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INSTALLATION AND **OPERATING INSTRUCTIONS**

Typical application connections for the 722 are shown in Figures 1 and 3. Primary power (V_{IN}) is applied at the "P+" and "V-" terminals. The common-or ground for V_{IN} may be connected to either "P+" or "V-"; the only requirement is that "P+" and "V+" must be positive with respects to "V-".

Power for the internal oscillator and switch drivers is de-rived from the primary power by a voltage dropping resistor, rived from the primary power by a voltage dropping resistor, R_1 . The value of R_1 as a function of V_{IN} is shown in the Typical Performance Curves section. Alternately, voltage for the "V+" terminal may be obtained from a separate source. "V+" should be +5V to +7.5V positive with respect to "V-." If a separate source is used, the "V+" input must be applied before the "P+" input to avoid possible damage to the unit. "P+" and "V+" must remain positive with respect to "V." at all times (including termsion to be the processory. to "V-" at all times (including transients). If necessary, diode clamps should be put across these inputs.

The "E" pin enables the converter when connected to "V+" and disables it when connected to "V-."

An external capacitor, "C" $(0.47\mu F \text{ ceramic})$, is used to reduce input ripple. It should be connected as close to the "P+" and "V-" pins as practical. Input leads to these terminals should also be kept as short as possible. Since the 722 is not internally shielded, external shielding may be appropriate in applications where RFI at the 900kHz nominal oscillator frequency is a problem.

Each output is filtered with an internal 0.22µF capacitor. Output ripple voltage can be reduced below the specified value by adding external capacitors up to 10µF between each output and its common.

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Burr-Brown IC Data Book—Linear Products



Or, Call Customer Service at 1-800-548-6132 (USA Only)

DISCUSSION

OUTPUT CURRENT RATINGS

At rated output voltage accuracy, the 722 is capable of providing 64mA divided among its four outputs⁽¹⁾. A manmum average output current of 3mA is recommended at a each output to maintain voltage accuracy.

Output channels⁽²⁾ may be connected in series or parallel for higher output voltage or current.

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ISOLATION CONFIGURATIONS

The fact that the two outputs of the 722 are isolated from the input and from each other allows both two-port and three-port isolation connections.

Figure 1 shows Burr-Brown's 3650 optically coupled isolation amplifier connected in three-port configuration. One of the 722 channels provides power to the 3650's input. The other channel supplies power to the 3650's output. The amplifier's input and output are isolated from each other and the system's power supply common. In this configuration, the 722's channel-to-channel isolation specification applies to the amplifier input-to-output voltage.



FIGURE 1. Three-Port Isolation.

Figure 3 illustrates how the 722 may provide isolated input power to the input stage of two 3650's connected in the twoport configuration. Power for the output stage is provided by the system +15V and -15V supplies. Input stages are isolated from each other and from the system supply. In this situation, the 722's input-to-output isolation specification applies to the amplifier's input-to-output voltages, while the channel-to-channel 722 specification applies to the voltage existing between "J/P Com #1" and "J/P Com #2." SHORT CIRCUIT PROTECTION

The circuit in Figure 2 may be added to the input of the 722 to protect it from damage in situations where too much compant is demanded from the outputs - such as a short classifier from an output to its common. The gircuit limits input current to approximately 150mA for an input voltage of 15VDC (for 8 of 2N2219 of 50).



FIGURE 2. Short Circuit Protection.





NOTES: (1) "Output" denotes a single output terminal (+V or -V) and its associated common. (2) "Channel" denotes a pair of outputs (+V and -V) and their associated common.



