GENERAL DESCRIPTION

The CM1085 series of high performance positive voltage regulators are designed for use in applications requiring low dropout performance at full rated current. Additionally, the CM1085 series provides excellent regulation over variations in line, load and temperature.

Outstanding features include low dropout performance at rated current, fast transient response, internal current limiting and thermal shutdown protection of the output device. The CM1085 series are three terminal regulators with adjustable voltage options available in popular packages.

FEATURES

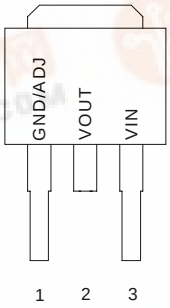
- Low dropout performance
- 1.3V max. for CM1085
- Full current rating over line and temperature
- Fast transient response
- ±2% total output regulation over line, load and temperature
- Adjust pin current max 90μA over temperature
- Adjustable output voltage
- Line regulation typically 0.015%
- Load regulation typically 0.1%
- TO-252 package

APPLICATIONS

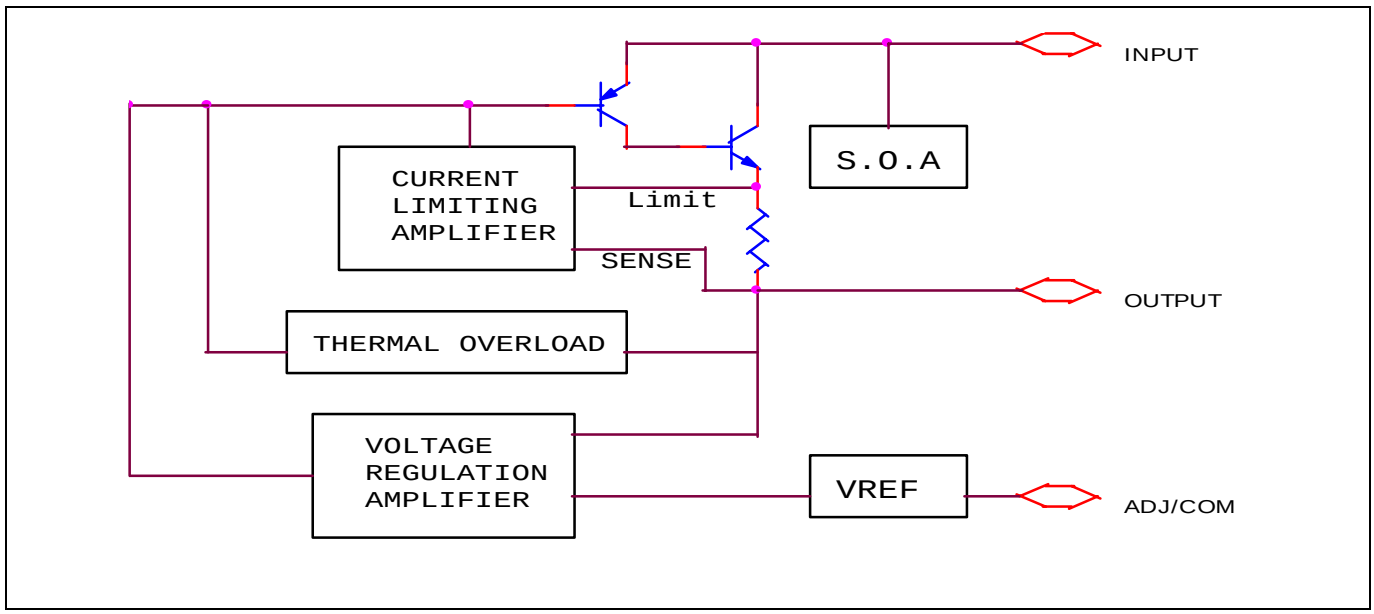
- Power Supplies
- Computer Add-On Cards
- Other Applications Requiring Low Dropout Voltage Over Rated Current

PIN CONFIGURATION

TO-252
Top View



BLOCK DIAGRAM



ORDERING INFORMATION

Package Type	Operating Temperature Range (T_A)	Output Voltage
TO-252		
CM1085KCN252	0℃ ~ +70℃	2.5V
CM1085SCN252	0℃ ~ +70℃	3.3V
CM1085CN252	0℃ ~ +70℃	ADJ.

