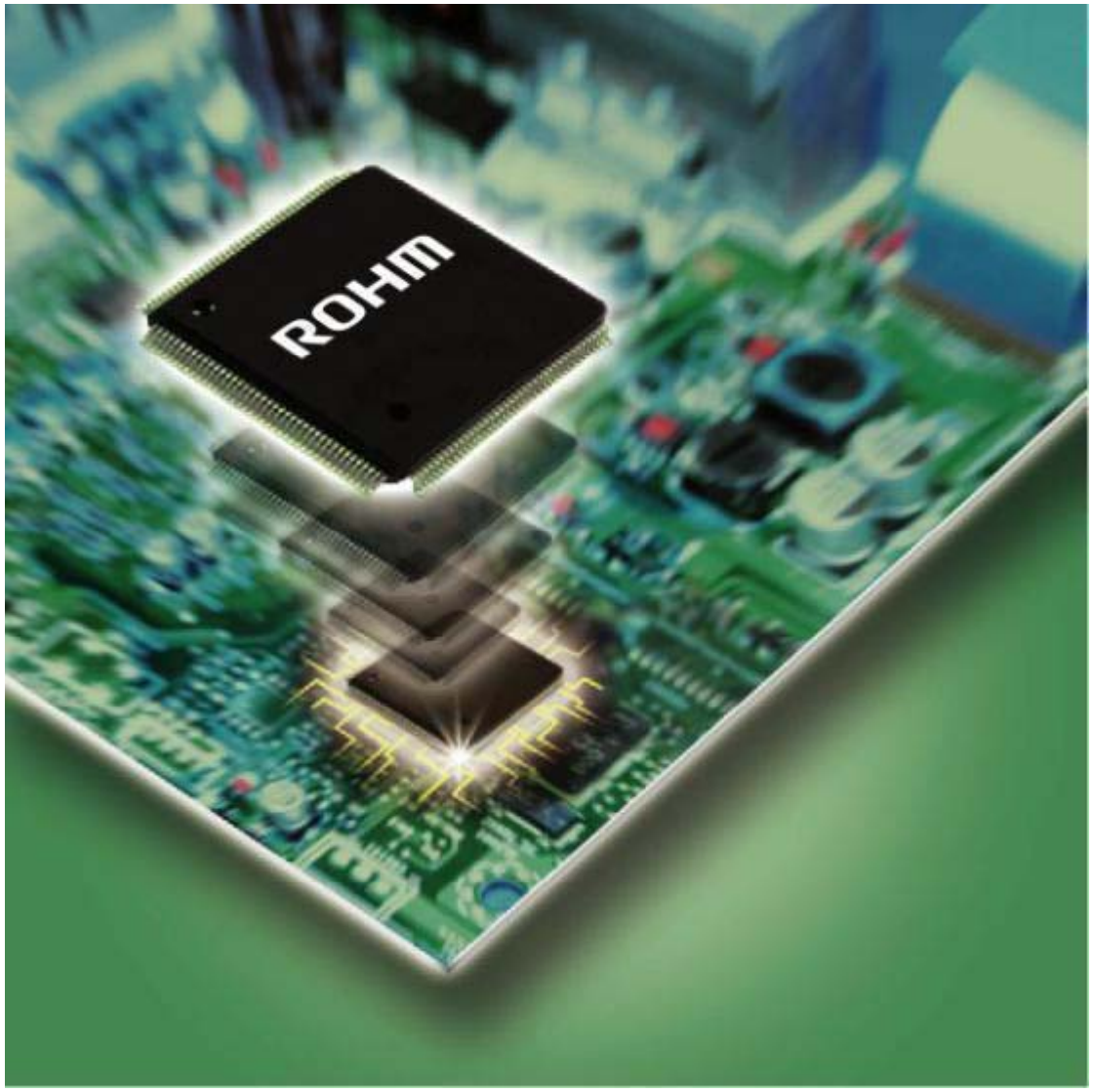


ROHM
SEMICONDUCTOR

Innovations Embedded

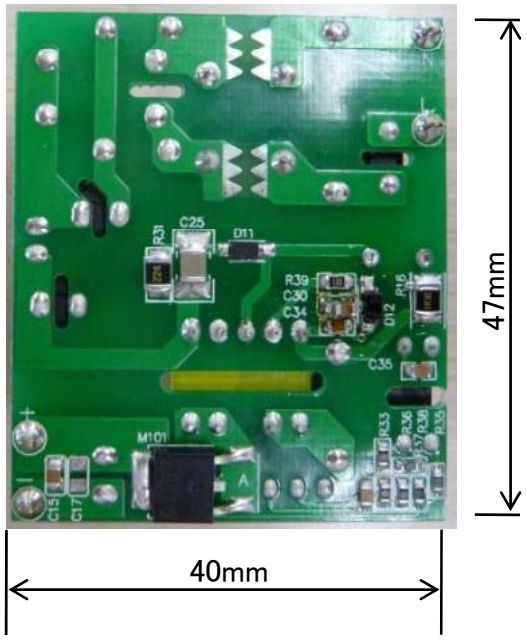
Board No:BM2P094FEVK-001

Confidential © 2013 ROHM Co.,Ltd. All Rights Reserved

ROHM Co.,Ltd.

