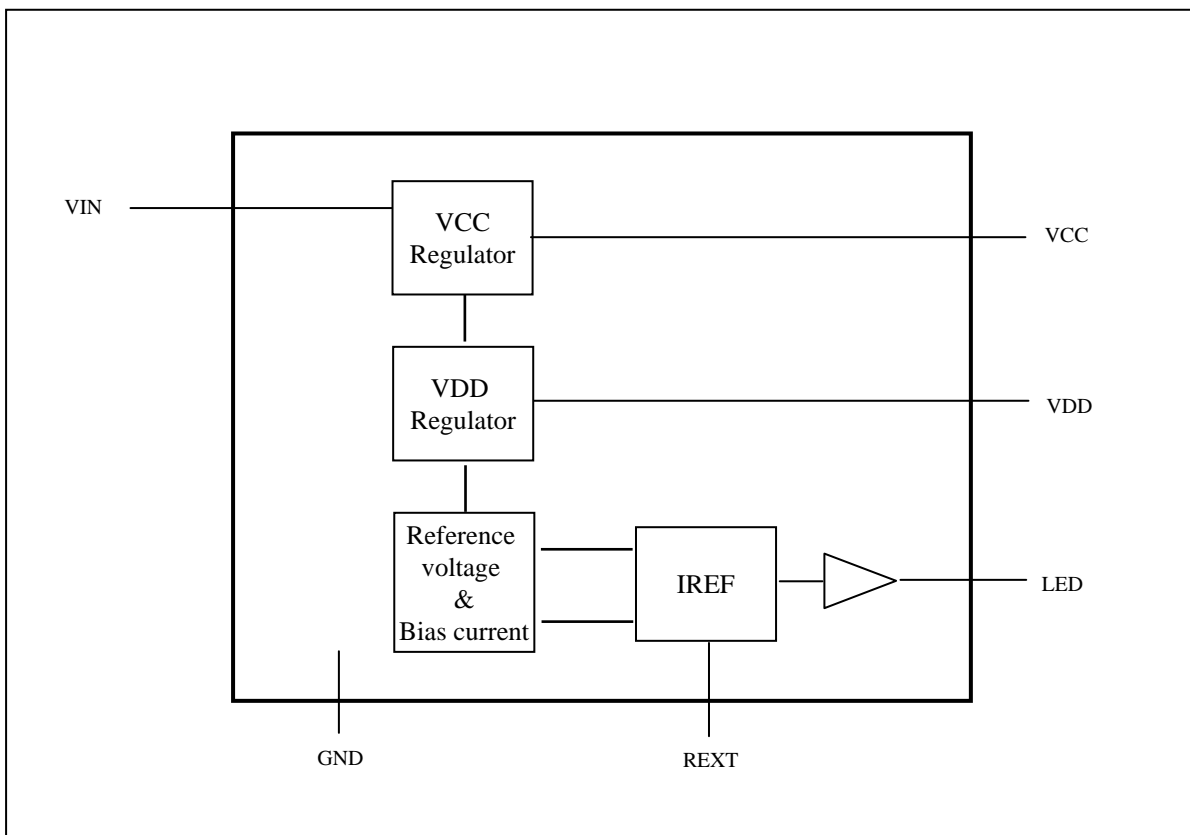
PIN CONFIGURATION



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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


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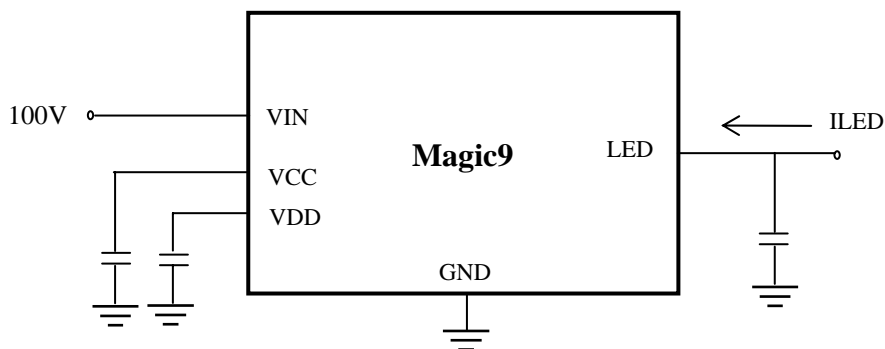
ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

