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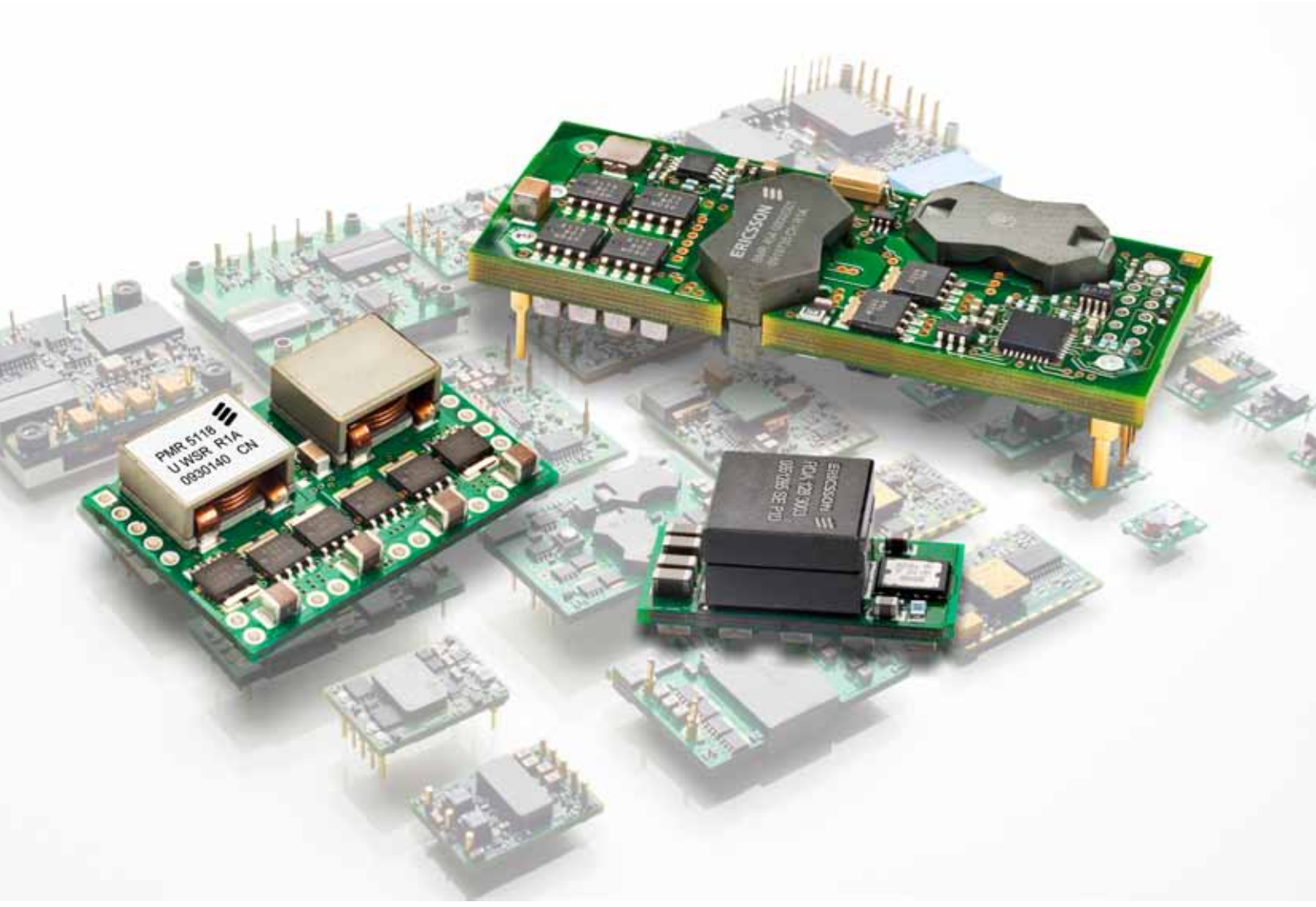
ERICSSON POWER MODULES

SELECTION GUIDE TO DC/DC CONVERTERS
AND POINT OF LOAD REGULATORS

October 2009



ERICSSON

Company information

Ericsson Power Modules, part of the Ericsson group, with headquarters in Stockholm, Sweden, is a company with global operations in board mounted power products for distributed power architectures. The company designs, manufactures and markets products with focus on the communications industry for advanced applications such as radio base stations and switches/routers. However, the products are not used exclusively in information and communication technology equipment. The levels of technology, ruggedness and reliability of Ericsson Power Modules products means that they often provide excellent solutions for other demanding applications in medical, avionics, computing, military, space and industrial market sectors.

The product offering includes:

- **DC/DC converters**
- **POL regulators**

Manufacturing is carried out at facilities in Shanghai, China. The company's design centers are in Stockholm and Kalmar, Sweden and Shanghai, China. Sales activities are spread throughout the world. Ericsson Power Modules is an ISO 9001/14001 certified supplier.

Design for Environment

The environmental impact of energy-using products takes various forms, such as energy consumption and related negative contributions to climate change, consumption of materials and natural resources, waste generation and release of hazardous substances. Design for environment (DfE) or Eco-design – the integration of environmental considerations at the design phase – is arguably the best way to improve the environmental performance of products. European Directive 2005/32/EC on the eco-design of energy-using products (EuP) provides guidelines for environmental thinking. The directive defines conditions and criteria for setting requirements regarding environmentally relevant product characteristics such as energy consumption. There are similar initiatives and programs in operation in other markets. The US Environmental Protection Agency introduced Energy Star as a voluntary program to promote energy-efficient products. Ericsson Power Modules DfE policy includes material selection and use; manufacturing; packaging and distribution; end-user assembly; and product use and final disposal. It is an important and long-lasting contribution to sustainable development.

