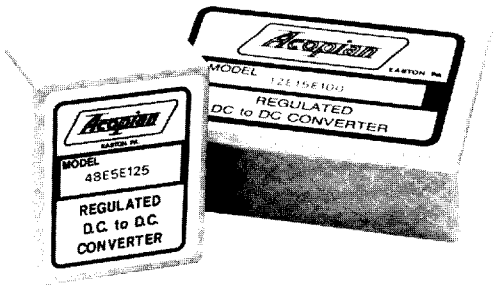
DC-DC CONVERTERS

PC BOARD MOUNTING SINGLE & DUAL OUTPUT

SHIPPED IN 3 DAYS



These versatile DC/DC converters are ideally suited for powering a wide variety of analog and digital circuitry, such as op amps, logic and microprocessors. They may be mounted directly on a printed circuit board for OEM applications, or installed in a socket for developmental and small quantity requirements. For DC-DC converters with screw terminals, see page 16.

Efficiency is in the order of 65%, and is maintained down to low levels of output current. Input reflected ripple is reduced to less than 1% by means of a standard built-in pi filter, and electrostatic shielding on all six sides minimizes radiated energy. High input/output isolation permits separation of the output from the dc input bus to minimize circuit interaction due to ground loops, and the use of inputs in either polarity.

SPECIFICATIONS:

Input Voltage: Nominal voltage ±10%.

Input Reflected Ripple: 1% E_{in} (max.)

Output Regulation:
Line: ±.02%
Load: ±.05%

Output Ripple (@ 25 MHz bandwidth):
1 mV rms, 50 mV p-p (5-15V outputs)
1.5 mV rms, 75 mV p-p (18-28V outputs).

Output Voltage Tolerance: Output(s) factory preset within ±1% of nominal. Single output models may be trimmed to the nominal rating with an external trim resistor.

Polarity: The output of single output models may be connected in either polarity. Dual output models have a positive/common/negative output terminal configuration.

Transient Response (NL-FL): 50 microseconds.

Overload/Short Circuit Protection: Electronic current limiting with automatic recovery.

Input/Output Isolation:
Voltage: 500 Vdc
Resistance: 100 megohms
Capacitance: 100 pF

Switching Frequency: 20 kHz minimum.

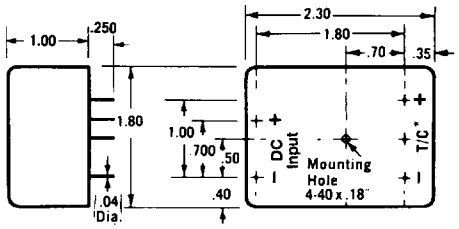
Temperature Coefficient: 0.02%/°C (Typical).

Ambient Operating Temperature: −20 to +71°C.

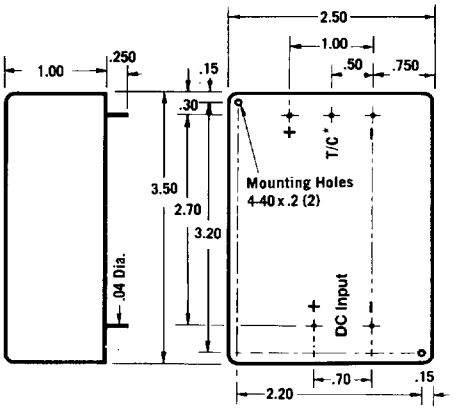
Storage Temperature: −40 to +85°C.

Humidity: 20% to 80% R.H. (non-condensing).

Mounting: May be mounted on printed circuit board or in socket. See page 11.



Case Size ESC-10
Approx. Weight: 5 oz.



Case Size ELC-10
Approx. Weight: 12 oz.

