

UPM and BPM Series

5 and 10 Watt

DC/DC Converters

Single and Dual Outputs

FEATURES

- Wide Selection
- $\pm 1\%$ Accuracy
- Low Output Ripple
- Output Protection

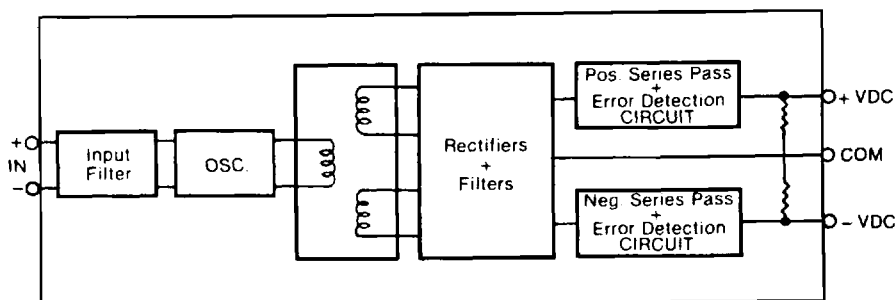
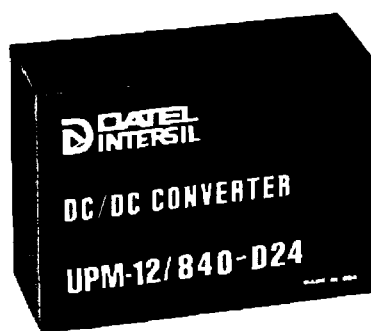
GENERAL DESCRIPTION

DATEL-INTERSIL's complete line of 5 and 10 watt DC-DC converters is comprised of 66 single and dual output models. Input voltages are 5, 12, 24, 28 and 48 volts with single output voltages of 5, 12, 15, 24 and 28 volts, and dual output voltages of ± 12 , ± 15 and ± 18 volts.

Output voltage accuracies are $\pm 1\%$ with tempcos of $0.02\%/^{\circ}\text{C}$. Other features include low output ripple of 50 mV P-P (5 mV RMS) max., 100 megohm isolation and all outputs have output current limiting protection.

The 5 watt models are packaged in a 2.0 x 2.0 x 0.75 (in.) plastic case and the 10 watt models in a 3.5 x 2.5 x 0.875 (in.) plastic case. All models have an operating temperature range of -25°C to $+71^{\circ}\text{C}$.

DATEL-INTERSIL also offers a line of 1, 3 and 4.5 watt DC-DC converters as well as a complete series of line operated power supplies including plug-in power adapters and single, dual and triple output modules.



GENERAL SPECIFICATIONS

Output Voltage Accuracy	$\pm 1\%$
Output Noise and Ripple, max.	50 mV P-P (5 mV RMS)
Back Ripple Current, max.	5% of I_{in} (3% typ.)
Capacitive Coupling, max.	250 pF
Breakdown Voltage, min.	300 VDC
Transient Recovery Time, max.	50 μsec
Operating Temp. Range	-25°C to $+71^{\circ}\text{C}$
Storage Temp. Range	-55°C to $+85^{\circ}\text{C}$
Temp. Coefficient	$.02\%/^{\circ}\text{C}$
Line/Load Regulation	$.05\%/ .05\%$
Short Circuit Protection	Output current limiting
Case Material/Unit Weight	5 watt version: Diallyl Phtalate/4.5 oz. (128g.) 10 watt version: Phenolic/14 oz. (397g.)