PARAMETER	SYMBOL	RATING	UNIT
Supply Voltage	VIN	350	V
Output Voltage	VCC	20	V
Output Current	ILED	120	mA
Power Dissipation	PD	2.5	W
Storage Temperature	T _{stg}	-65 ~ 150	°C
Junction Temperature	T _{jmax}	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 (REXT = 18 kΩ)	ILED	58	62	66	mA
VCC Output Voltage	VCC	9		16	V
VDD Output Voltage	VDD	3.5	5	6.5	V
Operating Temperature	T _{opr}	-40		85	°C

DC CHARACTERISTIC TEST CIRCUIT


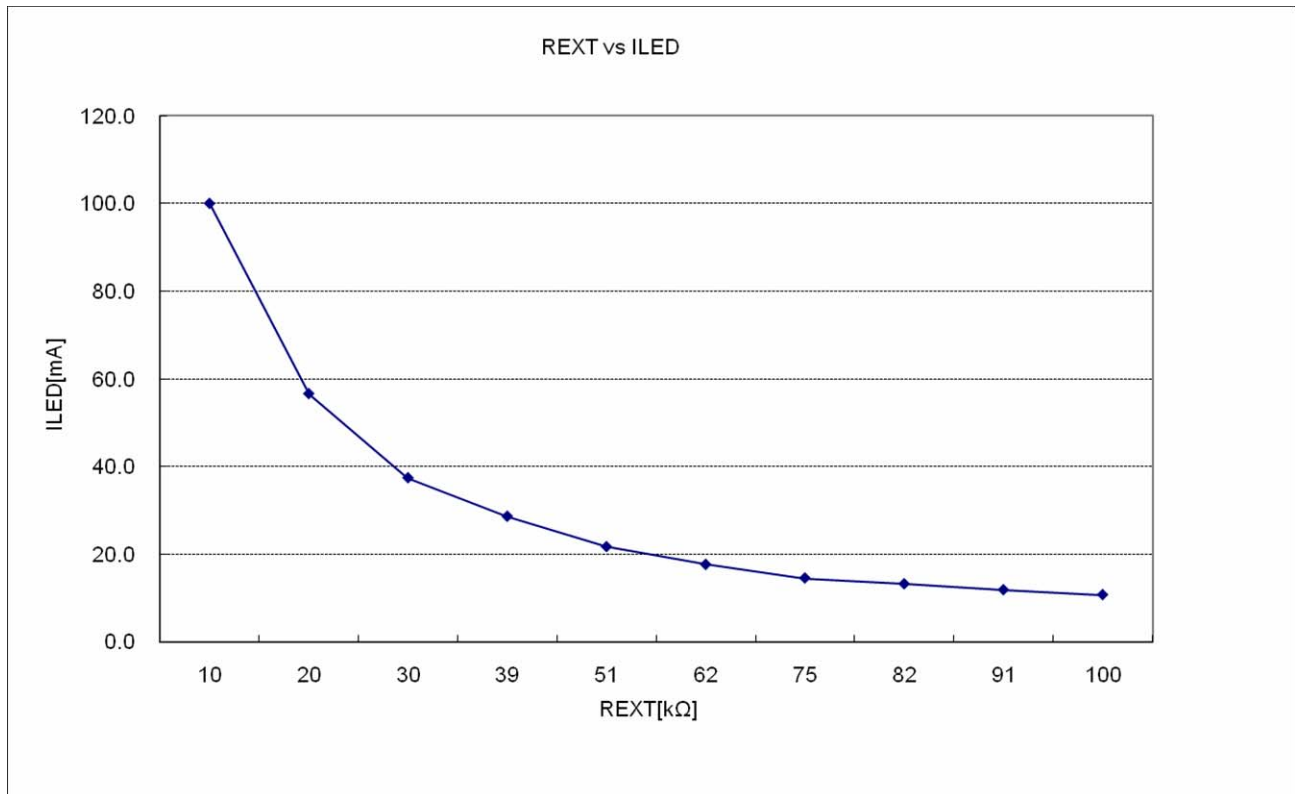
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ADJUSTING OUTPUT CURRENT