*TRIM on single output modules; COMMON on duals

P.O. Box 638, Easton, PA 18044 • Phone: (215) 258-5441 • FAX: (215) 258-2842

SINGLE OUTPUT, FOR PC BOARD MOUNTING

T-57-11

Nominal Input Voltage	Nominal Output Voltage	Output Current Amps at 40°C	55°C	71°C	Price	Model	Case Size
5	5	1.25	1.25	1.00	$ 98	5E5E125	ESC-10
5	5	2.50	2.25	2.00	119	5E5E250	ELC-10
5	6	1.00	1.00	.80	98	5E6E100	ESC-10
5	6	2.00	1.80	1.60	119	5E6E200	ELC-10
5	8	.75	.75	.60	98	5E8E75	ESC-10
5	8	1.50	1.35	1.20	119	5E8E150	ELC-10
5	9	.70	.70	.55	98	5E9E70	ESC-10
5	9	1.40	1.25	1.10	119	5E9E140	ELC-10
5	10	.65	.65	.50	98	5E10E65	ESC-10
5	10	1.30	1.15	1.00	119	5E10E130	ELC-10
5	12	.60	.60	.50	98	5E12E60	ESC-10
5	12	1.20	1.10	1.00	119	5E12E120	ELC-10
5	13	.55	.55	.45	98	5E13E55	ESC-10
5	13	1.10	1.00	.90	119	5E13E110	ELC-10
5	15	.50	.50	.40	98	5E15E50	ESC-10
5	15	1.00	.90	.80	119	5E15E100	ELC-10
5	18	.40	.40	.30	98	5E18E40	ESC-10
5	18	.80	.70	.60	119	5E18E80	ELC-10
5	20	.35	.35	.28	98	5E20E35	ESC-10
5	20	.70	.60	.50	119	5E20E70	ELC-10
5	24	.25	.25	.20	98	5E24E25	ESC-10
5	24	.60	.55	.50	119	5E24E60	ELC-10
5	28	.25	.25	.20	98	5E28E25	ESC-10
5	28	.50	.45	.40	119	5E28E50	ELC-10
12	5	1.25	1.25	1.00	98	12E5E125	ESC-10
12	5	2.50	2.25	2.00	119	12E5E250	ELC-10
12	6	1.00	1.00	.80	98	12E6E100	ESC-10
12	6	2.00	1.80	1.60	119	12E6E200	ELC-10
12	8	.75	.75	.60	98	12E8E75	ESC-10
12	8	1.50	1.35	1.20	119	12E8E150	ELC-10
12	9	.70	.70	.55	98	12E9E70	ESC-10
12	9	1.40	1.25	1.10	119	12E9E140	ELC-10
12	10	.65	.65	.50	98	12E10E65	ESC-10
12	10	1.30	1.15	1.00	119	12E10E130	ELC-10
12	12	.60	.60	.50	98	12E12E60	ESC-10
12	12	1.20	1.10	1.00	119	12E12E120	ELC-10
12	13	.55	.55	.45	98	12E13E55	ESC-10
12	13	1.10	1.00	.90	119	12E13E110	ELC-10
12	15	.50	.50	.40	98	12E15E50	ESC-10
12	15	1.00	.90	.80	119	12E15E100	ELC-10
12	18	.40	.40	.30	98	12E18E40	ESC-10
12	18	.80	.70	.60	119	12E18E80	ELC-10
12	20	.35	.35	.28	98	12E20E35	ESC-10
12	20	.70	.60	.50	119	12E20E70	ELC-10
12	24	.25	.25	.20	98	12E24E25	ESC-10
12	24	.60	.55	.50	119	12E24E60	ELC-10
12	28	.25	.25	.20	98	12E28E25	ESC-10
12	28	.50	.45	.40	119	12E28E50	ELC-10
15	5	1.25	1.25	1.00	98	15E5E125	ESC-10
15	5	2.50	2.25	2.00	119	15E5E250	ELC-10
15	6	1.00	1.00	.80	98	15E6E100	ESC-10
15	6	2.00	1.80	1.60	119	15E6E200	ELC-10
15	8	.75	.75	.60	98	15E8E75	ESC-10
15	8	1.50	1.35	1.20	119	15E8E150	ELC-10
15	9	.70	.70	.55	98	15E9E70	ESC-10
15	9	1.40	1.25	1.10	119	15E9E140	ELC-10
15	10	.65	.65	.50	98	15E10E65	ESC-10
15	10	1.30	1.15	1.00	119	15E10E130	ELC-10
15	12	.60	.60	.50	98	15E12E60	ESC-10
15	12	1.20	1.10	1.00	119	15E12E120	ELC-10
15	13	.55	.55	.45	98	15E13E55	ESC-10
15	13	1.10	1.00	.90	119	15E13E110	ELC-10
15	15	.50	.50	.40	98	15E15E50	ESC-10
15	15	1.00	.90	.80	119	15E15E100	ELC-10
15	18	.40	.40	.30	98	15E18E40	ESC-10
15	18	.80	.70	.60	119	15E18E80	ELC-10