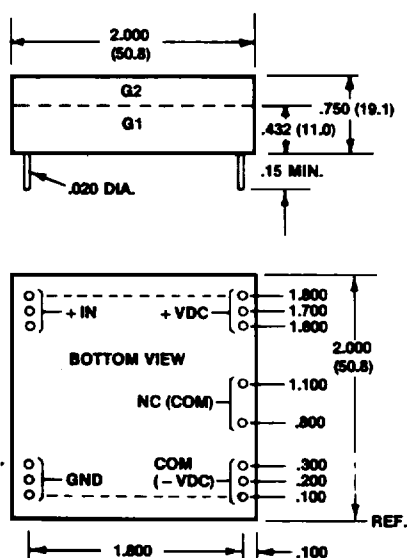
1. UPM-5, -24, -28 Series $.05\%/0.1\%$

SPECIFICATIONS, 5 WATT DC-DC CONVERTERS

MODEL	VDC OUT	I _{out}	INPUT VOLTAGE	MAXIMUM INPUT CURRENT FULL LOAD/ NO LOAD	EFFIC. (FULL LOAD)	OUT IMP.	CASE CONFIG.	SOCKET CONFIG.
UPM-5/1000-D5	+ 5V	1.0A	5 VDC ± 10%	2000 ma/500 ma	50%	.005Ω	G2	(2) DILS-1 or (2) DILS-2
UPM-5/1000-D12	+ 5V	1.0A	12 VDC ± 10%	830 ma/200 ma	50%	.005Ω	G2	(2) DILS-1 or (2) DILS-2
UPM-5/1000-D24	+ 5V	1.0A	24 VDC ± 10%	420 ma/125 ma	50%	.005Ω	G2	(2) DILS-1 or (2) DILS-2
UPM-5/1000-D28	+ 5V	1.0A	28 VDC ± 10%	360 ma/90 ma	50%	.005Ω	G2	(2) DILS-1 or (2) DILS-2
UPM-5/1000-D48	+ 5V	1.0A	48 VDC ± 12.5%	210 ma/50 ma	50%	.005Ω	G2	(2) DILS-1 or (2) DILS-2
UPM-12/420-D5	+ 12V	420 mA	5 VDC ± 10%	2000 ma/500 ma	50%	.015Ω	G2	(2) DILS-1 or (2) DILS-2
UPM-12/420-D24	+ 12V	420 mA	24 VDC ± 10%	415 ma/120 ma	50%	.15Ω	G2	(2) DILS-1 or (2) DILS-2
UPM-12/420-D28	+ 12V	420 mA	28 VDC ± 10%	360 ma/90 ma	55%	.15Ω	G2	(2) DILS-1 or (2) DILS-2
UPM-12/420-D48	+ 12V	420 mA	48 VDC ± 12.5%	210 ma/50 ma	50%	.03Ω	G2	(2) DILS-1 or (2) DILS-2
UPM-15/330-D5	+ 15V	330 mA	5 VDC ± 10%	2000 ma/500 ma	50%	.03Ω	G2	(2) DILS-1 or (2) DILS-2
UPM-15/330-D12	+ 15V	330 mA	12 VDC ± 10%	830 ma/200 ma	50%	.03Ω	G2	(2) DILS-1 or (2) DILS-2
UPM-15/330-D24	+ 15V	330 mA	24 VDC ± 10%	415 ma/125 ma	50%	.03Ω	G2	(2) DILS-1 or (2) DILS-2
UPM-15/330-D28	+ 15V	330 mA	28 VDC ± 10%	360 ma/90 ma	50%	.03Ω	G2	(2) DILS-1 or (2) DILS-2
UPM-15/330-D48	+ 15V	330 mA	48 VDC ± 12.5%	210 ma/50 ma	50%	.03Ω	G2	(2) DILS-1 or (2) DILS-2
UPM-24/210-D5	+ 24V	210 mA	5 VDC ± 10%	2000 ma/500 ma	50%	.03Ω	G2	(2) DILS-1 or (2) DILS-2
UPM-24/210-D12	+ 24V	210 mA	12 VDC ± 10%	830 ma/200 ma	55%	.03Ω	G2	(2) DILS-1 or (2) DILS-2
UPM-28/180-D5	+ 28V	180 mA	5 VDC ± 10%	2000 ma/500 ma	50%	.035Ω	G2	(2) DILS-1 or (2) DILS-2
UPM-28/180-D12	+ 28V	180 mA	12 VDC ± 10%	830 ma/200 ma	55%	.035Ω	G2	(2) DILS-1 or (2) DILS-2
BPM-12/210-D5	± 12V	210 mA	5 VDC ± 10%	2000 ma/500 ma	50%	.03Ω	G2	(2) DILS-1 or (2) DILS-2
BPM-12/210-D12	± 12V	210 mA	12 VDC ± 10%	760 ma/200 ma	55%	.03Ω	G2	(2) DILS-1 or (2) DILS-2
BPM-12/210-D24	± 12V	210 mA	24 VDC ± 10%	380 ma/100 ma	55%	.03Ω	G2	(2) DILS-1 or (2) DILS-2
BPM-12/210-D28	± 12V	210 mA	28 VDC ± 10%	325 ma/90 ma	55%	.03Ω	G2	(2) DILS-1 or (2) DILS-2
BPM-12/210-D48	± 12V	210 mA	48 VDC ± 12.5%	210 ma/50 ma	50%	.03Ω	G2	(2) DILS-1 or (2) DILS-2
BPM-15/165-D5	± 15V	165 mA	5 VDC ± 10%	2000 ma/500 ma	50%	.03Ω	G2	(2) DILS-1 or (2) DILS-2
BPM-15/165-D12	± 15V	165 mA	12 VDC ± 10%	760 ma/200 ma	55%	.03Ω	G2	(2) DILS-1 or (2) DILS-2
BPM-15/165-D24	± 15V	165 mA	24 VDC ± 10%	380 ma/100 ma	55%	.03Ω	G2	(2) DILS-1 or (2) DILS-2
BPM-15/165-D28	± 15V	165 mA	28 VDC ± 10%	325 ma/90 ma	55%	.03Ω	G2	(2) DILS-1 or (2) DILS-2
BPM-15/165-D48	± 15V	165 mA	48 VDC ± 12.5%	210 ma/50 ma	50%	.03Ω	G2	(2) DILS-1 or (2) DILS-2
BPM-18/140-D5	± 18V	140 mA	5 VDC ± 10%	2000 ma/500 ma	50%	.03Ω	G2	(2) DILS-1 or (2) DILS-2
BPM-18/140-D12	± 18V	140 mA	12 VDC ± 10%	760 ma/200 ma	55%	.03Ω	G2	(2) DILS-1 or (2) DILS-2
BPM-18/140-D24	± 18V	140 mA	24 VDC ± 10%	380 ma/100 ma	55%	.03Ω	G2	(2) DILS-1 or (2) DILS-2
BPM-18/140-D28	± 18V	140 mA	28 VDC ± 10%	325 ma/90 ma	55%	.03Ω	G2	(2) DILS-1 or (2) DILS-2
BPM-18/140-D48	± 18V	140 mA	48 VDC ± 12.5%	210 ma/50 ma	50%	.03Ω	G2	(2) DILS-1 or (2) DILS-2

