

SEMICONDUCTOR CIRCUITS

Low Cost, Miniature DC/DC Converters

DTS, DTD

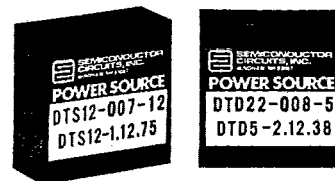
- RELIABLE - MTBF EXCEEDS 200,000 HOURS
- HIGHER EFFICIENCY - TO 80%
- NO DERATING REQUIRED TO 71°C

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 1/8" 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

$V_{out} \pm 3\%$ at specified V_{in} and F.L.

Regulation

Line: 1%/ % V_{in} (Typ.)

Load: See Curve (Fig. 1)

Ripple and Noise (PAR)

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	12V	450	70	DTS11-045-5	DTS5-5S450		
4.5- 5.5		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	12V	200	75	DTS12-020-5	DTS5-12S200		
10.2-13.8		300	80	DTS12-030-12	DTS12-12S300		
4.5- 5.5		± 38	75	75	DTD22-008-5	DTD5-2.12.38	
10.2-13.8	80				80	DTD22-008-12	DTD12-2.12.38
4.5- 5.5	$\pm 12V$	± 100	75	DTD22-020-5	DTD5-12D100		
10.2-13.8				80	80	DTD22-033-12	DTD12-12D165
20.4-27.6	± 165	75	80			DTD22-033-24	DTD24-12D165
4.5- 5.5				$\pm 15V$	± 30	75	DTD23-006-5
10.2-13.8	80	80	DTD23-006-12				DTD12-2.15.30
20.4-27.6			75				75
4.5- 5.5	$\pm 15V$	± 80	75	DTD23-016-5	DTD5-15D80		
10.2-13.8				80	80	DTD23-027-12	DTD12-15D135
20.4-27.6						80	80

Other versions available, please consult factory.
¹at nominal line, full load

Dimensions and Connections

Fig. 1

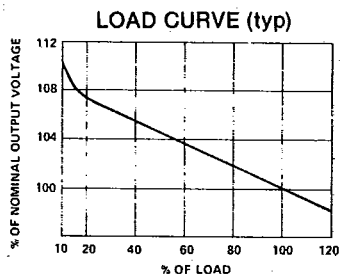


Fig. 2

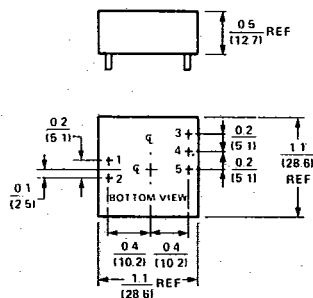
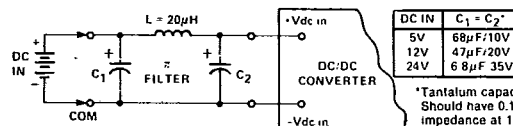


Fig. 3

EXTERNAL π FILTER FOR 60 dB SPIKE ATTENUATION



*Tantalum capacitors. Should have 0.1 Ω impedance at 1 MHz.

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 x 0.20 (5.1) Lg Min
- All Dimensions in Inches and (mm)

Specifications Subject to Change Without Notice.



SEMICONDUCTOR CIRCUITS, INC.

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