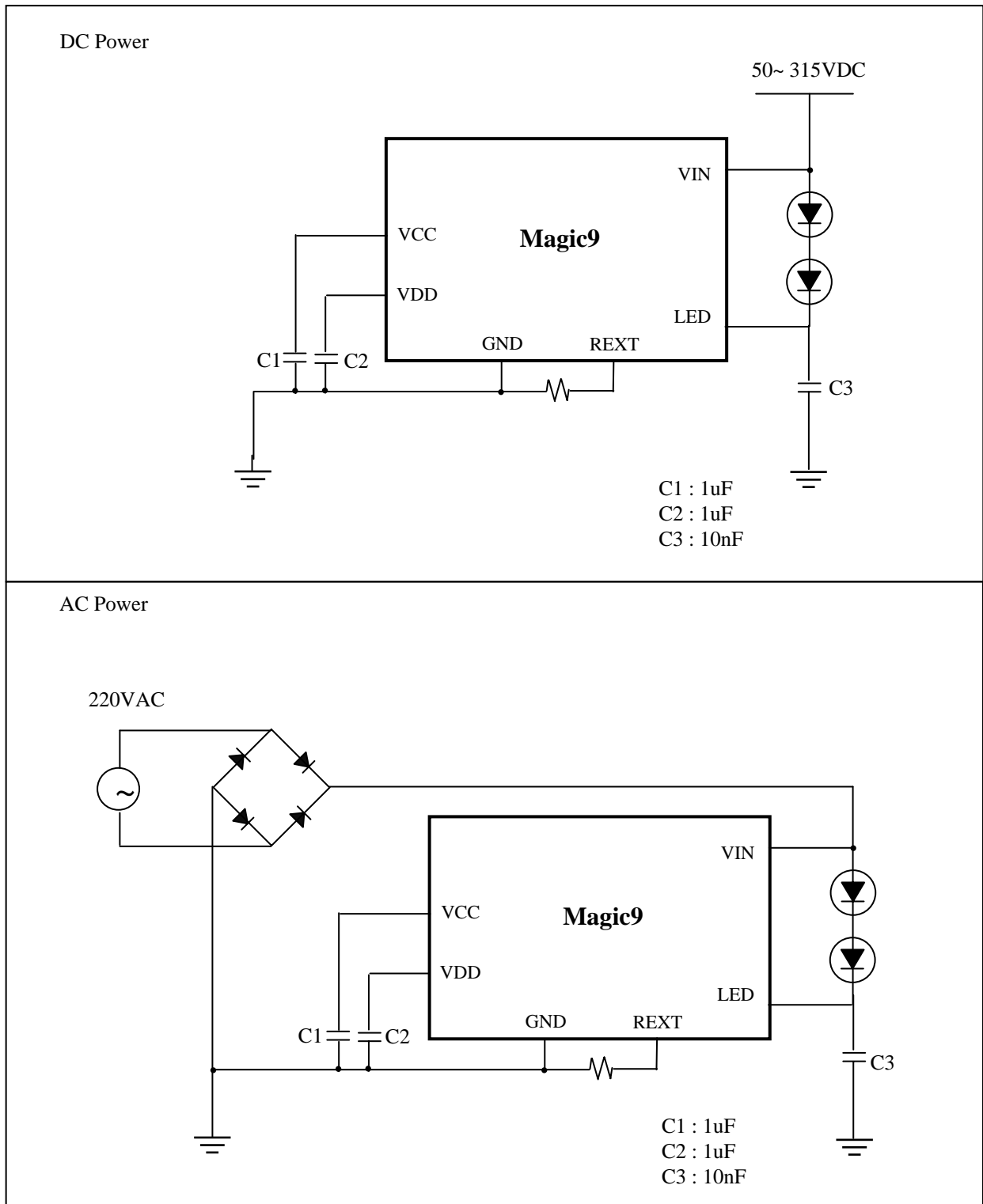
The output current is determined by an external resistor(1% range).

