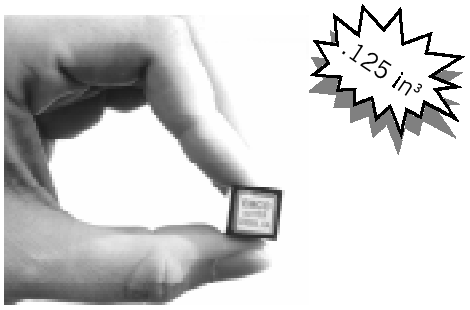
Ultra-Miniature DC to HV DC Converters

0 to + or -100 through 0 to + or - 5,000 VDC @ 0.5 Watts

Q Series

EMCO High Voltage Corporation



DESCRIPTION

The Q Series is a broad line of ultra-miniature, DC to HV DC converters supplying up to 5,000 volts in 0.125 cubic inches. These component-sized converters are ideal for applications requiring minimal size and weight. The output is directly proportional to the input voltage and is linear from approximately 0.7V input to maximum input voltage, allowing for a controllable output voltage. Isolation is 500V + Vout and output power is 0.5 watts. No external components or minimum load are required. The output ripple is extremely low for this package size, as low as 0.05% (typical) and can be further reduced with the addition of an external capacitor. Light weight, low power consumption and wide temperature range make these units ideal for portable, battery-powered equipment. Application notes are available on this series. Technical assistance is readily available. Call, fax or email for immediate attention.

FEATURES

Ultra-Miniature Case Size
Low Ripple and EMI/RFI
Proportional Input/Output
Input/Output Isolation
Short Circuit Protection
High Reliability

OPTIONS

Very Low No Load Power Draw
1.25 Watt Output Power
Multiple Input Voltages Available

APPLICATIONS

Avalanche Photodiodes
Photomultiplier Tubes
Light Sources
Piezo Devices
Sustaining Ion Pumps
Electrophoresis
Printers
Igniters
Capacitor Charging
Solid State Detectors

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	RIPPLE	INPUT CURRENT NO LOAD	INPUT CURRENT FULL LOAD
Q01-5	0 to 5V	0 to +/-100	5 mA	<1.00%	<50mA	<175mA
Q01-12	0 to 12V	0 to +/-100	5 mA	<1.00%	<10mA	<100mA
Q01-24	0 to 24V	0 to +/-100	5 mA	<1.00%	<10mA	<50mA
Q02-5	0 to 5V	0 to +/-200	2.5 mA	<0.25%	<50mA	<175mA
Q02-12	0 to 12V	0 to +/-200	2.5 mA	<0.25%	<10mA	<75mA
Q02-24	0 to 24V	0 to +/-200	2.5 mA	<0.25%	<10mA	<50mA
Q03-5	0 to 5V	0 to +/-300	1.6 mA	<0.25%	<50mA	<175mA
Q03-12	0 to 12V	0 to +/-300	1.6 mA	<0.25%	<15mA	<100mA
Q03-24	0 to 24V	0 to +/-300	1.6 mA	<0.1%	<10mA	<50mA
Q04-5	0 to 5V	0 to +/-400	1.25 mA	<0.05%	<50mA	<175mA
Q04-12	0 to 12V	0 to +/-400	1.25 mA	<0.05%	<10mA	<100mA
Q04-24	0 to 24V	0 to +/-400	1.25 mA	<0.05%	<10mA	<50mA
Q05-5	0 to 5V	0 to +/-500	1 mA	<0.05%	<50mA	<175mA
Q05-12	0 to 12V	0 to +/-500	1 mA	<0.05%	<10mA	<100mA
Q05-24	0 to 24V	0 to +/-500	1 mA	<0.05%	<10mA	<50mA
Q06-5	0 to 5V	0 to +/-600	0.8 mA	<0.10%	<50mA	<175mA
Q06-12	0 to 12V	0 to +/-600	0.8 mA	<0.10%	<10mA	<100mA
Q06-24	0 to 24V	0 to +/-600	0.8 mA	<0.10%	<10mA	<50mA
Q07-5	0 to 5V	0 to +/-700	0.7 mA	<0.10%	<50mA	<175mA
Q07-12	0 to 12V	0 to +/-700	0.7 mA	<0.10%	<10mA	<100mA
Q07-24	0 to 24V	0 to +/-700	0.7 mA	<0.10%	<10mA	<50mA
Q08-5	0 to 5V	0 to +/-800	.625 mA	<0.20%	<50mA	<175mA
Q08-12	0 to 12V	0 to +/-800	0.625 mA	<0.10%	<10mA	<100mA
Q08-24	0 to 24V	0 to +/-800	0.625 mA	<0.10%	<10mA	<50mA
Q09-5	0 to 5V	0 to +/-900	0.555 mA	<0.10%	<50mA	<175mA
Q09-12	0 to 12V	0 to +/-900	0.555 mA	<0.10%	<10mA	<100mA
Q09-24	0 to 24V	0 to +/-900	0.555 mA	<0.10%	<10mA	<50mA
Q10-5	0 to 5V	0 to 1,000	0.5 mA	<0.125%	<50mA	<175mA
Q10-12	0 to 12V	0 to 1,000	0.5 mA	<0.125%	<10mA	<100mA
Q10-24	0 to 24V	0 to 1,000	0.5 mA	<0.125%	<10mA	<50mA
Q10N-5	0 to 5V	0 to -1,000	0.5 mA	<0.125%	<50mA	<175mA
Q10N-12	0 to 12V	0 to -1,000	0.5 mA	<0.125%	<10mA	<100mA
Q10N-24	0 to 24V	0 to -1,000	0.5 mA	<0.125%	<10mA	<50mA
Q12-5	0 to 5V	0 to 1,200	0.4 mA	<0.25%	<50mA	<175mA
Q12N-5	0 to 5V	0 to -1,200	0.4 mA	<0.25%	<50mA	<175mA
Q15-5	0 to 5V	0 to 1,500	0.3 mA	<0.25%	<75mA	<175mA
Q15N-5	0 to 5V	0 to -1,500	0.3 mA	<0.25%	<75mA	<200mA
Q20-5	0 to 5V	0 to 2,000	0.25 mA	<0.25%	<100mA	<200mA
Q20N-5	0 to 5V	0 to -2,000	0.25 mA	<0.25%	<100mA	<200mA
Q30-5	0 to 5V	0 to 3,000	0.16mA	<0.50%	<100mA	<200mA
Q30N-5	0 to 5V	0 to -3,000	0.16mA	<0.50%	<100mA	<200mA
Q40-5	0 to 5V	0 to 4000	0.125mA	<0.5%	<175mA	<300mA
Q40N-5	0 to 5V	0 to -4000	0.125mA	<0.5%	<175mA	<300mA
Q50-5	0 to 5V	0 to 5000	0.100mA	<0.5%	<250mA	<400mA
Q50N-5	0 to 5V	0 to -5000	0.100mA	<0.5%	<250mA	<400mA