Since year 2000 Ericsson Power Modules' has applied a design for environment (DfE) policy in all product development projects, including removal of hazardous substances according to the RoHS directive and a continuous development of designs and solutions for lower power consumption and lowest possible total cost of ownership for the end-user.

Efficiency and energy consumption are two of the most important environmental factors in the end-user equipment. In recent years the industry has learned that energy consumption in the operation of information and communication technology equipment is the most critical factor relating to environmental impact and total cost of ownership. Ericsson Power Modules' DfE policy drives the design and development of high efficient board mounted power products that will decrease the energy consumption of the end-user equipment resulting in lower environmental impact and life cycle cost. This does not only affect the energy bill but also the design, dimensioning and cost of other parts of the complete installation, such as cooling fans and air conditioning, heat sinks, real estate requirements, power supplies and battery back-up capacity, etc.

Equally important is the restriction of hazardous substances, withspecial focus on lead-free components, lead-free manufacturing processes, halogen-free printed circuit boards and components and products that meet the requirements in customers lead-free manufacturing processes. Products and processes also comply with Ericsson lists of banned and restricted substances, which include the six restricted substances in the RoHS directive but also an extensive list of other substances that are either banned, restricted or under observation due to environmental regulations or concerns.

The RoHS directive requires that, from July 1st 2006, new electrical and electronic equipment (EEE) put on the market does not contain more than the permitted levels of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE). The directive apply to the final end-user products e.g. IT and telecommunications equipment, that fall within the scope of the directive. Board mounted power products meet the requirements if the concentration values of hazardous substances do not exceed 0.1% by weight in homogeneous materials for lead, mercury, hexavalent chromium, PBB and PBDE and 0.01% by weight in homogeneous materials for cadmium.

Ericsson Power Modules' products are compatible with the relevant clauses and requirements in the RoHS directive. Products intended for reflow soldering processes comply with IPC/JEDEC J-STD-020C Moisture/Reflow sensitivity classification for surface mount devices and products intended for wave soldering or manual soldering processes comply with IEC60068-2-20 Tb 1A Resistance to soldering heat (test conditions are equivalent to JEDEC JESD22-B106-B). Solder joint reliability is tested according to IEC60068-2-14 NA Change of temperature (test conditions equal to JEDEC JESD22 Method A104 A or IPC-9701). Lead-free products are intended for soldering processes based on Sn/Ag/Cu solder alloy, but are backward compatible with Pb-containing soldering processes. Soldering information for individual products is specified in the Technical Specification or Data sheet.

General Product Information

Ericsson Power Modules' products cover a power range up to 700 W. The input voltage ranges cover 3.3 V - 5 V and 12 V for Intermediate Bus Architectures, and 18 - 36 V, 36 - 75 V or 18 - 75 V for Direct Converters and Intermediate Bus Converters in DC power systems. Output voltage range is from 0.5 - 30 V.

High outgoing quality and excellent reliability is achieved by using high quality components, robust designs and automated manufacturing and screening processes. The designs are based on cost-efficient topologies and optimized circuit solutions utilizing synchronous rectification, efficient packaging with low conduction losses to achieve market leading efficiency. A wide temperature range is achieved by efficient thermal management for full operation in both controlled and non-controlled environmental conditions (T_A= -45 to +85 °C).

EMI is specified in accordance to CISPR22/EN55022 standards and all products are UL 60 950 recognized and certified in accordance with EN 60 950, Safety of Information Technology Equipment. The flammability rating for all construction parts of the products meets UL 94V-0.

HOW TO READ THE PRODUCT TABLES

PKM-N series IBC

Power Range: up to 480 W (Not Regulated)
Size: (L x W x H)
57.9 x 36.8 x 10.6-11.7 mm
2.28 x 1.45 x 0.42-0.46 inch
Through-hole

Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
PKM 4202NG PI	36–55	9.6	27	282	96
PKM 4402NG PI	36–55	9.6	63	480	97.5
PKM 4303NF PI	42–53	12	25	316	96

Part No. is the standard product ordering number. There are many options available including baseplate, surface mount and various packaging, Refer to the Technical Specification of product for more information.

Vin (V) is the operating input voltage range of the product.

Vout (V) lists the nominal output voltage setting of the product. The output voltage is normally adjustable above and below the nominal value. Intermediate Bus Converters for fixed ratio the output voltage will be proportional to the input voltage.

Iout (A) lists maximum output current of each output. The actual output current may be limited by max power. For example, a dual output product can not run both outputs at max current due to total output power constraints.

Pout (W) is the total maximum output power available.

η (%). Efficiency is the typical value at nominal input voltage and half load.

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DIL 24

PKV series

Power Range: 1.65–3 W
Size: (L x W x H)
31.8 x 20.3 x 10.7 mm
1.25 x 0.80 x 0.42 in
Through-hole

Part No.	Vin (V)	Vout1 (V)	Iout1 (A)	Vout2 (V)	Iout2 (A)	Pout (W)	η (%)
PKV 3110	9–36	3.3	0.5			1.65	73
PKV 3211	9–36	5.0	0.5			2.5	82
PKV 3313	9–36	12	0.25			3	82
PKV 3315	9–36	15	0.2			3	82
PKV 3222	9–36	+5.0	0.25	–5.0	0.25	2.5	82
PKV 3321	9–36	+12	0.125	–12	0.125	3	82
PKV 3325	9–36	+15	0.1	–15	0.1	3	80
PKV 5110	18–72	3.3	0.5			1.65	73
PKV 5211	18–72	5.0	0.5			2.5	82
PKV 5313	18–72	12	0.25			3	82
PKV 5315	18–72	15	0.2			3	82
PKV 5222	18–72	+5.0	0.25	–5.0	0.25	2.5	82
PKV 5321	18–72	+12	0.125	–12	0.125	3	82
PKV 5325	18–72	+15	0.1	–15	0.1	3	82