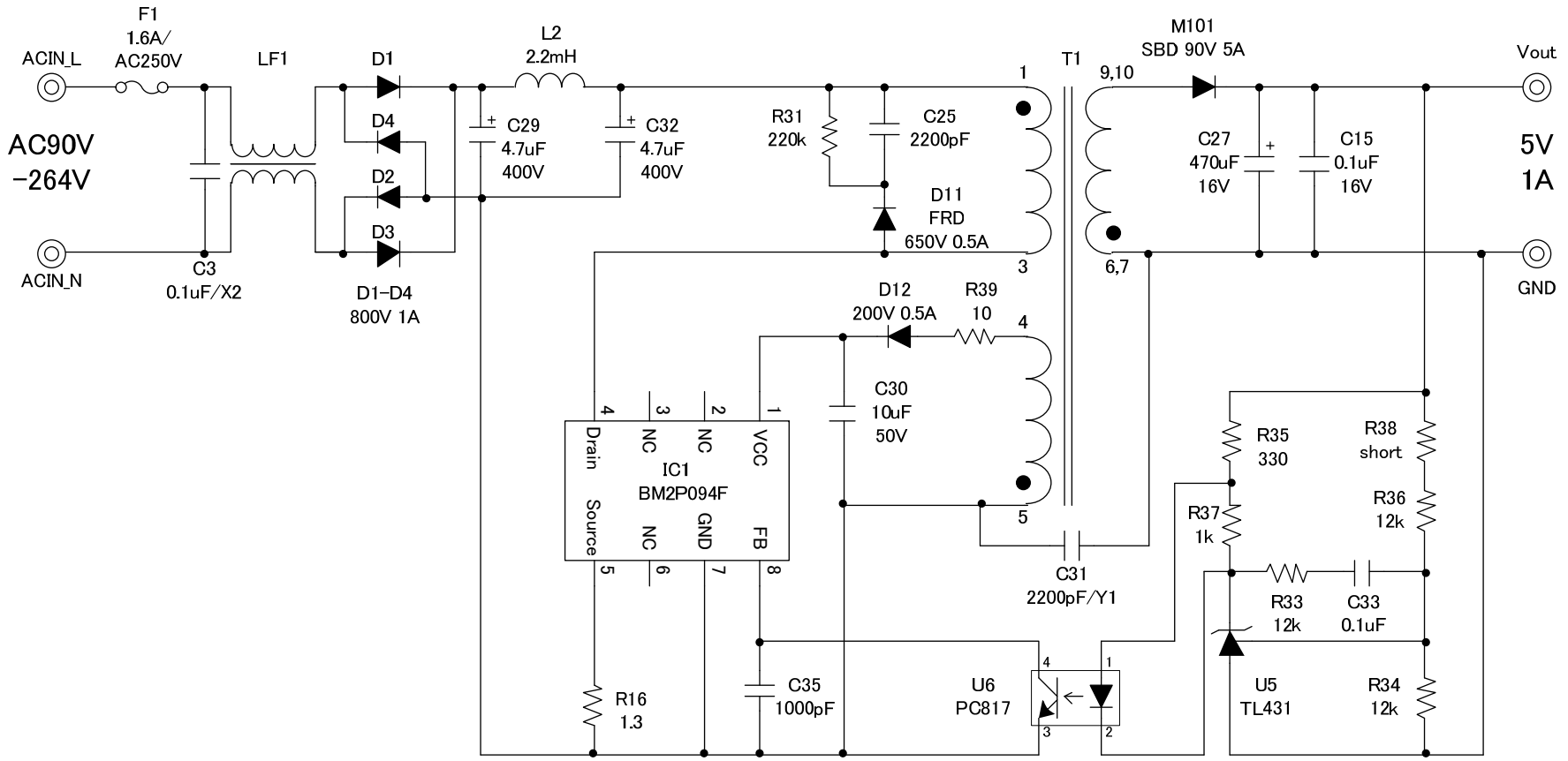
Reference Board Specification

Description		Symbol	Min	Typ	Max	Unit	Condition
Input	Voltage	Vin	90		264	Vac	
	Frequency	fac	47	50/60	63	Hz	
	No Load Input Power				50	mW	Vin：AC100V/230V
Output	Voltage	Vout	4.75	5	5.25	V	
	Current	Iout	1			A	
	Ripple Voltage	Vripple			100	mV	20MHz Bandwidth
	Efficiency		70			%	Output：5V 1A



Confidential © 2013 ROHM Co.,Ltd. All Rights Reserved

Application Schematic



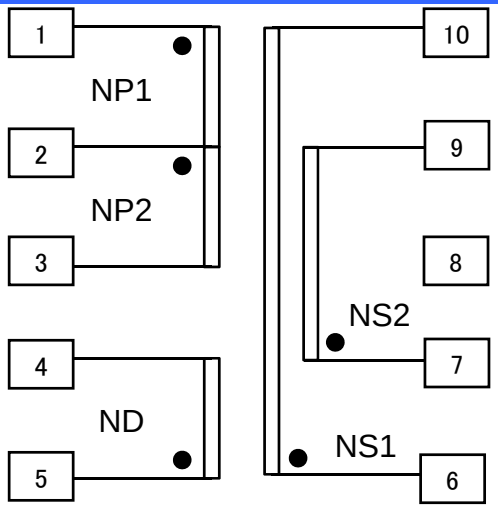
© 2013 ROHM Co.,Ltd. All Rights Reserved