e-mail sales@emcohighvoltage.com
Web site www.emcohighvoltage.com
Phone (209) 223-3626 Fax (209) 223-2779
11126 Ridge Road, Sutter Creek CA 95685

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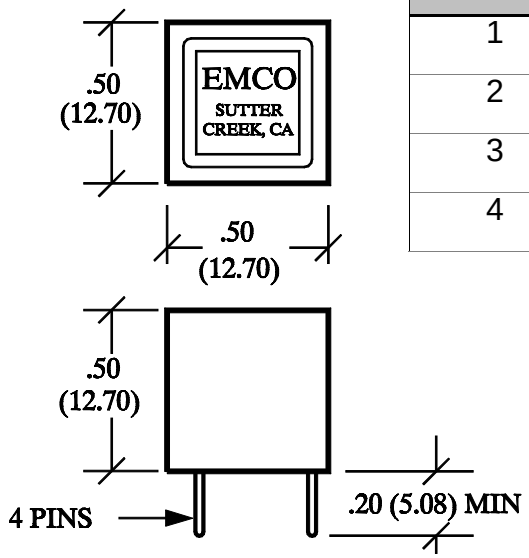
PHYSICAL CHARACTERISTICS
SIZE: 0.5" x 0.5" x 0.5"(12.7 x 12.7 x 12.7 mm)
WEIGHT: 0.15 Ounces Approx. (4.25 Grams)
PACKAGING: Fully Encapsulated
CASE MATERIAL: Glass-filled Epoxy
PINS: *See Table*

ELECTRICAL SPECIFICATIONS
INPUT VOLTAGE: 0 to 5, 12 or 24 VDC
TYPICAL TURN-ON VOLTAGE: 0.7 Volts
OUTPUT VOLTAGE TOLERANCE @ FULL LOAD : +2%, -5% typical
ISOLATION: 500 Volts +Vout
OPERATING TEMP: -25° to +70° C (Q30-Q50: -10° to +60°C)
STORAGE TEMP: -55°C to +125°C

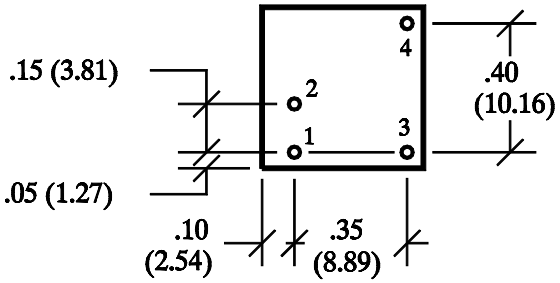


Pin #	Function	Qxx	QxxN
1	(-) Input	(-)	(-)
2	(+) Input	(+)	(+)
3	Output	(+)	(-)
4	Output Return	(-)	(+)

Dimensional Tolerances: +/-.03

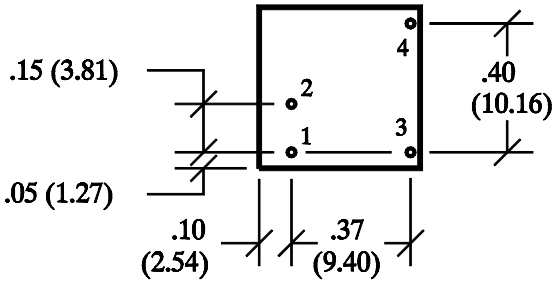
Dimensions are in inches

(Metric in parenthesis)



Q01 to Q20
BOTTOM VIEW

Pin Diameter .025



Q30 to Q50
BOTTOM VIEW

Pin Diameter .016

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