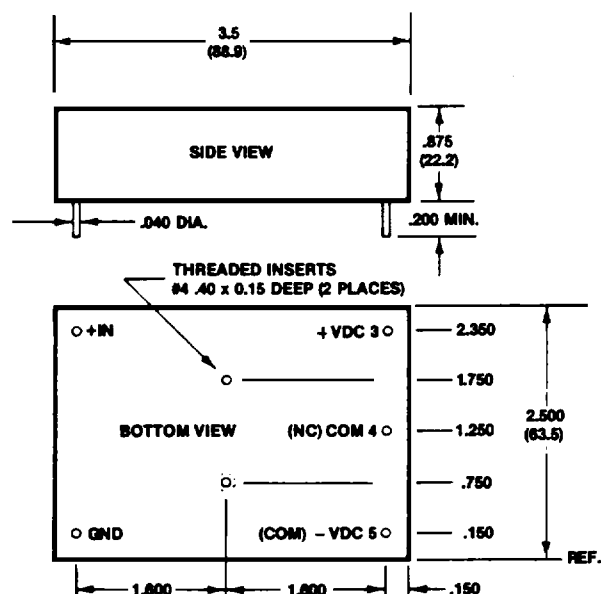
CASE AND PIN SPECIFICATIONS

CASE G



NOTE: PARENTHESES INDICATE CONNECTIONS FOR BIPOLAR OUTPUT OR AC INPUT MODELS

CASE CB



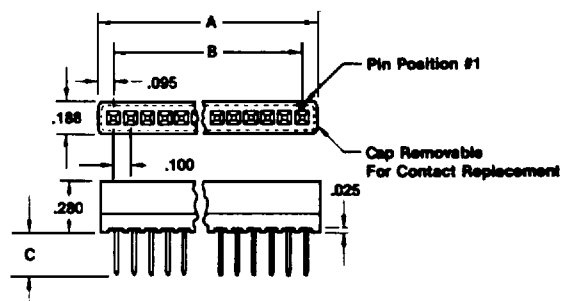
NOTE: PARENTHESES INDICATE CONNECTION FOR UNIPOLAR MODELS

SPECIFICATIONS, 10 WATT DC-DC CONVERTERS

MODEL	VDC OUT	I _{out}	INPUT VOLTAGE	MAXIMUM INPUT CURRENT FULL LOAD/ NO LOAD	EFFIC. (FULL LOAD)	OUT IMP.	CASE CONFIG.	SOCKET CONFIG.
UPM-5/2000-D5	+ 5V	2.0A	5 VDC ± 10%	4000 ma/980 ma	50%	.005Ω	CB	MS-7
UPM-5/2000-D12	+ 5V	2.0A	12 VDC ± 10%	1660 ma/280 ma	50%	.005Ω	CB	MS-7
UPM-5/2000-D24	+ 5V	2.0A	24 VDC ± 10%	760 ma/175 ma	50%	.005Ω	CB	MS-7
UPM-5/2000-D28	+ 5V	2.0A	28 VDC ± 10%	720 ma/130 ma	50%	.005Ω	CB	MS-7
UPM-5/2000-D48	+ 5V	2.0A	48 VDC ± 12.5%	415 ma/120 ma	50%	.005Ω	CB	MS-7
UPM-12/840-D5	+ 12V	840 mA	5 VDC ± 10%	4000 ma/980 ma	50%	.02Ω	CB	MS-7
UPM-12/840-D24	+ 12V	840 mA	24 VDC ± 10%	760 ma/175 ma	50%	.02Ω	CB	MS-7
UPM-12/840-D28	+ 12V	840 mA	28 VDC ± 10%	650 ma/130 ma	55%	.02Ω	CB	MS-7
UPM-12/840-D48	+ 12V	840 mA	48 VDC ± 12.5%	415 ma/120 ma	50%	.02Ω	CB	MS-7
UPM-15/660-D5	+ 15V	660 mA	5 VDC ± 10%	3700 ma/980 ma	50%	.02Ω	CB	MS-7
UPM-15/660-D12	+ 15V	660 mA	12 VDC ± 10%	1530 ma/340 ma	50%	.02Ω	CB	MS-7
UPM-15/660-D24	+ 15V	660 mA	24 VDC ± 10%	760 ma/175 ma	50%	.02Ω	CB	MS-7
UPM-15/660-D28	+ 15V	660 mA	28 VDC ± 10%	650 ma/130 ma	50%	.02Ω	CB	MS-7
UPM-15/660-D48	+ 15V	660 mA	48 VDC ± 12.5%	415 ma/120 ma	50%	.02Ω	CB	MS-7
