

# SERIES B

## Hi Reliability

## Ultra-Miniature

## Isolated

## DC-DC

## Converters

### Up to 2.5 Watts

### FEATURES

- Up to 2.5 watt output at 70°C ambient
- Encapsulated semiconductors, conservatively rated for maximum reliability
- Ultra-miniature size (0.3" Height)
- 5 input voltage ranges 5, 12, 24, 28 and 48V DC
- 100 megohm @ 500V DC isolation
- Single and dual isolated output
- No heat sink required

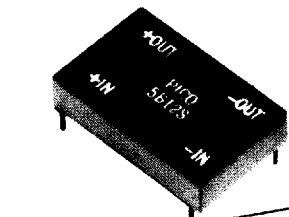
This series of unregulated DC-DC converters comes in a miniaturized encapsulated package. 68 different models are available. The units feature single and isolated dual outputs. They will operate over the temperature range of -25°C to +70°C. No heat sink is required.

### SERIES B - SINGLE OUTPUT

PICO PART NUMBER	INPUT VOLTAGE (V DC)	OUTPUT VOLTAGE (V DC)	MAX. LOAD CURRENT (mA)	MAX. OUTPUT POWER (watts)	EFF. @ FULL LOAD TYPICAL (%)	INPUT CURRENT FULL LOAD TYPICAL (mA)	OUTPUT VOLTAGE RIPPLE @ FULL LOAD* (Vp-p max)	NO LOAD CURRENT TYPICAL (mA)	FULL LOAD OUTPUT VOLTAGE TOLERANCE (V DC)	PRICE 1-24
5B5S	5	5	300	1.5	67	447	0.15	90	±0.25	48.19
5B9S	5	9	167	1.5	73	411	0.15	90	±0.3	48.19
5B12S	5	12	125	1.5	75	400	0.15	90	±0.4	48.19
5B15S	5	15	100	1.5	75	400	0.15	90	±0.4	48.19
5B24S	5	24	63	1.5	78	385	0.15	90	±0.5	48.19
5B28S	5	28	54	1.5	78	385	0.15	90	±0.5	48.19
5B48S	5	48	31	1.5	79	380	0.15	90	±0.7	48.19
12B5S	12	5	300	1.5	69	182	0.15	40	±0.25	48.19
12B9S	12	9	222	2.0	76	219	0.15	40	±0.3	48.19
12B12S	12	12	167	2.0	78	214	0.15	40	±0.4	48.19
12B15S	12	15	133	2.0	78	214	0.15	40	±0.4	48.19
12B24S	12	24	83	2.0	80	208	0.15	40	±0.5	48.19
12B28S	12	28	71	2.0	80	208	0.15	40	±0.5	48.19
12B48S	12	48	42	2.0	80	208	0.15	40	±0.7	48.19
24B5S	24	5	300	1.5	69	91	0.15	10	±0.25	48.19
24B9S	24	9	222	2.0	76	110	0.15	15	±0.3	48.19
24B12S	24	12	167	2.0	78	107	0.15	15	±0.4	48.19
24B15S	24	15	133	2.0	78	107	0.15	15	±0.4	48.19
24B24S	24	24	104	2.5	82	127	0.15	15	±0.5	48.19
24B28S	24	28	89	2.5	81	129	0.15	15	±0.5	48.19
24B48S	24	48	52	2.5	82	127	0.15	15	±0.7	48.19
28B5S	28	5	300	1.5	67	80	0.15	15	±0.25	48.19
28B9S	28	9	222	2.0	75	95	0.15	15	±0.3	48.19
28B12S	28	12	167	2.0	77	93	0.15	15	±0.4	48.19
28B15S	28	15	133	2.0	77	93	0.15	15	±0.4	48.19
28B24S	28	24	104	2.5	81	110	0.15	15	±0.5	48.19
28B28S	28	28	89	2.5	81	110	0.15	15	±0.5	48.19
28B48S	28	48	52	2.5	82	109	0.15	15	±0.7	48.19
48B5S	48	5	300	1.5	71	44	0.20	3	±0.25	51.70
48B9S	48	9	222	2.0	76	55	0.20	3	±0.3	51.70
48B12S	48	12	167	2.0	82	51	0.20	3	±0.4	51.70
48B15S	48	15	133	2.0	82	51	0.20	3	±0.4	51.70
48B24S	48	24	104	2.5	84	62	0.20	3	±0.5	51.70
48B28S	48	28	89	2.5	83	63	0.20	3	±0.5	51.70

\*The ripple is measured with a 22µF, 75 volt high quality tantalum capacitor which is required across the output.