Nominal Input Voltage	Nominal Output Voltage	Output Current Amps at 40°C	55°C	71°C	Price	Model	Case Size
15	20	.35	.35	.28	$ 98	15E20E35	ESC-10
15	20	.70	.60	.50	119	15E20E70	ELC-10
15	24	.25	.25	.20	98	15E24E25	ESC-10
15	24	.60	.55	.50	119	15E24E60	ELC-10
15	28	.25	.25	.20	98	15E28E25	ESC-10
15	28	.50	.45	.40	119	15E28E50	ELC-10
24	5	1.25	1.25	1.00	98	24E5E125	ESC-10
24	5	2.50	2.25	2.00	119	24E5E250	ELC-10
24	6	1.00	1.00	.80	98	24E6E100	ESC-10
24	6	2.00	1.80	1.60	119	24E6E200	ELC-10
24	8	.75	.75	.60	98	24E8E75	ESC-10
24	8	1.50	1.35	1.20	119	24E8E150	ELC-10
24	9	.70	.70	.55	98	24E9E70	ESC-10
24	9	1.40	1.25	1.10	119	24E9E140	ELC-10
24	10	.65	.65	.50	98	24E10E65	ESC-10
24	10	1.30	1.15	1.00	119	24E10E130	ELC-10
24	12	.60	.60	.50	98	24E12E60	ESC-10
24	12	1.20	1.10	1.00	119	24E12E120	ELC-10
24	13	.55	.55	.45	98	24E13E55	ESC-10
24	13	1.10	1.00	.90	119	24E13E110	ELC-10
24	15	.50	.50	.40	98	24E15E50	ESC-10
24	15	1.00	.90	.80	119	24E15E100	ELC-10
24	18	.40	.40	.30	98	24E18E40	ESC-10
24	18	.80	.70	.60	119	24E18E80	ELC-10
24	20	.35	.35	.28	98	24E20E35	ESC-10
24	20	.70	.60	.50	119	24E20E70	ELC-10
24	24	.25	.25	.20	98	24E24E25	ESC-10
24	24	.60	.55	.50	119	24E24E60	ELC-10
24	28	.25	.25	.20	98	24E28E25	ESC-10
24	28	.50	.45	.40	119	24E28E50	ELC-10
28	5	1.25	1.25	1.00	98	28E5E125	ESC-10
28	5	2.50	2.25	2.00	119	28E5E250	ELC-10
28	6	1.00	1.00	.80	98	28E6E100	ESC-10
28	6	2.00	1.80	1.60	119	28E6E200	ELC-10
28	8	.75	.75	.60	98	28E8E75	ESC-10
28	8	1.50	1.35	1.20	119	28E8E150	ELC-10
28	9	.70	.70	.55	98	28E9E70	ESC-10
28	9	1.40	1.25	1.10	119	28E9E140	ELC-10
28	10	.65	.65	.50	98	28E10E65	ESC-10
28	10	1.30	1.15	1.00	119	28E10E130	ELC-10
28	12	.60	.60	.50	98	28E12E60	ESC-10
28	12	1.20	1.10	1.00	119	28E12E120	ELC-10
28	13	.55	.55	.45	98	28E13E55	ESC-10
28	13	1.10	1.00	.90	119	28E13E110	ELC-10
28	15	.50	.50	.40	98	28E15E50	ESC-10
28	15	1.00	.90	.80	119	28E15E100	ELC-10
28	18	.40	.40	.30	98	28E18E40	ESC-10
28	18	.80	.70	.60	119	28E18E80	ELC-10
28	20	.35	.35	.28	98	28E20E35	ESC-10
28	20	.70	.60	.50	119	28E20E70	ELC-10
28	24	.25	.25	.20	98	28E24E25	ESC-10
28	24	.60	.55	.50	119	28E24E60	ELC-10
28	28	.25	.25	.20	98	28E28E25	ESC-10
28	28	.50	.45	.40	119	28E28E50	ELC-10
48	5	1.25	1.25	1.00	98	48E5E125	ESC-10
48	6	1.00	1.00	.80	98	48E6E100	ESC-10
48	8	.75	.75	.60	98	48E8E75	ESC-10
48	9	.70	.70	.55	98	48E9E70	ESC-10
48	10	.65	.65	.50	98	48E10E65	ESC-10
48	12	.60	.60	.50	98	48E12E60	ESC-10
48	13	.55	.55	.45	98	48E13E55	ESC-10
48	15	.50	.50	.40	98	48E15E50	ESC-10
48	18	.40	.40	.30	98	48E18E40	ESC-10
48	20	.35	.35	.28	98	48E20E35	ESC-10
48	24	.25	.25	.20	98	48E24E25	ESC-10
48	28	.25	.25	.20	98	48E28E25	ESC-10