UPM-24/420-D5	+ 24V	420 mA	5 VDC ± 10%	3600 ma/880 ma	55%	.02Ω	CB	MS-7
UPM-24/420-D12	+ 24V	420 mA	12 VDC ± 10%	1530 ma/340 ma	55%	.02Ω	CB	MS-7
UPM-28/360-D5	+ 28V	360 mA	5 VDC ± 10%	3600 ma/880 ma	55%	.02Ω	CB	MS-7
UPM-28/360-D12	+ 28V	360 mA	12 VDC ± 10%	1530 ma/340 ma	55%	.02Ω	CB	MS-7
BPM-12/420-D5	± 12V	420 mA	5 VDC ± 10%	4000 ma/980 ma	50%	.02Ω	CB	MS-7
BPM-12/420-D12	± 12V	420 mA	12 VDC ± 10%	1530 ma/340 ma	55%	.02Ω	CB	MS-7
BPM-12/420-D24	± 12V	420 mA	24 VDC ± 10%	760 ma/175 ma	55%	.02Ω	CB	MS-7
BPM-12/420-D28	± 12V	420 mA	28 VDC ± 10%	650 ma/130 ma	55%	.02Ω	CB	MS-7
BPM-12/420-D48	± 12V	420 mA	48 VDC ± 12.5%	415 ma/120 ma	50%	.02Ω	CB	MS-7
BPM-15/330-D5	± 15V	330 mA	5 VDC ± 10%	4000 ma/980 ma	50%	.02Ω	CB	MS-7
BPM-15/330-D12	± 15V	330 mA	12 VDC ± 10%	1530 ma/340 ma	55%	.02Ω	CB	MS-7
BPM-15/330-D24	± 15V	330 mA	24 VDC ± 10%	760 ma/175 ma	55%	.02Ω	CB	MS-7
BPM-15/330-D28	± 15V	330 mA	28 VDC ± 10%	650 ma/130 ma	55%	.02Ω	CB	MS-7
BPM-15/330-D48	± 15V	330 mA	48 VDC ± 12.5%	415 ma/120 ma	50%	.02Ω	CB	MS-7
BPM-18/280-D5	± 18V	280 mA	5 VDC ± 10%	3600 ma/980 ma	55%	.02Ω	CB	MS-7
BPM-18/280-D12	± 18V	280 mA	12 VDC ± 10%	1530 ma/340 ma	55%	.02Ω	CB	MS-7
BPM-18/280-D24	± 18V	280 mA	24 VDC ± 10%	760 ma/175 ma	55%	.02Ω	CB	MS-7
BPM-18/280-D28	± 18V	280 mA	28 VDC ± 10%	650 ma/130 ma	55%	.02Ω	CB	MS-7
BPM-18/280-D48	± 18V	280 mA	48 VDC ± 12.5%	415 ma/120 ma	50%	.02Ω	CB	MS-7

