

### FEATURES

- ◆ Three Terminal Adjustable or Fixed Voltages 1.5V, 1.8V, 2.5V, 2.85V, 3.3V and 5.0V
- ◆ Output Current of 3A
- ◆ Operates Down to 1V Dropout
- ◆ Line Regulation: 0.2% Max.
- ◆ Load Regulation: 0.4% Max.
- ◆ TO-263-2, TO-263-3, TO252-2 and TO-220 package available



**TO-263-2**



**TO-263-3**



**TO-252-2**



**TO-220**

### APPLICATIONS

- ◆ High Efficiency Linear Regulators
- ◆ Post Regulators for Switching Supplies
- ◆ Microprocessor Supply
- ◆ Constant Current Regulators
- ◆ Power Management for Notebook
- ◆ Battery Chargers
- ◆ Notebook/Personal Computer Supplies
- ◆ Portable Instrumentation

### ORDERING INFORMATION

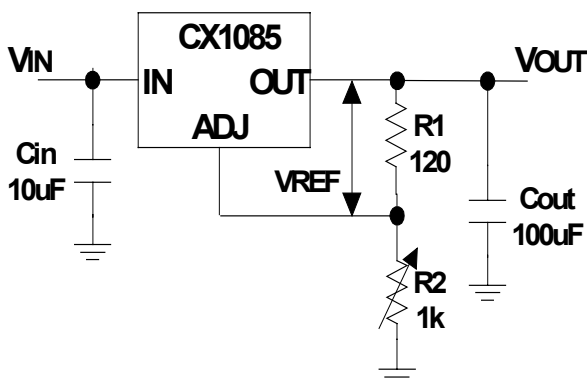
PACKAGE TYPE			OPERATING JUNCTION TEMPERATURE RANGE
TO-263-2&3	TO-252-2	TO-220	
CX1085-ADJ	CX1085-ADJ	CX1085-ADJ	0 to 125° C
CX1085-1.5	CX1085-1.5	CX1085-1.5	0 to 125° C
CX1085-1.8	CX1085-1.8	CX1085-1.8	0 to 125° C
CX1085-2.5	CX1085-2.5	CX1085-2.5	0 to 125° C
CX1085-2.85	CX1085-2.85	CX1085-2.85	0 to 125° C
CX1085-3.3	CX1085-3.3	CX1085-3.3	0 to 125° C
CX1085-5.0	CX1085-5.0	CX1085-5.0	0 to 125° C

### ELECTRICAL CHARACTERISTICS

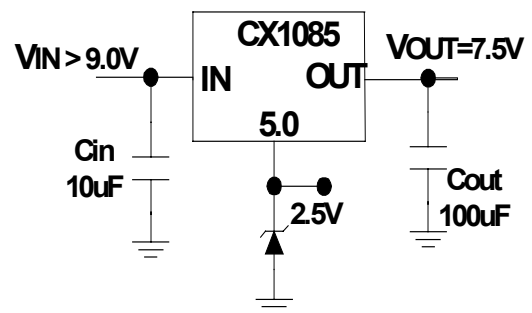
Electrical Characteristics at  $I_{OUT} = 0 \text{ mA}$ , and  $T_J = +25^\circ\text{C}$  unless otherwise specified.

Parameter	Device	Conditions	Min	Typ	Max	Units
Output Voltage	CX1085	$I_{OUT} = 10 \text{ mA}$ $10\text{mA} \leq I_{OUT} \leq 3\text{A}$ , $1.5\text{V} \leq (V_{IN} - V_{OUT}) \leq 12\text{V}$			1.0 2.0	% %
Line Regulation	CX1085	$I_{OUT} = 10 \text{ mA}$ , $1.5\text{V} \leq (V_{IN} - V_{OUT}) \leq 12\text{V}$		0.3 0.6	6.0 10.0	mV mV
Load Regulation (Notes 2, 3)	CX1085	$(V_{IN} - V_{OUT}) = 3\text{V}$ , $10\text{mA} \leq I_{OUT} \leq 5\text{A}$		0.1 0.2	0.3 0.4	%
Dropout Voltage( $V_{IN} - V_{OUT}$ )	CX1085	$\Delta V_{OUT}, \Delta V_{REF} = 1\%$ , $I_{OUT} = 3\text{A}$		1.3	1.5	V
Current Limit	CX1085	$(V_{IN} - V_{OUT}) = 5\text{V}$	5.0	6.0	7.0	A
Minimum Load Current	CX1085	$(V_{IN} - V_{OUT}) = 12\text{V}$		5	10	mA
Quiescent Current	CX1085	$V_{IN} \leq 12\text{V}$		5	10	mA
Ripple Rejection	CX1085	$f = 120\text{Hz}$ , $C_{OUT} = 22\mu\text{F}$ Tantalum, $I_{OUT} = 3\text{A}$ , $(V_{IN} - V_{OUT}) = 3\text{V}$ , $C_{ADJ} = 10\mu\text{F}$	60	75		dB
Thermal Regulation	CX1085	$T_A = 25^\circ\text{C}$ , 30ms pulse		0.008	0.04	%/W
Adjust Pin Current	CX1085	$10\text{mA} \leq I_{OUT} \leq 3\text{A}$ , $1.5\text{V} \leq (V_{IN} - V_{OUT}) \leq 12\text{V}$		55	120	$\mu\text{A}$ $\mu\text{A}$
Adjust Pin Current Change	CX1085	$10\text{mA} \leq I_{OUT} \leq 3\text{A}$ , $1.5\text{V} \leq (V_{IN} - V_{OUT}) \leq 12\text{V}$		0.2	5.0	$\mu\text{A}$
Thermal Resistance Junction-to-Case	CX1085	TO-220:Control Circuitry/Power Transistor TO-263:Control Circuitry/Power Transistor			1.5/4.0 1.5/4.0	$^\circ\text{C/W}$

### APPLICATION CIRCUITS



$V_{OUT} = V_{REF} (1 + R2/R1) + I_{ADJ}R2$   
Application 1: 1.25V to 10V Adjustable Regulator



$V_{out} = 7.5\text{V}$   
Application 2: Regulator with reference