

SEMICONDUCTOR CIRCUITS
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DF Series

24 Pin Dip DC/DC Converters: Input & Output Filtered . . . Large Choice of Input Ranges & Types/Levels of Regulation

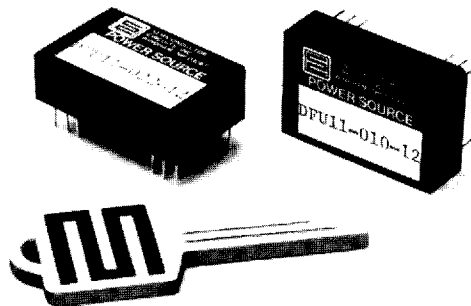
- **LOW INPUT REFLECTED NOISE**
- **CHOICE OF OUTPUT REGULATION**

General Description

The DFU and DFR Series of 24-pin DIP-packaged converters are versatile local DC power sources. This family offers a variety of input ranges, and choices of linear or no post regulation. All models feature internal input and output filtering.

The DFU and DFR Series can furnish maximum economy and output power when the DC input source is moderately regulated. The DFR Series employs hard linear post regulators for high regulation. Having no post regulation, DFU Series models deliver more power, are lower priced and can utilize the regulation of the input source for greater cost savings.

All DFU and DFR Series models are interchangeably pin-compatible. This frees designers to apply any model to satisfy present or new-generation power requirements without p.c. board redesign.



General Specifications

Input

Operating Voltage Range
See Ordering Information Table
Input Reflected Ripple
<10mA pk-pk typ.

Output

Rated Voltage and Current
See Ordering Information Table
Voltage Tolerance @ 25 C
±3% @ Vin (nominal) and full load
Minimum Load (% Full Load)
DFU: 10%; DFR: 0%
Output Overshoot
None @ turn-on/off & power-up/down
Temperature Coefficient
0.03%/ C
Paralleled Outputs
Dual output DFR models
Ripple and Noise (PARD)
<10mV RMS; <30mV pk-pk
Overcurrent Protection
DFR: Current limiting
DFU: Short circuit protected

Transfer

Regulation
Line DFR: < 1%
DFU: 1%/Vin
Load DFR: 0.1%
(0.25% @ 5V outputs)
DFU: See Load Curve
Full Load Efficiency (typical)
DFU: >75%
DFR: >50%
Input-to-Output (I/O) Isolation
300Vdc

Control

Switching Frequency
50kHz to 150kHz

Environmental

Temperature
Operating Temperature Range
DFU: -25 C to +71 C
DFU only (no derating)
DFR: Derate 2%/ C output
current above 45 C
ambient operating
temperature
Storage Temperature Range
-40 C to +85 C

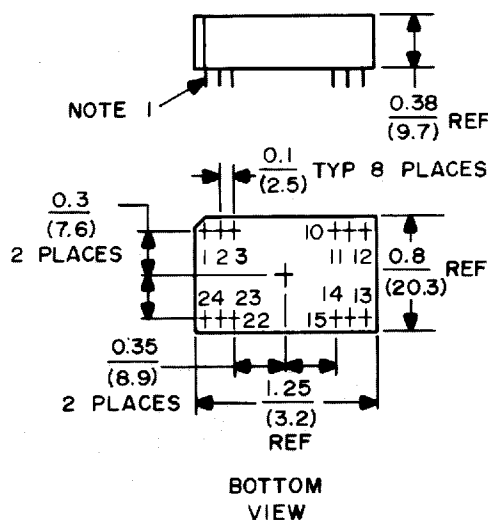
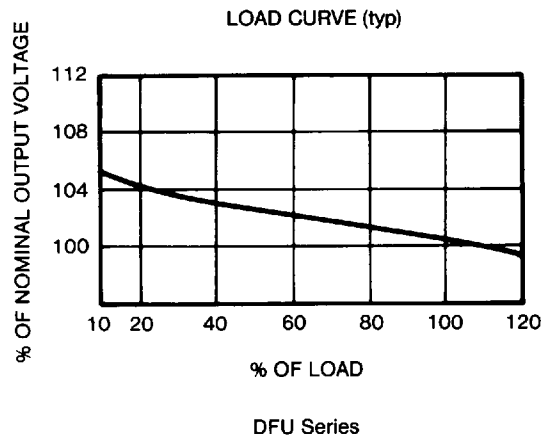
DF Series

Ordering Information

Input Voltage (Vdc)	Output Voltage (Vdc)	Output Current (mAdc)	Model Number
4.5-5.5	5	100	DFR11-010-05
10.8-13.2			DFR11-010-12
4.5-5.5	5	220	DFU11-022-05
10.8-13.2			DFU11-022-12
4.5-5.5	12/12	40/40	DFR22-008-05
10.8-13.2			DFR22-008-12
4.5-5.5	±12	±50	DFU22-010-05
10.8-13.2			DFU22-010-12
4.5-5.5	15/15	40/40	DFR23-008-05
10.8-13.2			DFR23-008-12
4.5-5.5	±15	±45	DFU23-009-05
10.8-13.2			DFU23-009-12

NOTES:

- The DFR Series dual outputs can be connected in parallel for a doubling of output current by inserting a 1 ohm resistor between each output and the load. A 10 μ F capacitor should be connected across the load. Load regulation will be reduced by 0.1V.
- DFU dual output models will supply total output power from one output if a single 12 or 15 volt output is required.
- DFU Series:** Where input/output filtering is not required; replace prefix DFU by μ D
DFR Series: Where input filtering is not required; replace prefix DFR by μ R



PIN/TERMINAL CONNECTION

- 1 & 24 +Vdc in
- 2 & 23 -Vdc out Output 2
- 3 & 22 +Vdc out Output 2
- 10 & 15 -Vdc out Output 1
- 11 & 14 +Vdc out Output 1
- 12 & 13 -Vdc in

NOTES:

- Twelve pins 0.020 (0.5) Dia x 0.15 (3.8) Lg Min
- All Dimensions are in Inches and (mm)
- Pins 3 & 22, 10 & 15 of DFU series connected as output common.

Specifications Subject to Change Without Notice