

SEMICONDUCTOR CIRCUITS

Low Cost, Miniature DC/DC Converters

DTS, DTD

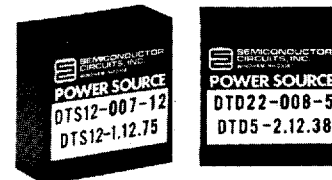
- **RELIABLE - MTBF EXCEEDS 200,000 HOURS**
- **HIGHER EFFICIENCY - TO 80%**
- **NO DERATING REQUIRED TO 71°C**

The DTS, DTD Series are economy priced, miniature DC/DC converters featuring low case temperature rise. Efficiencies to 80% permit these units to be packaged in 1 1/2" square plug-in modules, making them ideal for applications having limited P.C. Board space and a tight budget. Only when needed, the user can connect a Pi Filter (Fig. 3) for a 60 dB attenuation

of switching spikes appearing at the converter input.

These versatile units are available with output ratings for both CMOS and bipolar devices and are ideal for μ P and memory applications.

Input and output ratings other than those listed are available upon request.



General Specifications

Oscillator Frequency

5 to 20 kHz

Output Voltage Tolerance

Vout $\pm$ 3% at specified Vin and F.L.

Regulation

Line: 1% / % Vin (Typ.)

Load: See Curve (Fig. 1)

Ripple and Noise (PARD)

30 mV RMS

Operating Temperature

-25°C to +71°C (No Derating)

Storage Temperature Range

-40°C to +85°C

I/O Isolation

Voltage: 300 Vdc (min)

Resistance: 100 Megohms

Ordering Information

Input Voltage Vdc	Output Voltage Vdc	Output Current mA	Efficiency ¹ %	New Model Number	Old Model Number
4.5- 5.5	5V	180	70	DTS11-018-5	DTS5-1.5.180
10.2-13.8		180	75	DTS11-018-12	DTS12-1.5.180
20.4-27.6		180	75	DTS11-018-24	DTS24-1.5.180
4.5- 5.5		450	70	DTS11-045-5	DTS5-5S450
4.5- 5.5	12V	75	75	DTS12-007-5	DTS5-1.12.75
10.2-13.8		75	75	DTS12-007-12	DTS12-1.12.75
4.5- 5.5		200	75	DTS12-020-5	DTS5-12S200
10.2-13.8		300	80	DTS12-030-12	DTS12-12S300
4.5- 5.5	$\pm$ 12V	$\pm$ 38	75	DTD22-008-5	DTD5-2.12.38
10.2-13.8			80	DTD22-008-12	DTD12-2.12.38
4.5- 5.5		$\pm$ 100	75	DTD22-020-5	DTD5-12D100
10.2-13.8			80	DTD22-033-12	DTD12-12D165
20.4-27.6	$\pm$ 15V	$\pm$ 165	75	DTD22-033-24	DTD24-12D165
4.5- 5.5		$\pm$ 30	75	DTD23-006-5	DTD5-2.15.30
10.2-13.8			80	DTD23-006-12	DTD12-2.15.30
20.4-27.6		$\pm$ 80	75	DTD23-006-24	DTD24-15D30
4.5- 5.5	$\pm$ 15V	$\pm$ 80	75	DTD23-016-5	DTD5-15D80
10.2-13.8			80	DTD23-027-12	DTD12-15D135
20.4-27.6		$\pm$ 135	80	DTD23-027-24	DTD24-15D135

Other versions available, please consult factory.

¹at nominal line, full load

Dimensions and Connections

Fig. 1

LOAD CURVE (typ)

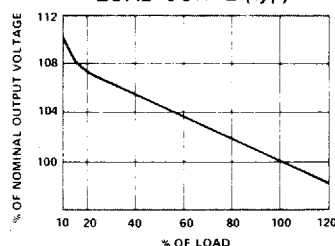


Fig. 2

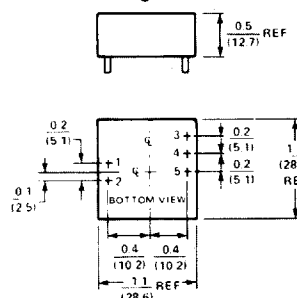
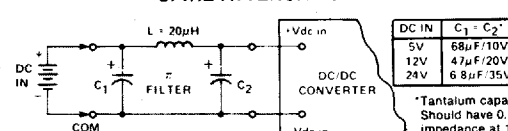


Fig. 3

EXTERNAL π FILTER FOR 60 dB SPIKE ATTENUATION



Connections

Single Outputs

- PIN 1 - Vdc in
- 2 + Vdc in
- 3 + Vdc out
- 4 - Vdc out
- 5 Do Not Connect

Dual Outputs

- PIN 1 - Vdc in
- 2 + Vdc in
- 3 + Vdc out
- 4 Common out
- 5 - Vdc out

Notes:

- Five Pins 0.040 (1.0) Dia $\times$ 0.20 (5.1) Lg Min
- All Dimensions in inches and (mm)

Specifications Subject to Change Without Notice.



SEMICONDUCTOR CIRCUITS, INC.

49 RANGE RD., WINDHAM, N.H. 03087 (603) 893-2330 TWX (710) 366-0505