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Maximum	Units
Input Supply Voltage	V_{IN}	7	V
Power Dissipation	P_D	Internally Limited.	W
Thermal Resistance Junction to Case TO-263	θ_{JC}	2.5	℃/W
Thermal Resistance Junction to Ambient TO-252	θ_{JA}	80	℃/W
Operating Junction Temperature Range	T_J	0 to 125	℃
Storage Temperature Range	T_{STG}	-65 to 150	℃
Lead Temperature（Soldering）10 Sec	T_{LEAD}	260	℃

ELECTRICAL CHARACTERISTICS

Unless otherwise specified, Adj V_{IN} = 3.8V to 7.0V and Adj I_0 =10mA to 3.0A, Fixed mode V_{IN} = 4.75V to 7.0V and Adj I_0 =10mA to 3.0A

		Test Conditions			Test Limits			
Parameter	**Symbol**	**V_{IN}**	**I_0**	**T_j**	**Min**	**Typ**	**Max**	**Units**
Output Voltage (1)	V_O	5V	0mA	25℃	0.99l V_0l	V_0	1.01lV_0l	V
Fixed Voltage			3A	125℃	0.98l V_0l	V_0	1.02lV_0l	
Reference Voltage (1)	V_{REF}	5V	10mA	25℃	1.238	1.250	1.262	V
Adj Voltage Version			3A	125℃	1.225	1.250	1.275	
Line Regulation (1)	REG (LINE)		10mA	25℃		0.015	0.2	%
Load Regulation (1)	REG (LOAD)	5V		25℃		0.1	0.3	%
Dropout Voltage (2)	V_D			25℃		1		V
CM1085				125℃		1.1	1.3	
Current Limit	I_{CL}			125℃	5.0	7.5		A
Quiescent Current (fixed voltage)	I_O	5V				12	14	mA
Temperature Coefficient	T_C					0.005		%/℃
Adjust Pin Current	I_{ADJ}			25℃		55	120	μA
Adjust Pin Current Change	ΔI_{ADJ}					0.2	5	μA
Temperature Stability	T_S	5V	0.5A			0.5		%
Minimum Load Current Adj Voltage Version	I_O	5V				5	14	mA
RMS Output Noise (3)	V_N			25℃		0.003		%V_O
Ripple Rejection Ratio (4)	R_A	5V	5.0A	125℃	60	72		dB

NOTES：

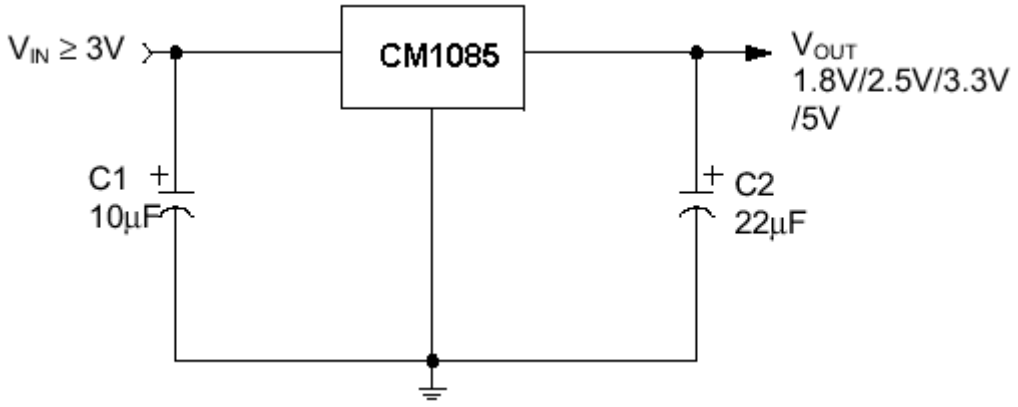
（1） Low duty cycle pulse testing with Kelvin connections required.