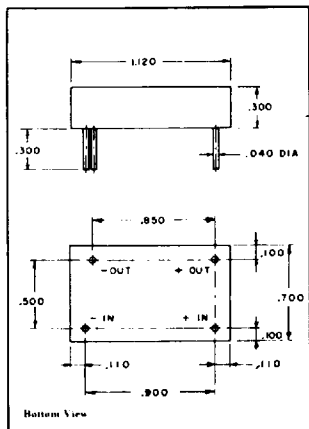
Ordering Instruction: No minimum. Net 30 days F.O.B. Mt. Vernon, New York.



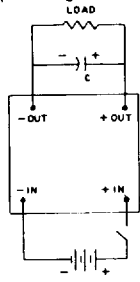
**No Heat Sink or Electrical Derating Required**

### OPTIONS AVAILABLE

- Expanded operating temp. (-55°C to +85°C)
- Stabilization Bake (125°C ambient)
- Temperature Cycle (-55°C to +125°C)
- Hi Temp, full power burn in (100% power, 125°C case temp)

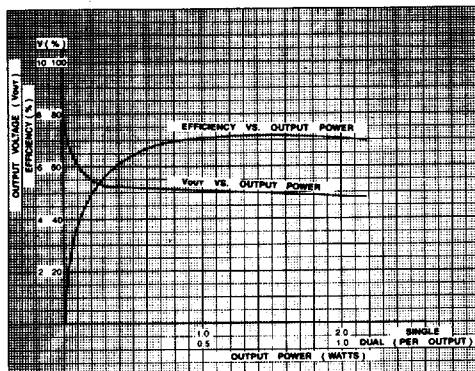


Typical Weight: 8.0 Grams

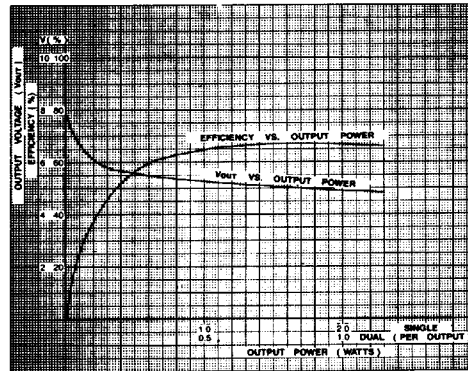


**Delivery—stock to one week**

### SERIES B SINGLE & DUAL 48V-5V



### SERIES B SINGLE & DUAL 5V-5V



453 N. MacQuesten Pkwy., Mt. Vernon, N.Y. 10552  
914-699-5514 • FAX 914-699-5565

**PICO Electronics, Inc.**

T-57-11

**TYPICAL**

**CHARACTERISTICS:** Test conditions: 25°C ambient and input voltage at nominal value unless otherwise specified.

**LINE REGULATION:** OUTPUT IS DIRECTLY PROPORTIONAL TO THE INPUT.

**Input voltage range:** 5V models 4 to 6.5V DC  
12V models 9 to 15V DC  
24V models 17 to 28V DC  
28V models 21 to 32V DC  
48V models 25 to 50V DC

**Output voltage tolerance at full load:**

5V models ± 0.25V  
9V models ± 0.3V  
12V & 15V models ± 0.4V  
24V & 28V models ± 0.5V  
48V models ± 0.7V

**Converter frequency:** 20 to 40 KHz

**Output temperature coefficient:** 0.02%/°C

**Operating temperature:** -25°C to +70°C ambient.  
No heat sink is required.

**Storage temperature:** -55°C to +125°C

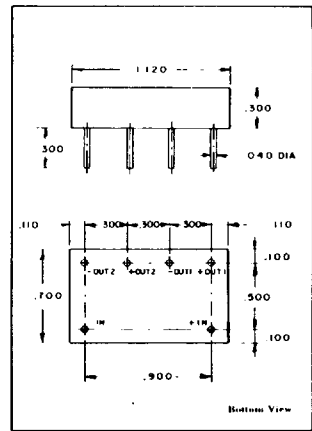
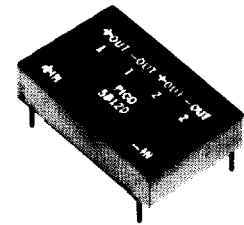
**Isolation:** 100 megohms min. @ 500V DC