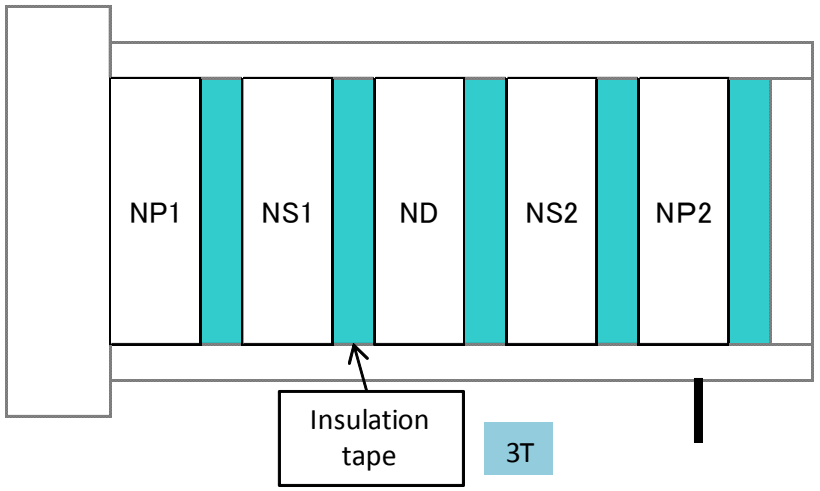
Component List

Item	Spec	Parts name	Maker
C3	0.1uF/X2	0.1uF/X2	
C15	0.1uF/25V	0.1uF/50V 1608	
C25	2200pF/500V	2200pF/1kV 3225	
C27	Low-Z 470uF/16V	Low-Z 470uF/16V	
C29	4.7uF/400V	4.7uF/400V	
C30	10uF/50V	4.7uF/50V 2012 X2	
C31	2200pF/Y1	2200pF/Y1	
C32	4.7uF/400V	4.7uF/400V	
C33	0.1uF/25V	0.1uF/50V 1608	
C35	1000pF/16V	1000pF/50V 1608	
D1	800V/1A	1N4007	
D2	800V/1A	1N4007	
D3	800V/1A	1N4007	
D4	800V/1A	1N4007	
D11	FRD 650V 0.5A	FRD 800V 1A	
D12	200V 0.5A	RR264M-400	Rohm
F1		1.6A/AC250V	
IC1		BM2P094F	Rohm
L2	2.2mH	2.2mH	
LF1		SU9VF-02100	NEC Tokin
M101	SBD 90V 5A	RB095B-90	Rohm
R16	1.3Ω/0.5W	MCR25JZHF1R30	Rohm
R31	220kΩ/0.25W	MCR25JZHJ224	Rohm
R33	12kΩ	MCR03ERTF1202	Rohm
R34	12kΩ	MCR03ERTF1202	Rohm
R35	330Ω	MCR03ERTJ331	Rohm
R36	12kΩ	MCR03ERTF1202	Rohm
R37	1kΩ	MCR03ERTJ102	Rohm
R38	0Ω	MCR03ERTJ000	Rohm
R39	10Ω	MCR10ERTJ100	Rohm
T1	EE13	YPP1181	Tomita
U5		TL431	
U6		PC817	

Confidential © 2013 ROHM Co.,Ltd. All Rights Reserved
ROHM Co.,Ltd.

Transformer:YPP1181 （EE13）





Core： Tomita 2G8-EE13x12x6.3 or compatible
Bobbin： Tomita TBB347 Vertical/Terminal Pins 5-5(10pins) or compatible
AL-Value： 79.1 nH/N^2
Inductance(1-3pin)： 1.336 mH±15%

Coil	Terminal	Turns	Wire	Winding Method
NP1	‘1-2	65	2UEW 0.2	FIT（密）
NS1	‘6-10	11	TEX-E 0.4	1 Layer FIT（密）
ND	‘5-4	31	2UEW 0.2	1 Layer FIT（密）
NS2	‘7-9	11	TEX-E 0.4	1 Layer FIT（密）
NP2	‘2-3	65	2UEW 0.2	FIT（密）

耐圧 P-S :AC3.0KVrms 1MIN. 2mA or AC3.6kVrms 1s 2mA
PS-CORE:AC1.5KVrms 1MIN. 2mA or AC1.8kVrms 1s 2mA
IR : P-S,PS-CORE 100 MΩ MIN. at DC 500V

Winding beginning：Fix by barrier tape
Winding end：Interpose the line drawn in a right angle
Winding direction：Unification