The relationship between ILED and REXT are follows;

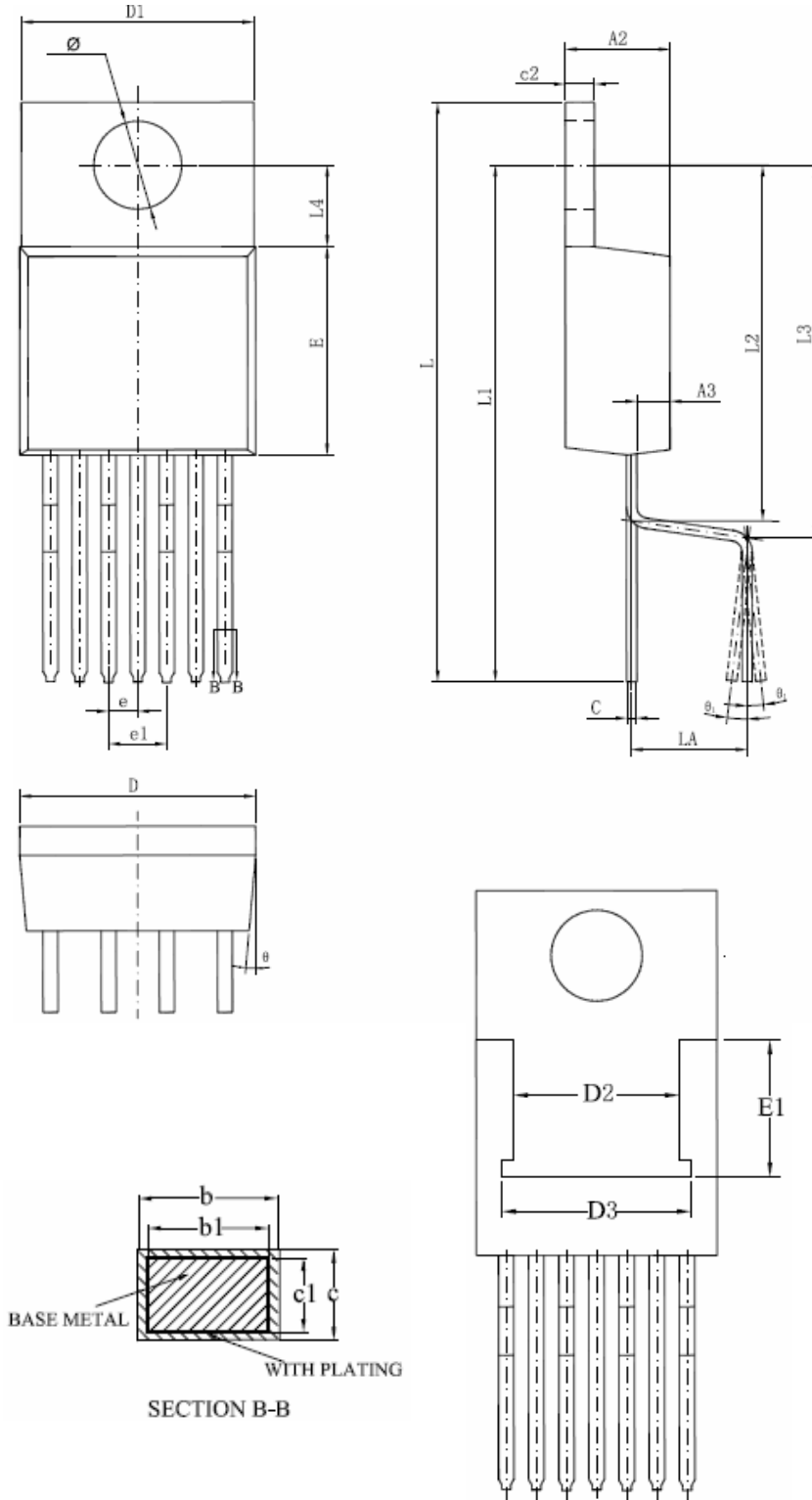
$$I_{LED} [A] = 1100 / R_{EXT}$$



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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
\emptyset	3.79	3.84	3.89
θ	-	5°	-
θ_1	0°	-	3°
L/F Pad size (mil)	177 * 177		

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