MacroDens

PKR series

Power Range: 3–15 W
Size: (L x W x H)
47.8 x 28.1 x 8.0 mm
1.88 x 1.11 x 0.32 in
Through-hole and Surface mount

Part No.	Vin (V)	Vout1 (V)	Iout1 (A)	Vout2 (V)	Iout2 (A)	Pout (W)	η (%)
PKR 2610A	18–36	3.3	2			6.6	82.0
PKR 2111A	18–36	5.0	2			10	85.0
PKR 2113A	18–36	12	1			12	87.5
PKR 2221A	18–36	+12	0.62	–12	0.62	15	86.6
PKR 5510	18–75	3.3	1.5			5	79.0
PKR 5611	18–75	5.0	1.2			6	83.0
PKR 5113	18–75	12	0.92			11	86.0
PKR 4918B	36–75	1.8	5			9	83.0
PKR 4919B	36–75	2.5	4.4			11	85.0
PKR 4510	36–75	3.3	1.5			5	80.4
PKR 4910A	36–75	3.3	3			9.9	80.0
PKR 4110B	36–75	3.3	4.5			15	85.0
PKR 4611	36–75	5.0	1.2			6	83.0
PKR 4211A	36–75	5.0	3			15	83.5
PKR 4117A	36–75	7.0	2.2			15	83.0
PKR 4713	36–75	12	0.6			7	86.0
PKR 4928A	36–75	+3.3	2.1	+5.0	0.5	9.4	81.9
PKR 4128B	36–75	+3.3	1.5	+5.0	1.4	12	90.8
PKR 4628	36–75	+5.0	0.6	+3.3	0.9	6	82
PKR 4622	36–75	+5.0	0.6	–5.0	0.6	6	84
PKR 4621	36–75	+12	0.25	–12	0.25	6	86
PKR 4221A	36–75	+12	0.62	–12	0.62	15	86.5

Application Specific Products

Part No.	Vin (V)	Vout1 (V)	Iout1 (A)	Vout2 (V)	Iout2 (A)	Vout3	Iout3	Pout (W)	η (%)
BMR 640 5001/1	40-72	3.2	2.8	1.8	2.8			15	84
BMR 640 5002/1	44-60	5.5	2.4	3.3	1.0			15	82

2"x2" SMD

PKD-E series

Power Range: 21–50 W
Size: (L x W x H)
50.4 x 46.3 x 7.7 mm
1.98 x 1.82 x 0.303 in
Surface mount

Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
PKD 4218LE	36–75	1.2	20	24	85.0
PKD 4218HE	36–75	1.5	14	21	84.0
PKD 4510E	36–75	3.3	15	50	91.0

Application Specific Products

Part No.	Vin (V)	Vout1 (V)	Iout1 (A)	Vout2 (V)	Iout2 (A)	Vout3	Iout3	Pout (W)	η (%)
BMR 603 1203/1	40-72	78	0.08	-52	0.5	-33	0.8	32	84
BMR 603 1204/1	32-60	3.3-5.8	4	1.5-3.6	4	4-10	1.5	33	87.8

SB – Sixteenth Brick

PKU series

Power Range: 30–50 W
Size: (L x W x H)
33.0 x 22.9 x 9.9 mm
1.3 x 0.9 x 0.39 in
Through-hole and Surface mount

Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
PKU 4318L	36–75	1.2	25	30	83.5
PKU 4318H	36–75	1.5	25	38	86.0
PKU 4418G	36–75	1.8	25	45	86.4
PKU 4319	36–75	2.5	15	38	88.0
PKU 4510	36–75	3.3	15	50	89.7
PKU 4511	36–75	5.0	10	50	89.8
PKU 4513	36–75	12	4.2	50	88.5
PKU 4515	36–75	15	3.3	50	89.5

PKU-B series

Power Range: 100 W
Size: (L x W x H)
33.0 x 22.9 x 8.3 mm
1.3 x 0.9 x 0.327 in
Through-hole and Surface mount

Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
PKU 4101B	36–75	5	20	100	93.4
PKU 4104B	36-75	12	8.3	100	93,3

PKU-E series

Power Range: 35 W
Size: (L x W x H)
33.0 x 22.9 x 7.50 mm
1.3 x 0.9 x 0.295 in
Through-hole and Surface mount

Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
PKU 5310E	18-72	3.3	10	33	89.2
PKU 5311E	18-72	5	7	35	91.0
PKU 5313E	18-72	12	2,5	30	89.2
PKU 5315E	18-72	15	2	30	89.0
PKU 4411E	36-72	5	8	40	90,5
PKU 4315E	36-72	15	2	30	89.0

EB – Eighth Brick

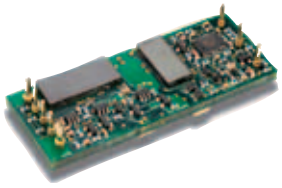
BMR 454

NEW

Power Range: Up to 240 W
Size: (L x W x H)
58.4 x 22.7 x 10.2 mm
2.30 x 0.89 x 0.40 in
Through-hole and Surface mount

Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
BMR 454	36–75	8.1-13.2	20	240	95.5

PKB series



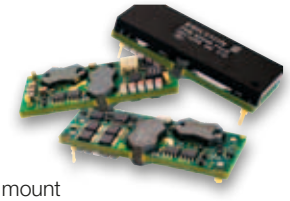
Power Range: 30–90 W
Size: (L x W x H)
58.42 x 22.76 x 8.10 mm
2.3 x 0.896 x 0.319 in
Through-hole and Surface mount

Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
PKB 4318N	36–75	1.0	30	30	85.1
PKB 4318	36–75	1.2	30	36	87.0
PKB 4418	36–75	1.5	30	45	88.5
PKB 4418	36–75	1.8	25	45	90.0
PKB 4619	36–75	2.5	25	62.5	90.0
PKB 4610	36–75	3.3	20	66	91.5
PKB 4810	36–75	3.3	25	82.5	91.5
PKB 4711	36–75	5.0	15	75	90.5
PKB 4717	36–75	7.2	10.5	75	92.0
PKB 4713	36–75	12	6.0	72	90.6
PKB 4913	36–75	12	7.5	90	90.5
PKB 4715	36–75	15	5.0	75	91.0

Application Specific Products

Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
PKB 4513	36–60	12	4.0	50	91.6

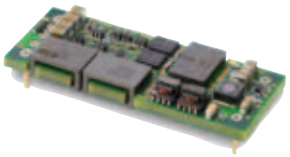
PKB-B series



Power Range: 240 W
Size: (L x W x H)
58.4 x 22.7 x 10.1 mm
2.300 x 0.894 x 0.397 in
Through-hole and Surface mount

Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
PKB 4201B	36-75	5	40	200	94,5
PKB 4204B	36-75	12	20	240	95,5

PKB-C series



Power Range: 144 W
Size: (L x W x H):
58.4 x 22.7 x 8.6 mm
2.3 x 0.89 x 0.34 Inch
Through-hole and Surface

Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
PKB 4718LC	36-75	1.2	60	72	87.5
PKB 4918HC	36-75	1.5	60	90	88.0
PKB 4118GC	36-75	1.8	60	108	89.0
PKB 4110C	36-75	3.3	40	132	91.0
PKB 4111C	36-75	5.0	28	140	92.0
PKB 4113C	36-75	12	12	144	92.5

PKB-NG series

Power Range: 300 W
Size: (L x W x H):
58.4 x 22.7 x 10.7 mm
2.3 x 0.894 x 0.42 In
Through-hole and Surface

Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
PKB 4302NG	38-55	9.6	42	300	96.8

QB – Quarter Brick

BMR 453

Power Range: up to 396 W
Size: (L x W x H)
57.9 x 36.8 x 11.6 mm
2.28 x 1.45 x 0.46 in
Through-hole

Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
BMR 453	36-75	8.1-13.2	33	396	96.5

PKM series

Power Range: 30–126 W
Size: (L x W x H)
57.9 x 36.8 x 12.7 mm
2.28 x 1.45 x 0.5 in
Through-hole

Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
PKM 4318OA	36–75	1.5	20	30	85.6*
PKM 4418A	36–75	1.5	30	45	89.6*
PKM 4318	36–75	1.8	20	36	87.3*
PKM 4518A	36–75	1.8	30	54	88.9*
PKM 4618A	36–75	1.8	35	63	90.1*
PKM 4519	36–75	2.5	20	50	89.3*
PKM 4719A	36–75	2.5	30	75	90.3*
PKM 4510	36–75	3.3	15	50	90.8*
PKM 4610	36–75	3.3	20	66	90.8*
PKM 4810A	36–75	3.3	25	82.5	91.8*
PKM 4711	36–75	5.0	15	75	91.8*
PKM 4111	36–75	5.0	20	100	92.1*
PKM 4113	36–75	12	10.5	126	93.2*

PKM-B series

Power Range: up to 380 W (Line Regulated)
Size: (L x W x H)
57.9 x 36.8 x 11.6-12.7 mm
2.28 x 1.45 x 0.46-0.5 in
Through-hole

Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
PKM 4204B	36-75	12	25	300	96.4
PKM 4304B	36-75	12	33	380	96.4

PKM-C series

Power Range: 96–204 W
Size: (L x W x H)
57.9 x 36.8 x 9.1-12.7 mm
2.28 x 1.45 x 0.35-0.5 in
Through-hole

Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
PKM 4918LC	36-75	1.2	80	96	88.0*
PKM 4118LC	36-75	1.2	100	120	90.0
PKM 4118HC	36-75	1.5	80	120	89.0*
PKM 4218HC	36-75	1.5	100	150	91.0
PKM 4118GC	36-75	1.8	71	128	90.5*
PKM 4218GC	36-75	1.8	100	180	91.5
PKM 4119C	36-75	2.5	55	137.5	91.7
PKM 4110C	36-75	3.3	50	165	92.3
PKM 4211C	36-75	5.0	40	200	93.0
PKM 4213C	36-75	12	17	204	94.4

PKM-D series

Power Range: 48–132 W
Size: (L x W x H)
57.9 x 36.8 x 9.1-12.7 mm
2.28 x 1.45 x 0.35-0.5 in
Through-hole

Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
PKM 2113D	18-36	12	10	120	91.8
PKM 4418LD	36–75	1.2	40	48	87.5
PKM 4618HD	36–75	1.5	40	60	88.5
PKM 4718GD	36–75	1.8	40	72	89.5
PKM 4119D	36–75	2.5	40	100	90.0
PKM 4110D	36–75	3.3	35	115	91.0
PKM 4111D	36–75	5.0	25	125	92.0
PKM 4117VD	36-75	6.0	20	120	91.5
PKM 4116D	36–75	7.2	15	108	92.9
PKM 4113D	36–75	12	11	132	93.8

* Not recommended for new designs

PKM-E series

Power Range: 24–82.5 W
Size: (L x W x H)
57.9 x 36.8 x 8.5-12.7 mm
2.28 x 1.45 x 0.33-0.5 in
Through-hole

Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
PKM 2510E	18–36	3.3	15	50	89.0
PKM 2511E	18–36	5.0	10	50	86.5
PKM 2513E	18–36	12	4.2	50	87.0
PKM 2515E	18–36	15	3.3	50	88.0
PKM 4218LE	36–75	1.2	20	24	84.0
PKM 4318HE	36–75	1.5	20	30	86.0
PKM 4318GE	36–75	1.8	20	36	86.5
PKM 4319E	36–75	2.5	15	37.5	90.0
PKM 4619E	36–75	2.5	25	62.5	90.0
PKM 4510E	36–75	3.3	15	50	90.0
PKM 4810E	36–75	3.3	25	82.5	92.0
PKM 4511E	36–75	5.0	10	50	90.0
PKM 4711E	36–75	5.0	15	75	91.0
PKM 4513E	36–75	12	4.2	50	87.0
PKM 4515E	36–75	15	3.3	50	86.0
PKM 4516ZE	36–75	24	2.1	50	87.0