Transformer Specification

Measurement Data

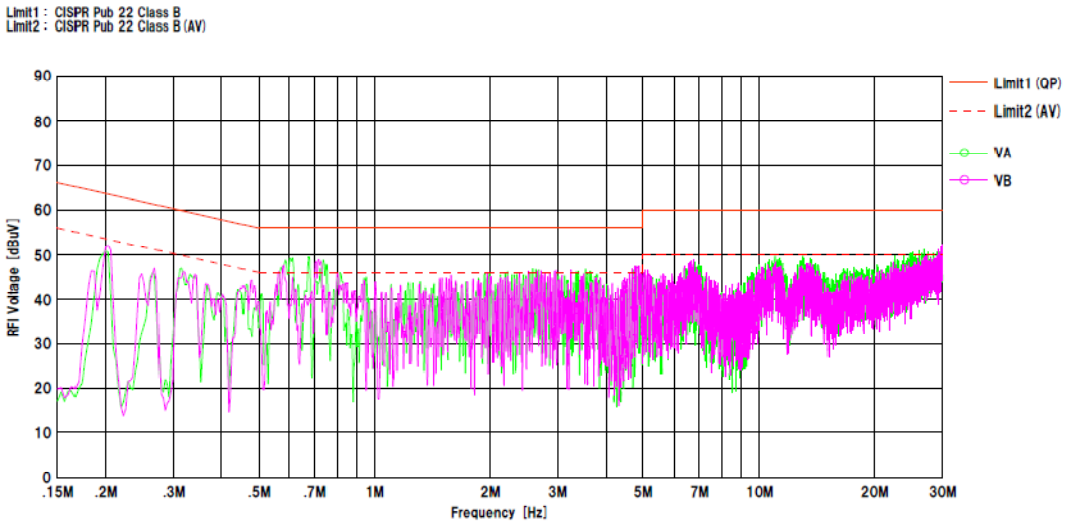
Board No:BM2P094FEVK-001

Vin(V)	Pin(W)	Vout(V)	Iout(A)	Pout(W)	η(%)
90	0.034	5.007	0	0	–
	0.105	5.007	0.01	0.050	47.5
	1.611	5.003	0.25	1.251	77.6
	3.222	5.000	0.5	2.500	77.6
	4.956	4.998	0.75	3.748	75.6
	6.751	4.996	1	4.996	74.0
100	0.034	5.007	0	0	–
	0.105	5.007	0.01	0.050	47.7
	1.609	5.002	0.25	1.251	77.7
	3.204	4.999	0.5	2.500	78.0
	4.894	4.997	0.75	3.747	76.6
	6.617	4.995	1	4.995	75.5
230	0.033	5.007	0	0	–
	0.105	5.007	0.01	0.050	47.6
	1.655	5.002	0.25	1.250	75.6
	3.229	4.996	0.5	2.498	77.4
	4.821	4.990	0.75	3.742	77.6
	6.460	4.985	1	4.985	77.2
264	0.032	5.007	0	0	–
	0.102	5.007	0.01	0.050	49.0
	1.668	5.002	0.25	1.250	75.0
	3.288	4.995	0.5	2.498	76.0
	4.894	4.989	0.75	3.742	76.5
	6.516	4.983	1	4.983	76.5

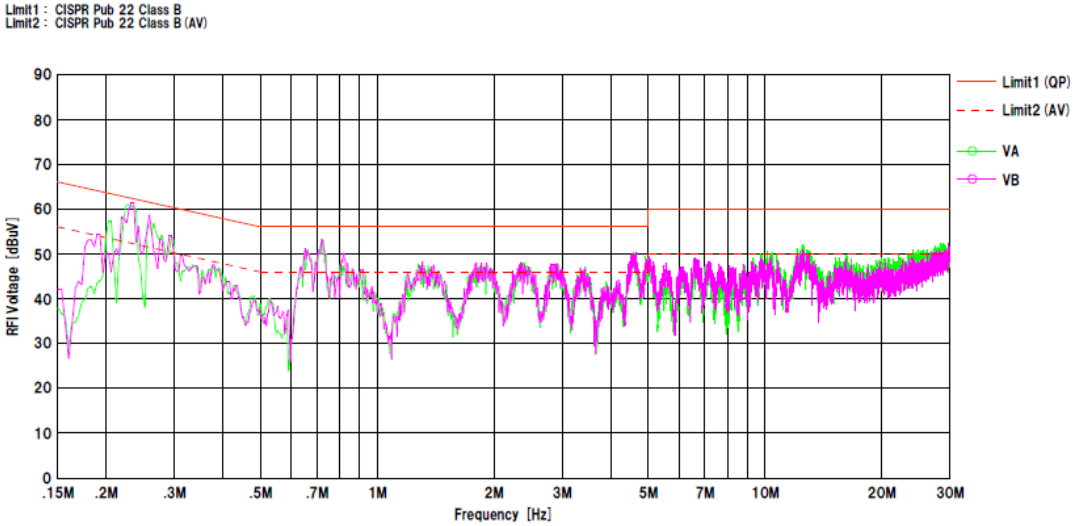
© 2013 ROHM Co.,Ltd. All Rights Reserved

Conduction EMI

Vin：AC100V/50Hz
Vout：5V 1A



Vin：AC230V/50Hz
Vout：5V 1A



Confidential © 2013 ROHM Co.,Ltd. All Rights Reserved
ROHM Co.,Ltd.

