

± 15V Dual-Tracking Voltage Regulator

GENERAL DESCRIPTION

The XR-4195 is a dual-polarity tracking regulator designed to provide balanced positive and negative 15V output voltages at currents of up to 100mA.

The device is ideal for local "on-card" regulation, which eliminates the distribution problems associated with single-point regulation. Intended for ease of application, the XR-4195 requires only two external components for operation.

FEATURES

- Direct Replacement for RM/RC 4195
- ± 15V Operational Amplifier Power
- Thermal Shutdown at $T_j = +175^\circ\text{C}$
- Output Currents to 100mA
- As a Single Output Regulator, it may be used with up to +50V Output
- Available in 8-Pin Plastic Mini-DIP
- Low External Parts Count

APPLICATIONS

- Operational Amplifier Supply
- On-Card Regulation
- Regulating High Voltage

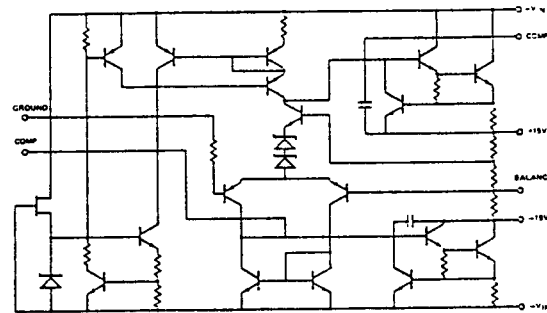
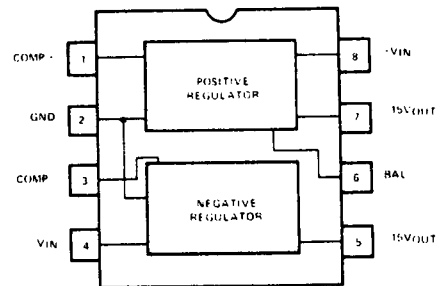
ABSOLUTE MAXIMUM RATINGS

Input Voltage $\pm V$ to Ground	$\pm 30\text{ V}$
Power Dissipation at $T_A = 25^\circ\text{C}$	600 mW
Load Current	100 mA
Operating Junction Temperature Range	0°C to $+125^\circ\text{C}$
Storage Temperature Range	-65°C to $+150^\circ\text{C}$

ORDERING INFORMATION

Part Number	Package	Operating Temperature
XR-4195CP	Dip	0°C to $+70^\circ\text{C}$

FUNCTIONAL BLOCK DIAGRAM



EQUIVALENT SCHEMATIC DIAGRAM

SYSTEM DESCRIPTION

The XR-4195 is a dual polarity tracking voltage regulator, internally trimmed to $\pm 15\text{V}$. Only output capacitors are required for operation. Internal protection circuits include thermal shutdown and active current limiting. The device may be configured as a single output high voltage regulator by adding a voltage divider between an output pin, the device ground (Pin 2) and system ground.

XR-4195

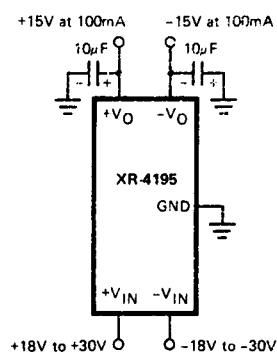
ELECTRICAL CHARACTERISTICS

Test Conditions: ($I_L = 1\text{mA}$, $V_{CC} = \pm 20\text{V}$, $C_L = 10\mu\text{F}$ unless otherwise specified)