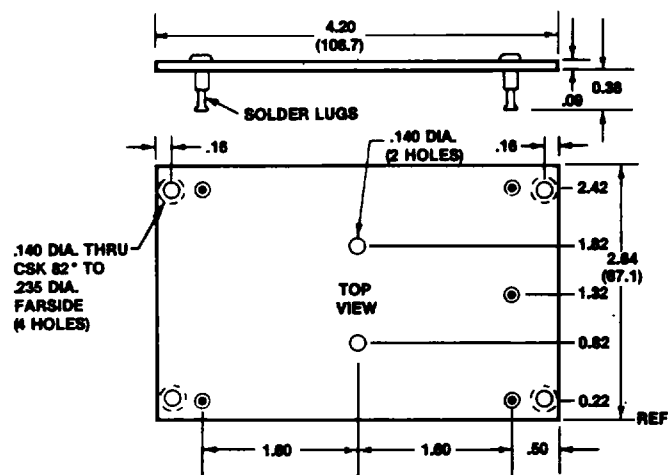
SOCKET AND PIN SPECIFICATIONS

SOCKETS DILS - 1, DILS 2



Model	No. of Contacts	A	B	C	
DILS-1	20	2.090	1.900	.645	WIRE-WRAP
DILS-2	20	2.090	1.900	.145	SOLDER PIN

SOCKET MS-7



DATEL makes no representation that the use of these products in the circuits described herein, or use of other technical information contained herein, will not infringe upon existing or future patent rights nor do the descriptions contained herein imply the granting of licenses to make, use, or sell equipment constructed in accordance therewith. Specifications subject to change without notice.



DATEL, Inc.
INTERNATIONAL:

11 CABOT BOULEVARD, MANSFIELD, MA 02048-1194 TEL. (508) 339-3000 / FAX (508) 339-6356
DATEL (UNITED KINGDOM) Basingstoke Tel. (256) 880-444 • DATEL (FRANCE) Tel. (1) 3460.0101
DATEL (GERMANY) Tel. (89) 54 4334-0 • DATEL (JAPAN) Tokyo Tel. (3) 3779-1031 • Osaka Tel. (6) 354-2025

For Applications Assistance, dial 1-800-233-2765, 8:30 a.m. to 4:30 p.m. EST

Printed in U.S.A. © Copyright 1993 DATEL, Inc. All Rights Reserved

1983