**Short circuit protection:** Temporary

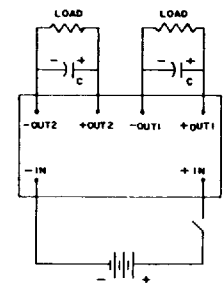
**SERIES B - DUAL OUTPUT**

PICO PART NUMBER	INPUT VOLTAGE (V DC)	DUAL OUTPUT VOLTAGE (V DC)	MAX. LOAD CURRENT PER OUTPUT (mA)	MAX. OUTPUT POWER PER OUTPUT (watts)	EFF. @ FULL LOAD TYPICAL (%)	INPUT CURRENT FULL LOAD TYPICAL (mA)	OUTPUT VOLTAGE RIPPLE @ FULL LOAD* (Vp-p max)	NO LOAD CURRENT TYPICAL (mA)	FULL LOAD OUTPUT VOLTAGE TOLERANCE (V DC)	PRICE 1-24
5B5D	5	5	150	0.75	68	441	0.15	90	±0.25	54.46
5B9D	5	9	83	0.75	73	411	0.15	90	±0.3	54.46
5B12D	5	12	62	0.75	76	394	0.15	90	±0.4	54.46
5B15D	5	15	50	0.75	78	384	0.15	90	±0.4	54.46
5B24D	5	24	31	0.75	80	375	0.15	90	±0.5	54.46
5B28D	5	28	27	0.75	78	385	0.15	90	±0.5	54.46
5B48D	5	48	15	0.75	79	380	0.15	90	±0.7	54.46
12B5D	12	5	150	0.75	71	176	0.15	40	±0.25	54.46
12B9D	12	9	111	1.0	76	219	0.15	40	±0.3	54.46
12B12D	12	12	83	1.0	81	205	0.15	40	±0.4	54.46
12B15D	12	15	66	1.0	81	205	0.15	40	±0.4	54.46
12B24D	12	24	41	1.0	83	200	0.15	40	±0.5	54.46
12B28D	12	28	35	1.0	80	208	0.15	40	±0.5	54.46
12B48D	12	48	21	1.0	80	208	0.15	40	±0.7	54.46
24B5D	24	5	150	0.75	71	88	0.15	10	±0.25	54.46
24B9D	24	9	111	1.0	76	110	0.15	15	±0.3	54.46
24B12D	24	12	83	1.0	80	104	0.15	15	±0.4	54.46
24B15D	24	15	66	1.0	81	102	0.15	15	±0.4	54.46
24B24D	24	24	52	1.25	82	127	0.15	15	±0.5	54.46
24B28D	24	28	45	1.25	81	129	0.15	15	±0.5	54.46
24B48D	24	48	26	1.25	82	127	0.15	15	±0.7	54.46
28B5D	28	5	150	0.75	67	80	0.15	15	±0.25	54.46
28B9D	28	9	111	1.0	75	95	0.15	15	±0.3	54.46
28B12D	28	12	83	1.0	77	93	0.15	15	±0.4	54.46
28B15D	28	15	66	1.0	77	93	0.15	15	±0.4	54.46
28B24D	28	24	52	1.25	81	110	0.15	15	±0.5	54.46
28B28D	28	28	45	1.25	81	110	0.15	15	±0.5	54.46
28B48D	28	48	26	1.25	82	109	0.15	15	±0.7	54.46
48B5D	48	5	150	0.75	71	44	0.20	3	±0.25	58.45
48B9D	48	9	111	1.0	76	55	0.20	3	±0.3	58.45
48B12D	48	12	83	1.0	82	51	0.20	3	±0.4	58.45
48B15D	48	15	67	1.0	82	51	0.20	3	±0.4	58.45
48B24D	48	24	52	1.25	84	62	0.20	3	±0.5	58.45
48B28D	48	28	45	1.25	83	63	0.20	3	±0.7	58.45

**Low Profile  
0.3" Height!  
Up to 2.5 Watts**

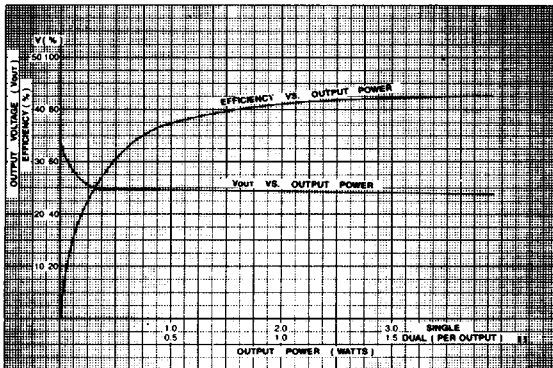


Typical Weight: 8.5 Grams



\*The ripple is measured with a 22µF, 75 volt high quality tantalum capacitor which is required across each output.  
Ordering Instructions: No minimum. Net 30 days F.O.B. Mt. Vernon, New York.

**SERIES B SINGLE & DUAL 24V-24V**



**PICO  
Electronics, Inc.**

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914-699-5514

FAX 914-699-5565

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stock to one week**

For immediate engineering assistance or to place an order—Call Toll Free 800-431-1064