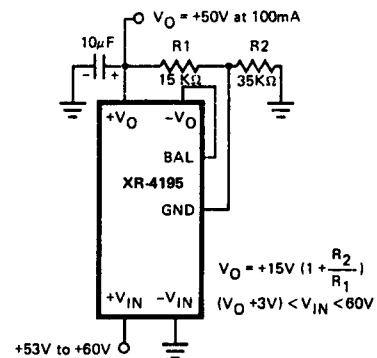
PARAMETERS	XR-4195CP			UNITS	CONDITIONS
	MIN	TYP	MAX		
Line Regulation		2	20	mV	$V_{IN} = \pm 18$ to $\pm 30\text{V}$
Load Regulation		5	30	mV	$I_L = 1$ to 100mA
Output Voltage Temperature Stability		0.005	0.015	%/°C	
Standby Current Drain		± 1.5	± 3.0	mA	$V_{IN} = \pm 30\text{V}$, $I_L = 0\text{mA}$
Input Voltage Range	18		30	V	
Output Voltage	14.5	15	15.5	V	$T_j = +25^\circ\text{C}$
Output Voltage Tracking		± 50	± 300	mV	
Ripple Rejection		75		dB	$f = 120\text{Hz}$, $T_j = +25^\circ\text{C}$
Input-Output Voltage Differential	3			V	$I_L = 50\text{mA}$
Short-Circuit Current		220		mA	$T_j = +25^\circ\text{C}$
Output Noise Voltage		60		$\mu\text{V RMS}$	$T_j = +25^\circ\text{C}$, $f = 100\text{Hz}$ to 100kHz
Internal Thermal Shutdown		175		°C	

THERMAL CHARACTERISTICS

PARAMETERS	XR-4195CP			CONDITIONS
	MIN	TYP	MAX	
Power Dissipation			0.6W	$T_A = 25^\circ\text{C}$ $T_C = 25^\circ\text{C}$
Thermal Resistance		210°C/W		θ_{J-C} θ_{J-A}



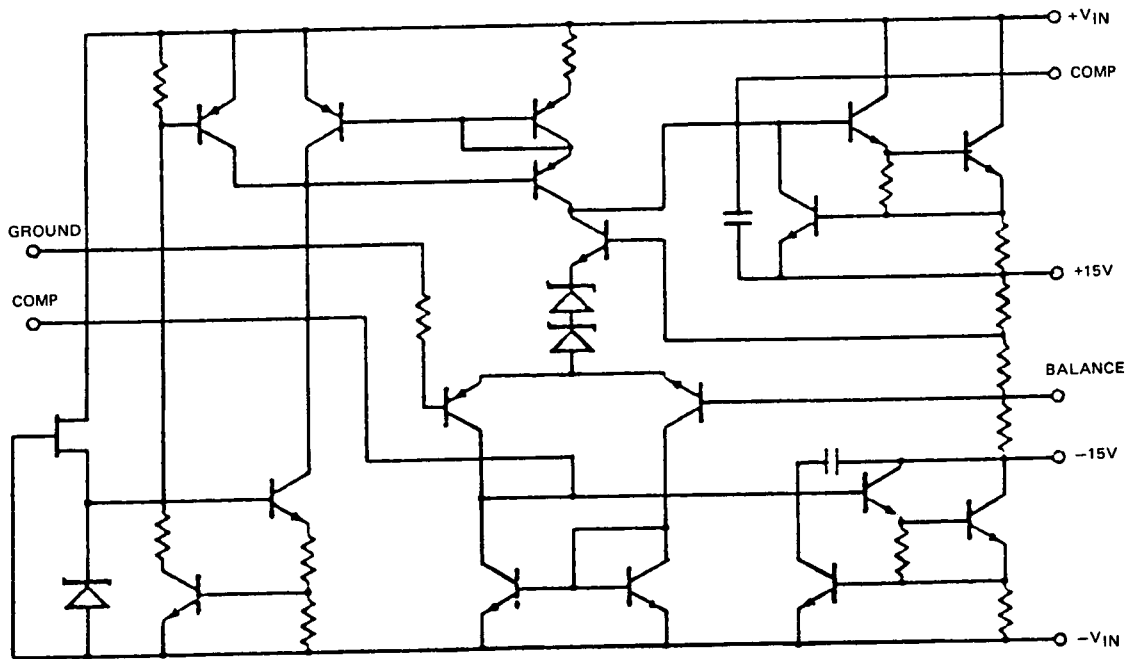
Balanced Output



Positive Single Supply

TYPICAL APPLICATIONS

XR-4195



EQUIVALENT SCHEMATIC DIAGRAM

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