

DC/DC Converters Single/Dual Outputs FC Series



- Ultra low noise
- Pi input filter
- Continuous short circuit protection with auto restart
- Regulated output

The FC Series are ultra-low noise, high performance DC/DC converters that are packaged in low profile (0.4 inch high) cases. Essential quality performance features are designed and built-in. A high performance Pi input filter minimizes input reflected ripple, while 5-sided electrostatic shielding and tape-wound toroids, rather than pot cores, minimize radiated EMI. Advanced circuit design techniques reduce conducted output noise in the form of current spikes, to an extremely low level.

Applications

The FC Series converters are ideal for noise-sensitive analog and digital applications having high component density and stringent performance requirements. For ease of use and system reliability, all FC Series models feature I/O-isolated outputs which are overcurrent protected by a self-resetting current limit circuit.

Specifications

INPUT

Voltage Range	See Table — Reverse Side
Reflected Ripple	Less than 1% of V_{in} (max.)

OUTPUT

Voltage Tolerance	± 1% (fixed)
Ripple and Noise	Dual Outputs: 5 mV pk-pk (max.) Single Outputs: 8 mV pk-pk (max.)
Overcurrent Protection	Current Limit
Temperature Coefficient	0.02%/°C max.

GENERAL

Regulation: Line/Load	Dual Output Models: 0.02/0.02% 5V Out Models: 0.02/0.1%
Efficiency	65% (typ)
I/O Isolation	Voltage: 300 Vdc Resistance: 100 Megohms
Oscillator Frequency Range	6 to 20 kHz

ENVIRONMENTAL

Operating Temperature Range	-25°C to +71°C (No derating)
Storage Temperature Range	-40°C to +85°C
Cooling	Free-air Convection



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All specifications are typical at nominal line and full load at 25°C unless otherwise noted.

FC Series Ordering Information

ASTEC AMERICA/SEMICON

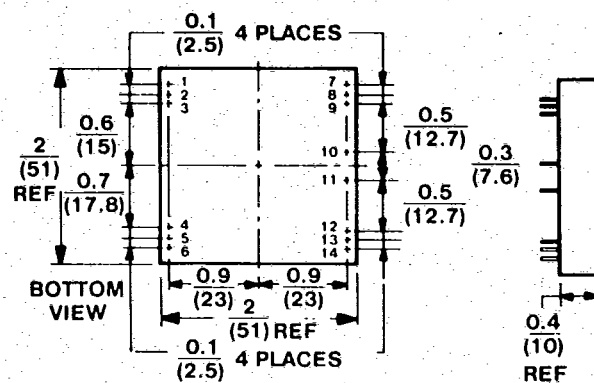
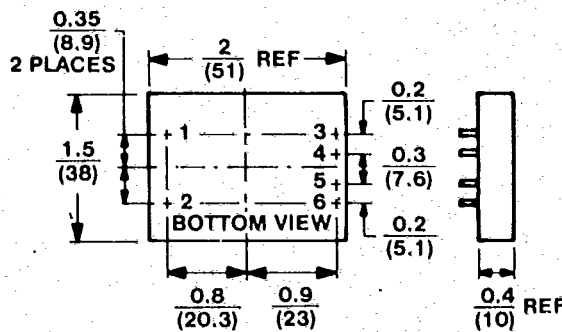
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Input Voltage Range (Vdc)	Output Voltage (Vdc)	Output Current (mA)	Pkg. (Fig.)	Model Number
4.5-5.5	5V	600	2	FC11-060-5
10.8-15.0	5V	600	2	FC11-060-12
21.6-30.0	5V	600	2	FC11-060-24
42.0-56.0	5V	600	2	FC11-060-48
4.5-5.5	±12V	±35	1	FC22-007-5
10.8-15.0	±12V	±35	1	FC22-007-12
21.6-30.0	±12V	±35	1	FC22-007-24
42.0-56.0	±12V	±35	1	FC22-007-48
4.5-5.5	±12V	±125	2	FC22-025-5
10.8-15.0	±12V	±125	2	FC22-025-12
21.6-30.0	±12V	±125	2	FC22-025-24
42.0-56.0	±12V	±125	2	FC22-025-48
4.5-5.5	±15V	±30	1	FC23-006-5
10.8-15.0	±15V	±30	1	FC23-006-12
21.6-30.0	±15V	±30	1	FC23-006-24
42.0-56.0	±15V	±30	1	FC23-006-48
4.5-5.5	±15V	±100	2	FC23-020-5
10.8-15.0	±15V	±100	2	FC23-020-12
21.6-30.0	±15V	±100	2	FC23-020-24
42.0-56.0	±15V	±100	2	FC23-020-48

Dimensions and Connections



PIN CONNECTIONS

- PIN 1. + Vdc in
 2. - Vdc in
 3. + Vdc out
 4. & 5. Do Not Connect
 6. - Vdc out*

- PIN 1 to 3 +Vdc in
 4 to 6 - Vdc in
 7 to 9 + Vdc out
 10 & 11 Common out
 12 to 14 - Vdc out

*Metal case (shield) connected to output common

NOTE:

1. Connecting Pins 0.020 (0.51) Dia x 0.150 (3.8) Lg Min (Fig 1 & 2)

*Measured with 3.3 MF 25V tantalum capacitor across each output. Specification subject to change without notice.

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