（2） ΔV_{OUT} , ΔV_{REF} =1%

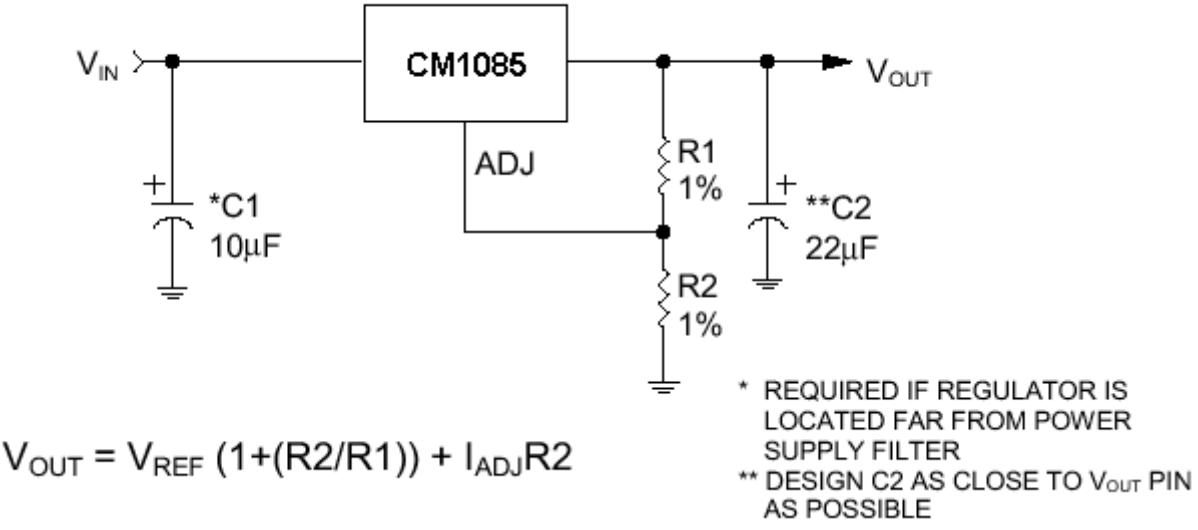
（3） Bandwidth of 10 Hz to 10 kHz.

（4） 120 Hz input ripple（C_{ADJ} for ADJ=25 μF）

APPLICATION CIRCUIT



Fixed Output Voltage Regulator

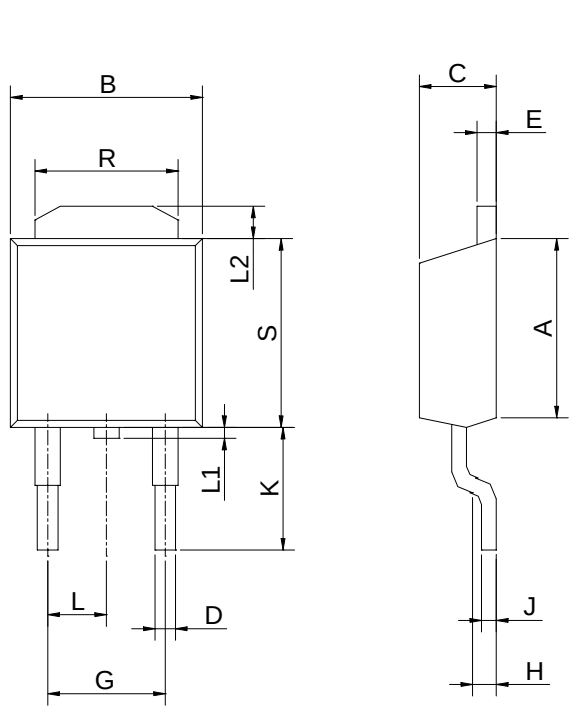


$$V_{OUT} = V_{REF}\,(1+(R2/R1)) + I_{ADJ}R2$$

Adjustable Regulator

PACKAGE DIMENSION

TO-252 (N252)



SYMBOLS	DIMENSIONS IN MILLIMETERS			DIMENSIONS IN INCHS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	5.97	---	6.35	0.235	---	0.250
B	6.35	---	6.73	0.250	---	0.265
C	2.19	---	2.38	0.086	---	0.094
D	0.69	---	0.88	0.027	---	0.035
E	0.46	---	0.58	0.018	---	0.023
G	4.58BSC			0.180BSC		
H	0.87	---	1.01	0.034	---	0.040
J	0.46	---	0.58	0.018	---	0.023
K	2.60	---	2.89	0.102	---	0.114
L	2.29BSC			0.090BSC		
R	4.45	---	5.46	0.175	---	0.215
S	5.33	---	5.59	0.210	---	0.220
L1	0.64	---	1.02	0.025	---	0.040
L2	1.52	---	2.03	0.060	---	0.080
X	4.12	---	4.56	0.162	---	0.179
Y	5.11	---	5.72	0.201	---	0.225

IMPORTANT NOTICE

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