PKM-N series IBC

Power Range: up to 480 W (Not Regulated)
Size: (L x W x H)
57.9 x 36.8 x 10.6-11.7 mm
2.28 x 1.45 x 0.42-0.46 in
Through-hole

Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
PKM 4202NG	36–55	9.6	27	282	96*
PKM 4402NG	36–55	9.6	63	480	97.5
PKM 4402NG	38–55	9.6	63	480	97
PKM 4303NF	42–53	12	25	316	96*

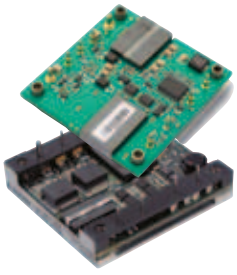
BMR 653 - Stacked

Power Range: 675 W
Size: (L x W x H)
57.9 x 36.8 x 22.8 mm
2.28 x 1.45 x 0.9 in
Through-hole

Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
BMR 653 31/1	36-75	12	60	675	96.4

HB – Half Brick
PKJ series

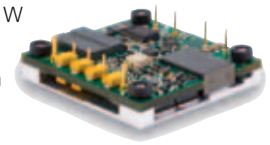
Power Range: 50–385 W
Size: (L x W x H)
61.0 x 57.9 x 12.7 mm
2.4 x 2.28 x 0.5 in
Through-hole



Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
PKJ 2316U	20–36	27	14.3	385	91.2
PKJ 4111A	36–75	5.0	30	150	93.0*
PKJ 4113A	36–75	12	12.5	150	92.0*
PKJ 4216	35-75	28	8.3	234	91.5
PKJ 4316	35–75	28	11	310	91.0
PKJ 4316	35–75	28	12.4	350	91.0
PKJ 4216N	35–75	30	8.3	250	91.5

PKJ-B series

Power Range: 72–132 W
Size: (L x W x H)
61.0 x 57.9 x 12.7 mm
2.4 x 2.28 x 0.5 in
Through-hole



Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
PKJ 4718B	36–75	1.8	40	72	89.0*
PKJ 4119B	36–75	2.5	40	100	90.0*
PKJ 4110B	36–75	3.3	40	132	92.0*

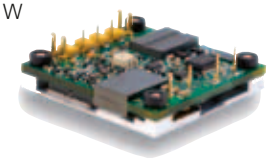
PKJ-E series

Power Range: 60–100 W
Size: (L x W x H)
61.0 x 57.9 x 8.5 mm
2.4 x 2.28 x 0.33 in
Through-hole

Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
PKJ 4618GE	36–75	1.8	36	65	90.5
PKJ 4719E	36–75	2.5	30	75	90.5
PKJ 4810E	36–75	3.3	25	82.5	93.0
PKJ 4110E	36–75	3.3	30	100	92.0
PKJ 4111E	36–75	5.0	20	100	92.5
PKJ 4113E	36–75	12	8.3	100	92.5

SHB – Semi Half Brick
PKL series

Power Range: 108–300 W
Size: (L x W x H)
61.5 x 61.0 x 12.7 mm
2.42 x 2.4 x 0.5 in
Through-hole



Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
PKL 4118	36–75	1.8	60	108	90.0*
PKL 4118A	36–75	1.8	100	180	88.0*
PKL 4110	36–75	3.3	50	165	91.0*
PKL 4110A	36–75	3.3	60	198	92.0*
PKL 4311	36–75	5.0	60	300	88.0*

FB – Full Brick
PKY series

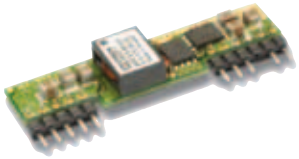
Power Range: up to 700 W
Size: (L x W x H)
116.8 x 61.0 x 12.7 mm
4.6 x 2.4 x 0.5 in
Through-hole

Part No.	Vin (V)	Vout (V)	Iout (A)	Pout (W)	η (%)
PKY 2616	18–36	28	21.5	600	95.0
PKY 4616	36–75	28	21.5	600	95.0
PKY 4716	36–75	28	25	700	94.5

* Not recommended for new designs

DOSA compatible

PMB series



Max Current: 10/16 A
Size: (L x W x H)
51.9 x 9 x 13.2 mm
2.01 x 0.35 x 0.52 in
Through-hole

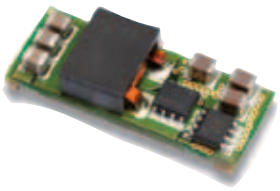
Part No.	Vin (V)	Vout (min)	Vout (max)	Iout (A)	Pout (W)	η (%)
PMB 4418T	3–5.5	0.75	3.63	10	36	95.5
PMB 4518T	3–5.5	0.75	3.63	16	58	95.4
PMB 8518T	8.3–16	0.75	5.50	10	50	92.3
PMB 8818T	8.3–16	0.75	5.50	16	80	92.8

PME/PME-F series

Max Current: 6 A
Size: (L x W x H)
22.1 x 12.57 x 8.51 mm
0.87 x 0.495 x 0.335 in
Through-hole and Surface mount

Part No.	Vin (V)	Vout (min)	Vout (max)	Iout (A)	Pout (W)	η (%)
PME 4118T	2.95–3.65	0.8	2.5	6	15	94.7
PME 5218T	4.5–5.5	0.8	3.6	6	22	94.8
PME 8318L	10.8–13.2	1.2	5.5	6	33	89.2
PME 8118T	10.8–13.2	0.8	1.8	6	10.8	87.3
PME 4118V	2.95–3.65	0.55	1.8	6	10.8	88.9*
PME 5118V	4.5–5.5	0.55	1.8	6	10.8	87.2*
PME 8118V	10.8–13.2	0.55	1.8	6	10.8	84.0*