DUAL TRACKING OUTPUTS

Nominal Input Voltage	Nominal Output Voltages	Current Per Output Amps at 40°C	55°C	71°C	Price	Model	Case Size
5	±10	.30	.30	.25	$105	5E10D30	ESC-10
5	±10	.60	.55	.50	125	5E10D60	ELC-10
5	±12	.30	.30	.25	105	5E12D30	ESC-10
5	±12	.60	.55	.50	125	5E12D60	ELC-10
5	±15	.25	.25	.25	105	5E15D25	ESC-10
5	±15	.50	.45	.40	125	5E15D50	ELC-10
5	±18	.20	.20	.20	105	5E18D20	ESC-10
5	±18	.40	.35	.30	125	5E18D40	ELC-10
12	±10	.30	.30	.25	105	12E10D30	ESC-10
12	±10	.60	.55	.50	125	12E10D60	ELC-10
12	±12	.30	.30	.25	105	12E12D30	ESC-10
12	±12	.60	.55	.50	125	12E12D60	ELC-10
12	±15	.25	.25	.25	105	12E15D25	ESC-10
12	±15	.50	.45	.40	125	12E15D50	ELC-10
12	±18	.20	.20	.20	105	12E18D20	ESC-10
12	±18	.40	.35	.30	125	12E18D40	ELC-10
15	±10	.30	.30	.25	105	15E10D30	ESC-10
15	±10	.60	.55	.50	125	15E10D60	ELC-10
15	±12	.30	.30	.25	105	15E12D30	ESC-10
15	±12	.60	.55	.50	125	15E12D60	ELC-10
15	±15	.25	.25	.25	105	15E15D25	ESC-10
15	±15	.50	.45	.40	125	15E15D50	ELC-10

Nominal Input Voltage	Nominal Output Voltages	Current Per Output Amps at 40°C	55°C	71°C	Price	Model	Case Size
15	±18	.20	.20	.20	$105	15E18D20	ESC-10
15	±18	.40	.35	.30	125	15E18D40	ELC-10
24	±10	.30	.30	.25	105	24E10D30	ESC-10
24	±10	.60	.55	.50	125	24E10D60	ELC-10
24	±12	.30	.30	.25	105	24E12D30	ESC-10
24	±12	.60	.55	.50	125	24E12D60	ELC-10
24	±15	.25	.25	.25	105	24E15D25	ESC-10
24	±15	.50	.45	.40	125	24E15D50	ELC-10
24	±18	.20	.20	.20	105	24E18D20	ESC-10
24	±18	.40	.35	.30	125	24E18D40	ELC-10
28	±10	.30	.30	.25	105	28E10D30	ESC-10
28	±10	.60	.55	.50	125	28E10D60	ELC-10
28	±12	.30	.30	.25	105	28E12D30	ESC-10
28	±12	.60	.55	.50	125	28E12D60	ELC-10
28	±15	.25	.25	.25	105	28E15D25	ESC-10
28	±15	.50	.45	.40	125	28E15D50	ELC-10
28	±18	.20	.20	.20	105	28E18D20	ESC-10
28	±18	.40	.35	.30	125	28E18D40	ELC-10
48	±10	.30	.30	.25	105	48E10D30	ESC-10
48	±12	.30	.30	.25	105	48E12D30	ESC-10
48	±15	.25	.25	.25	105	48E15D25	ESC-10
48	±18	.20	.20	.20	105	48E18D20	ESC-10