

HYBRID VOLTAGE REGULATORS CJSE037

FIXED OUTPUT HYBRID VOLTAGE REGULATORS ± 12V

3 AMPERES

FEATURES

POSITIVE, NEGATIVE SUPPLY OPERATION
3A CURRENT RATING
28V 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

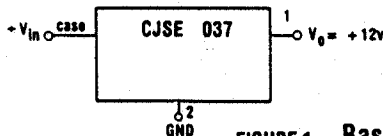


TO-3 (2 PINS)

MAXIMUM RATINGS

		CJSE037
$ \pm V_{in} $	INPUT VOLTAGE	28 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	037
Regulation, Line and Load	$T_C = 25^\circ\text{C}$	$+12 \pm .5\%$
	$-55^\circ\text{C} \leq T_A \leq +125^\circ\text{C}$	$\pm 1.0\%$



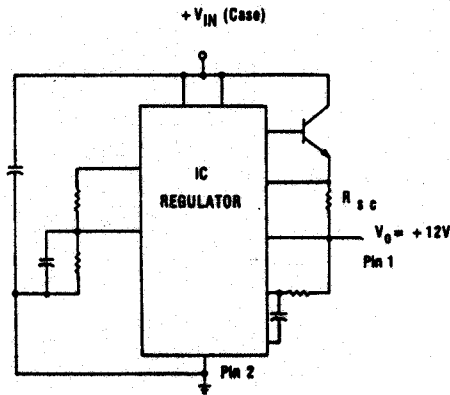
NOTE: Output voltages values can be internally adjusted between $|\pm 10V|$ and $|\pm 30V|$ to meet your application requirements.

FIGURE 1. Basic Regulator

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ELECTRICAL CHARACTERISTICS ($| \pm V_{in} | = 18 \text{ Vdc}$, $| \pm I_o | = 2 \text{ A}$, $R_{sc} = .4 \Omega$, $T_c = +25^\circ \text{C}$ unless otherwise noted)

CHARACTERISTICS	SYMBOL	MIN.	MAX.	UNITS
INPUT VOLTAGE	$ \pm V_{in} $	18	28	V
OUTPUT VOLTAGE RANGE	$ \pm V_o $	11.88	12.12	V
OUTPUT VOLTAGE RANGE ($-55^\circ \text{C} \leq T_A \leq +125^\circ \text{C}$)	$ \pm V_o $	11.88	12.12	V
INPUT-OUTPUT VOLTAGE DIFF.	$ \pm \Delta V $	4.0		V
STANDBY CURRENT	$I_{in} - I_o$		50	mA
SHORT CIRCUIT CURRENT ($V_o = 0 \text{V}$)	I_{sc}		500	mA
RIPPLE ATTENUATION ($ \pm V_{in} = 19 \text{V}$, $I_o = 1.0 \text{A}$, $f = 120 \text{Hz}$)		60		db
TEMPERATURE COEFFICIENT ($-55^\circ \text{C} \leq T_A \leq +125^\circ \text{C}$)	$\frac{\Delta V_o}{V_o \Delta T}$		± 0.005	%/ $^\circ \text{C}$



CJSE 037

FIGURE 2

HYBRID VOLTAGE REGULATORS
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POWER DERATING

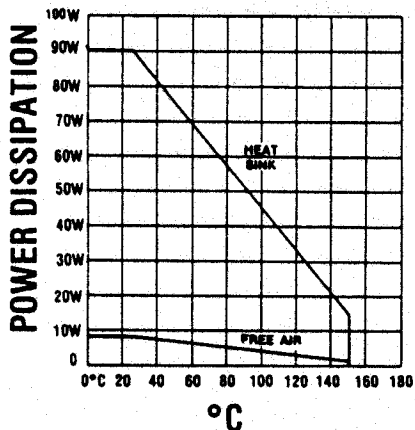


FIGURE 3

D.C. SAFE OPERATING AREA FOR PASS TRANSISTORS

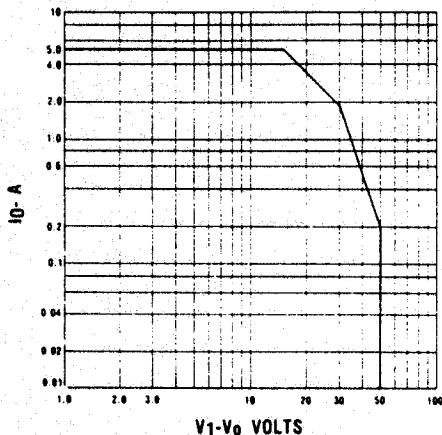


FIGURE 4

NOTES:

1. -12V Reg. 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.
2. Foldback current limiting is accomplished in the regulators as shown in Fig. 5.
3. 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.

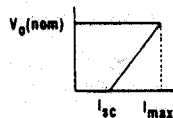


FIGURE 5