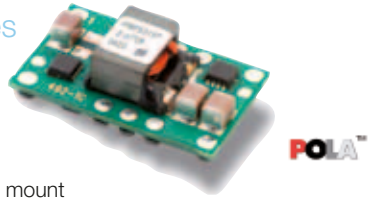
PMC series



Max Current: 10/16 A
Size: (L x W x H)
33 x 13.5 x 8.3 mm
1.3 x 0.53 x 0.323 in
Surface mount

Part No.	Vin (V)	Vout (min)	Vout (max)	Iout (A)	Pout (W)	η (%)
PMC 4318T	3–5.5	0.75	3.63	10	36	95.7
PMC 4518T	3–5.5	0.75	3.63	16	58	96.0
PMC 8518T	8.3–16	0.75	5.50	10	50	92.3
PMC 8818T	8.3–16	0.75	5.50	16	80	93.2

PMF/PMF-F series



Max Current: 10 A
Size: (L x W x H)
25.27 x 15.75 x 9.0 mm
0.995 x 0.62 x 0.354 in
Through-hole and Surface mount

Part No.	Vin (V)	Vout (min)	Vout (max)	Iout (A)	Pout (W)	η (%)
PMF 4218T	2.95–3.65	0.8	2.5	10	25	94.1
PMF 5318T	4.5–5.5	0.8	3.6	10	36	94.8
PMF 8518L	10.8–13.2	1.2	5.5	10	55	93.1
PMF 8118T	10.8–13.2	0.8	1.8	10	18	89.5
PMF 4118V	2.95–3.65	0.55	1.8	10	18	90.0*
PMF 5118V	4.5–5.5	0.55	1.8	10	18	89.8*
PMF 8118V	10.8–13.2	0.55	1.8	10	18	86.2*

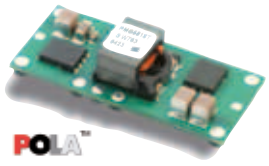
POLA interoperable

PMD series

Max Current: 2.25/3 A
Size: (L x W x H)
18.92 x 12.57 x 8.5 mm
0.745 x 0.495 x 0.335 in
Through-hole and Surface mount

Part No.	Vin (V)	Vout (min)	Vout (max)	Iout (A)	Pout (W)	η (%)
PMD 4118O	3–5.5	0.9	3.6	3	10.8	93.2
PMD 5118O	4.5–14	0.9	5.5	2.25	12.4	91.4

PMG/PMG-F series



Max Current: 12/15 A
Size: (L x W x H)
34.8 x 15.75 x 9.0 mm
1.37 x 0.62 x 0.354 in
Through-hole and Surface mount

Part No.	Vin (V)	Vout (min)	Vout (max)	Iout (A)	Pout (W)	η (%)
PMG 4318T	2.95–3.65	0.8	2.5	15	37.5	94.5
PMG 5518T	4.5–5.5	0.8	3.6	15	54	95.4
PMG 8618L	10.8–13.2	1.2	5.5	12	66	92.5
PMG 8218T	10.8–13.2	0.8	1.8	12	21.6	89.3
PMG 4218V	2.95–3.65	0.55	1.8	15	27	89.2*
PMG 5218V	4.5–5.5	0.55	1.8	15	27	88.7*
PMG 8218V	10.8–13.2	0.55	1.8	12	21.6	86.9*

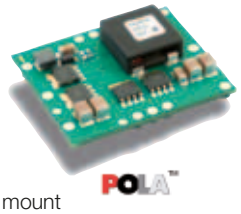
* Not recommended for new designs

PMH series

Max Current: 18/22 A
Size: (L x W x H)
37.97 x 22,1 x 9.0 mm
1.495 x 0.87 x 0.354 in
Through-hole and Surface mount

Part No.	Vin (V)	Vout (min)	Vout (max)	Iout (A)	Pout (W)	η (%)
PMH 4518T	2.95–3.65	0.8	2.5	22	55	93.8
PMH 5718T	4.5–5.5	0.8	3.6	22	79.2	95.6
PMH 8918L	10.8–13.2	1.2	5.5	18	99	92.4
PMH 8318T	10.8–13.2	0.8	1.8	18	32	89.5

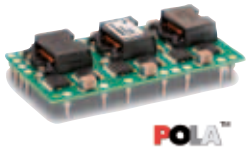
PMJ series



Max Current: 26/30 A
Size: (L x W x H)
34.80 x 28.45 x 9.0 mm
1.37 x 1.12 x 0.354 in
Through-hole and Surface mount

Part No.	Vin (V)	Vout (min)	Vout (max)	Iout (A)	Pout (W)	η (%)
PMJ 4718T	2.95–3.65	0.8	2.5	30	75	94.5
PMJ 5918T	4.5–5.5	0.8	3.6	30	108	95.5
PMJ 8118L	10.8–13.2	1.2	5.5	26	143	92.2
PMJ 8418T	10.8–13.2	0.8	1.8	26	47	88.2

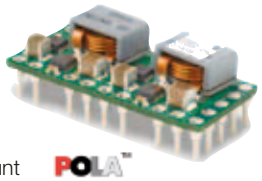
PMM series



Max Current: 50/60 A
Size: (L x W x H)
51.94 x 26.54 x 9.07 mm
2.045 x 1.045 x 0.357 in
Through-hole and Surface mount

Part No.	Vin (V)	Vout (min)	Vout (max)	Iout (A)	Pout (W)	η (%)
PMM 4218T	2.95–5.5	0.8	2.5	60	150	94.0
PMM 8218T	8–14	0.8	5.5	50	275	94.3

