

## HYBRID VOLTAGE REGULATORS

CJSE001 CJSE002 CJSE003 CJSE004 CJSE005 CJSE006

# FIXED OUTPUT HYBRID VOLTAGE REGULATORS

## ± 15V

3 AMPERES

### FEATURES

POSITIVE, NEGATIVE SUPPLY OPERATION  
3A CURRENT RATING  
50V LINE VOLTAGE CAPABILITY  
LINE AND LOAD REGULATION  $\leq \pm 0.5\%$   
THREE-TERMINAL SIMPLICITY

### APPLICATIONS

- DC MOTOR SUPPLIES
- MEDICAL ELECTRONICS
- INDUSTRIAL CONTROLS
- DISTRIBUTED POWER SYSTEMS
- MILITARY EQUIPMENT, SPACE AND TELECOMMUNICATIONS
- COMPUTERS
- INSTRUMENTATION
- DATA TERMINALS

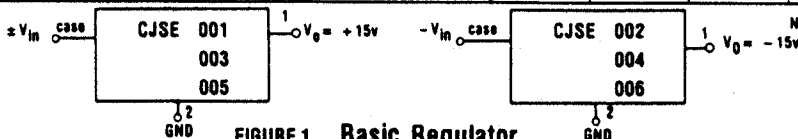


TO-3 (2 PINS)

### MAXIMUM RATINGS

		CJSE001 CJSE004	CJSE002 CJSE005	CJSE003 CJSE006
$  \pm V_{in}  $	INPUT VOLTAGE	50 V		
$I_{opk}$	PEAK LOAD CURRENT	3 A		
$T_A$	OPERATING TEMPERATURE	-55°C to +150°C		
$T_{stg}$	STORAGE TEMPERATURE	-55°C to +150°C		
$R_{\theta JC}$	THERMAL RESISTANCE, JUNCTION TO CASE	1.67°C/W		
$P_D$	POWER DISSIPATION (25°C)	90 W		

15 V REGULATORS	CJSE	001	002	003	004	005	006
Regulation, Line and Load	$T_C = 25^\circ\text{C}$	+15 ± .5%	-15 ± .5%	+15 ± .5%	-15 ± .5%	+15 ± .5%	-15 ± .5%
	$-55^\circ\text{C} \leq T_A \leq +125^\circ\text{C}$	± 3%	± 3%	± 2%	± 2%	± 1%	± 1%



NOTE: Output voltages values can be internally adjusted between  $(\pm 10V)$  and  $(\pm 30V)$  to meet your application requirements.

FIGURE 1. Basic Regulator

## HYBRID VOLTAGE REGULATORS

**CJSE001 CJSE002 CJSE003 CJSE004 CJSE005 CJSE006**

## ELECTRICAL CHARACTERISTICS

( $I \pm V_{in} = 25 \text{ Vdc}$ ,  $I \pm I_o = 2\text{A}$ ,  $R_{sc} = .4\Omega$ ,  $T_c = +25^\circ\text{C}$  unless otherwise noted)

CHARACTERISTICS	SYMBOL	MIN.	MAX.	UNITS
INPUT VOLTAGE	$I \pm V_{in}$	20	50	V
OUTPUT VOLTAGE RANGE	$I \pm V_o$	14.85	15.15	V
OUTPUT VOLTAGE RANGE ( $-55^\circ\text{C} \leq T_A \leq +125^\circ\text{C}$ )	$I \pm V_o$			
CJSE001 CJSE002		14.55	15.45	V
CJSE003 CJSE004		14.70	15.30	V
CJSE005 CJSE006		14.85	15.15	V
INPUT-OUTPUT VOLTAGE DIFF.	$I \pm \Delta V$	5.0		V
STANDBY CURRENT	$I_{in} - I_c$		50	mA
SHORT CIRCUIT CURRENT ( $V_o = 0\text{V}$ )	$I_{sc}$		500	mA
RIPPLE ATTENUATION ( $I \pm V_{in} = 25\text{V}$ , $I_o = 1.0\text{A}$ , $f = 120\text{Hz}$ )		60		dB
TEMPERATURE COEFFICIENT ( $-55^\circ\text{C} \leq T_A \leq +125^\circ\text{C}$ )	$\frac{\Delta V_o}{V_o \Delta T}$			
CJSE001 CJSE002			$\pm 0.020$	%/ $^\circ\text{C}$
CJSE003 CJSE004			$\pm 0.010$	%/ $^\circ\text{C}$
CJSE005 CJSE006			$\pm 0.005$	%/ $^\circ\text{C}$

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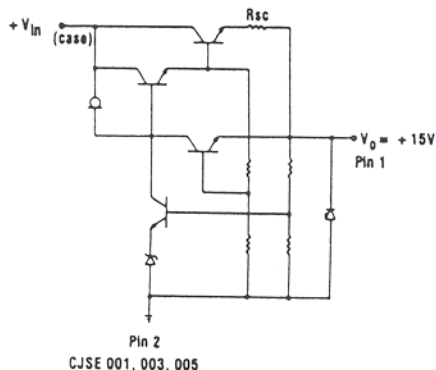


FIGURE 2

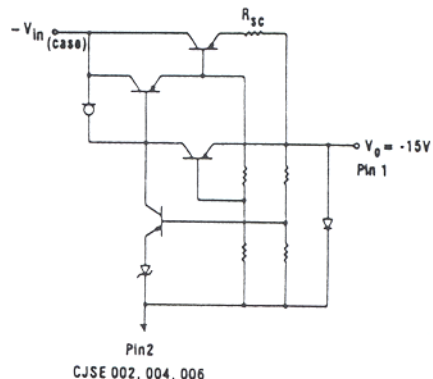


FIGURE 3

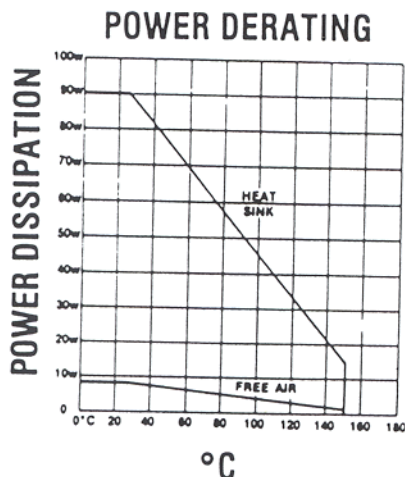


FIGURE 4

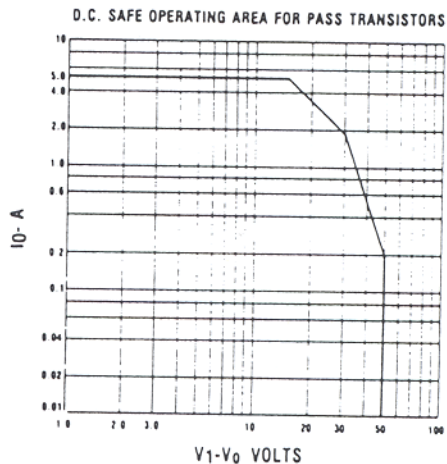


FIGURE 5

## NOTES:

- Regulators incorporate a FET constant current source, which provides current mode regulation. A minimum input-output voltage differential of 5 volts is recommended to bias the FET into its constant current region. At lower voltages the FET becomes resistive, and regulation reverts to the basic mode.
- Foldback current limiting is accomplished in the regulators as shown in Fig. 6.
- Output current and power capability may be increased by driving one or more external power transistors. Maintain safe operating conditions for both regulator and the external transistor.