4) Examples of application circuits, circuit constants and any other information contained herein are provided only to illustrate the standard usage and operations of the Products. The peripheral conditions must be taken into account when designing circuits for mass production.

5) The technical information specified herein is intended only to show the typical functions of and examples of application circuits for the Products. ROHM does not grant you, explicitly or implicitly, any license to use or exercise intellectual property or other rights held by ROHM or any other parties. ROHM shall have no responsibility whatsoever for any dispute arising out of the use of such technical information.

6) The Products are intended for use in general electronic equipment (i.e. AV/OA devices, communication, consumer systems, gaming/entertainment sets) as well as the applications indicated in this document.

7) The Products specified in this document are not designed to be radiation tolerant.

8) For use of our Products in applications requiring a high degree of reliability (as exemplified below), please contact and consult with a ROHM representative : transportation equipment (i.e. cars, ships, trains), primary communication equipment, traffic lights, fire/crime prevention, safety equipment, medical systems, servers, solar cells, and power transmission systems.

9) Do not use our Products in applications requiring extremely high reliability, such as aerospace equipment, nuclear power control systems, and submarine repeaters.

10) ROHM shall have no responsibility for any damages or injury arising from non-compliance with the recommended usage conditions and specifications contained herein.

11) ROHM has used reasonable care to ensur the accuracy of the information contained in this document. However, ROHM does not warrants that such information is error-free, and ROHM shall have no responsibility for any damages arising from any inaccuracy or misprint of such information.

12) Please use the Products in accordance with any applicable environmental laws and regulations, such as the RoHS Directive. For more details, including RoHS compatibility, please contact a ROHM sales office. ROHM shall have no responsibility for any damages or losses resulting non-compliance with any applicable laws or regulations.

13) When providing our Products and technologies contained in this document to other countries, you must abide by the procedures and provisions stipulated in all applicable export laws and regulations, including without limitation the US Export Administration Regulations and the Foreign Exchange and Foreign Trade Act.

14) This document, in part or in whole, may not be reprinted or reproduced without prior consent of ROHM.

ROHM SEMICONDUCTOR

Thank you for your accessing to ROHM product informations.
More detail product informations and catalogs are available, please contact us.

ROHM Customer Support System

http://www.rohm.com/contact/

© 2013 ROHM Co., Ltd. All rights reserved.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Power Management IC Development Tools ***category:***

Click to view products by ROHM ***manufacturer:***

Other Similar products are found below :

EVAL6482H-DISC EVAL-AD5522EBUZ EVAL-ADM1060EBZ EVAL-ADM1073MEBZ EVAL-ADM1166TQEBZ EVAL-ADM1168LQEBZ EVAL-ADM1171EBZ EVAL-ADM1276EBZ EVB-EN5319QI EVB-EN5365QI EVB-EN6347QI EVB-EP5348UI MIC23158YML EV MIC23451-AAAYFL EV MIC5281YMME EV 124352-HMC860LP3E ADM00513 ADM8611-EVALZ ADM8612-EVALZ ADM8613-EVALZ ADM8615-EVALZ ADP1046ADC1-EVALZ ADP1055-EVALZ ADP122-3.3-EVALZ ADP130-0.8-EVALZ ADP130-1.2-EVALZ ADP130-1.5-EVALZ ADP130-1.8-EVALZ ADP160UJZ-REDYKIT ADP166UJ-EVALZ ADP1712-3.3-EVALZ ADP1714-3.3-EVALZ ADP1715-3.3-EVALZ ADP1716-2.5-EVALZ ADP1740-1.5-EVALZ ADP1752-1.5-EVALZ ADP1754-1.5-EVALZ ADP1828LC-EVALZ ADP1870-0.3-EVALZ ADP1871-0.6-EVALZ ADP1873-0.6-EVALZ ADP1874-0.3-EVALZ ADP1876-EVALZ ADP1879-1.0-EVALZ ADP1882-1.0-EVALZ ADP1883-0.6-EVALZ ADP197CB-EVALZ ADP199CB-EVALZ ADP2102-1.25-EVALZ ADP2102-1.2-EVALZ