PMN series



Max Current: 30 A
Size: (L x W x H)
34.8 x 15.75 x 8.5 mm
1.37 x 0.62 x 0.335 in
Through-hole and Surface mount

Part No.	Vin (V)	Vout (min)	Vout (max)	Iout (A)	Pout (W)	η (%)
PMN 5118U	4.5–5.5	0.7	3.6	30	108	96.0
PMN 8118UW	5.5–14	0.7	3.6	30	108	96.0

PMP series

Max Current: 16 A
Size: (L x W x H)
22.1 x 18.93 x 8.5 mm
0.87 x 0.745 x 0.335 in
Through-hole and Surface mount

Part No.	Vin (V)	Vout (min)	Vout (max)	Iout (A)	Pout (W)	η (%)
PMP 5818UW	4.5–14	0.7	5.5	16	88	96.0

PMR series

NEW

Max Current: 40/50 A
Size: (L x W x H)
38.61 x 25.91 x 10.23 mm
1.52 x 1.02 x 0.403 in
Through-hole and Surface mount

Part No.	Vin (V)	Vout (min)	Vout (max)	Iout (A)	Pout (W)	η (%)
PMR 5118UW	4.5–14	0.7	3.6	50	180	96.0
PMR 8210	8.0–14	3.0	5.25	40	210	96.0

Power Block

NEW

Max Current: 30 A
Size: (L x W x H)
25.4 x 12.7 x 10.9 mm
1.00 x 0.50 x 0.43 In
Surface mount

Part No.	Vin (V)	Vout (min)	Vout (max)	Iout (A)	Pout (W)	η (%)
ROA 128 3003	7.0–13.2	0.8	3.3	30	82.5	94.5

3E – Digital Point of Load

BMR 450

Max Current: 20 A
Size: (L x W x H)
25.65 x 12.9 x 8.2 mm
1.01 x 0.51 x 0.323 in
Through-hole and Surface mount

Part No.	Vin (V)	Vout (min)	Vout (max)	Iout (A)	Pout (W)	η (%)
BMR 450	4.5-14	0.6	5.5	20	100	96.8

BMR 451

Max Current: 40 A
Size: (L x W x H)
30.85 x 20 x 8.2 mm
1.215 x 0.787 x 0.323 in
Through-hole and Surface mount

Part No.	Vin (V)	Vout (min)	Vout (max)	Iout (A)	Pout (W)	η (%)
BMR 451	4.5-14	0.6	3.6	40	132	96.4

48 V IN SINGLE OUTPUT

Vout1	Iout1	Pout	Vin	Product code	Prod. ref	Footprint
1.0	30	30	36-75	PKB 4318N	PKB	EB
1.2	20	24	36-75	PKD 4218LE	PKD-E	2"x2" SMD
	20	24	36-75	PKM 4218LE	PKM-E	QB
	25	30	36-75	PKU 4318L	PKU	SB
	30	36	36-75	PKB 4318	PKB	EB
	40	48	36-75	PKM 4418LD	PKM-D	QB
	60	72	36-75	PKB 4718LC	PKB-C	EB
	80	96	36-75	PKM 4918LC	PKM-C	QB*
	100	120	36-75	PKM 4118LC	PKM-C	QB
1.5	14	21	36-75	PKD 4218HE	PKD-E	2"x2" SMD
	20	30	36-75	PKM 4318OA	PKM	QB*
	20	30	36-75	PKM 4318HE	PKM-E	QB
	25	38	36-75	PKU 4318H	PKU	SB
	30	45	36-75	PKB 4418	PKB	EB
	30	45	36-75	PKM 4418A	PKM	QB*
	40	60	36-75	PKM 4618HD	PKM-D	QB
	60	90	36-75	PKB 4918HC	PKB-C	EB
	80	120	36-75	PKM 4118HC	PKM-C	QB*
	100	150	36-75	PKM4218HC	PKM-C	QB
1.8	5	9	36-75	PKR 4918B	PKR	Macrodens
	20	36	36-75	PKM 4318	PKM	QB
	20	36	36-75	PKM 4318GE	PKM-E	QB
	25	45	36-75	PKB 4418	PKB	EB
	25	45	36-75	PKU 4418G	PKU	SB
	30	54	36-75	PKM 4518A	PKM	QB*
	35	63	36-75	PKM 4618A	PKM	QB*
	36	65	36-75	PKJ 4618GE	PKJ-E	HB
	40	72	36-75	PKJ 4718B	PKJ-B	HB*
	40	100	36-75	PKM 4718GD	PKM-D	QB
	60	108	36-75	PKL 4118	PKL	SHB*
	60	108	36-75	PKB 4118GC	PKB	EB
	71	127.8	36-75	PKM 4118GC	PKM-C	QB*
	100	180	36-75	PKL 4118A	PKL	SHB*
	100	180	36-75	PKM 4218GC	PKM-C	QB
2.5	4.4	11	36-75	PKR 4919B	PKR	MacroDens
	15	37.5	36-75	PKM 4319E	PKM-E	QB
	15	38	36-75	PKU 4319	PKU	SB
	20	50	36-75	PKM 4519	PKM	QB*
	25	62.5	36-75	PKB 4619	PKB	EB
	25	62.5	36-75	PKM 4619E	PKM-E	QB
	30	75	36-75	PKJ 4719E	PKJ-E	HB
	30	75	36-75	PKM 4719A	PKM	QB*
	40	100	36-75	PKJ 4119B	PKJ-B	HB*
	40	100	36-75	PKM 4119D	PKM-D	QB
	55	137.5	36-75	PKM 4119C	PKM-C	QB
3.3	0.5	1.65	18-72	PKV 5110	PKV	DIL 24
	1.5	5	18-75	PKR 5510	PKR	MacroDens
	1.5	5	36-75	PKR 4510	PKR	MacroDens
	3	9.9	36-75	PKR 4910A	PKR	MacroDens
	4.5	15	36-75	PKR 4110B	PKR	MacroDens
	10	33	18-72	PKU 5310E	PKU-E	SB
	15	50	36-75	PKM 4510E	PKD-E	2"x2" SMD
	15	50	36-75	PKM 4510	PKM	QB*
	15	50	36-75	PKM 4510E	PKM-E	QB
	15	50	36-75	PKU 4510	PKU	SB
	20	66	36-75	PKB 4610	PKB	EB
	20	66	36-75	PKM 4610	PKM	QB*
	25	82.5	36-75	PKB 4810	PKB	EB
	25	82.5	36-75	PKJ 4810E	PKJ-E	HB
	25	82.5	36-75	PKM 4810A	PKM	QB
	25	82.5	36-75	PKM 4810E	PKM-E	QB
	30	100	36-75	PKJ 4110E	PKJ-E	HB
	35	115	36-75	PKM 4110D	PKM-D	QB
	40	132	36-75	PKB 4110C	PKB-C	EB
	40	132	36-75	PKJ 4110B	PKJ-B	HB*
	50	165	36-75	PKL 4110	PKL	SHB*
	50	165	36-75	PKM 4110C	PKM-C	QB
	60	198	36-75	PKL 4110A	PKL	SHB*

Vout1	Iout1	Pout	Vin	Product code	Prod. ref	Footprint
5.0	0.5	2.5	18-72	PKV 5211	PKV	DIL 24
	1.2	6	18-75	PKR 5611	PKR	MacroDens
	1.2	6	36-75	PKR 4611	PKR	MacroDens
	3	15	36-75	PKR 4211A	PKR	MacroDens
	7	35	18-72	PKU 5311E	PKU-E	SB
	8	40	36-72	PKU 4411E	PKU-E	SB
	10	50	36-75	PKM 4511E	PKM-E	QB
	10	50	36-75	PKU 4511	PKU	SB
	15	75	36-75	PKB 4711	PKB	EB
	15	75	36-75	PKM 4711	PKM	QB*
	15	75	36-75	PKM 4711E	PKM-E	QB
	20	100	36-75	PKJ 4111E	PKJ-E	HB
	20	100	36-75	PKM 4111	PKM	QB*
	20	100	36-75	PKU 4101B	PKU-B	SB
	25	125	36-75	PKM 4111D	PKM-D	QB
	28	140	36-75	PKB 4111C	PKB-C	EB
	30	150	36-75	PKJ 4111A	PKJ	HB*
	40	200	36-75	PKB 4201B	PKB-B	EB
	40	200	36-75	PKM 4211C	PKM-C	QB
	60	300	36-75	PKL 4311	PKL	SHB*
6.0	20	120	36-75	PKM 4117VD	PKM-C	QB
7.1	2.2	15	36-75	PKR 4117A	PKR	MacroDens
7.2	10.5	75	36-75	PKB 4717	PKB	EB
	15	108	36-75	PKM 4116D	PKM-D	QB
9.0	20	180	36-75	BMR 4540000/002	BMR454	EB
	33	300	36-75	BMR 4531000/002	BMR453	QB
9.6	27	282	36-55	PKM 4202NG	PKM-N	QB*
	42	300	38-55	PKB 4302NG	PKB-NG	EB
	63	480	36-55	PKM 4402NG	PKM-N	QB
	63	480	38-55	PKM 4402NG	PKM-NG	QB
12	0.26	3	18-72	PKV 5313	PKV	DIL 24
	0.92	11	18-75	PKR 5113	PKR	MacroDens
	0.6	7	36-75	PKR 4713	PKR	MacroDens
	2.5	30	18-72	PKU 5313E	PKU-E	SB
	4.0	50	35-60	PKB 4513	PKB	EB
	4.2	50	36-75	PKM 4513E	PKM-E	QB
	4.2	50	36-75	PKU 4513	PKU	SB
	6	72	36-75	PKB 4713	PKB	EB
	7.5	90	36-75	PKB 4913	PKB	EB
	8.3	100	36-75	PKJ 4113E	PKJ-E	HB
	8.3	100	36-75	PKU 4104B	PKU-B	SB
	10.5	126	36-75	PKM 4113	PKM	QB
	11	132	36-75	PKM 4113D	PKM-D	QB
	12	144	36-75	PKB 4113C	PKB-C	EB
	12.5	150	36-75	PKJ 4113A	PKJ	HB*
	17	204	38-75	PKM 4213C	PKM-C	QB
	25	288	36-75	PKM 4204B	PKM-B	QB
	25	316	42-53	PKM 4303NF	PKM-N	QB*
	33	380	36-75	PKM 4304B	PKM-B	QB
	33	400	36-75	BMR 4531000/001	BMR453	QB
	60	675	36-75	BMR 653 31/1	Stacked M	QB
15	0.2	3	18-72	PKV 5315	PKV	DIL 24
	2	30	18-72	PKU 5315E	PKU-E	SB
	3.3	50	36-75	PKM 4515E	PKM-E	QB
	3.3	50	36-75	PKU 4515	PKU	SB
	5	75	36-75	PKB 4715	PKB	EB
24	2.1	48	36-75	PKM 4516ZE	PKM-E	QB
28	8.3	230	35-75	PKJ 4216	PKJ	HB
	11	310	35-75	PKJ 4316	PKJ	HB
	12.4	350	35-75	PKJ 4316A	PKJ	HB
	21.5	600	35-75	PKY 4616	PKY	HB
	25	700	36-75	PKY 4716	PKY	HB
30	8.3	250	36-75	PKJ 4216N	PKJ	HB

* Not recommended for new designs

48 V IN DUAL OUTPUT

Vout1	Iout1	Vout2	Iout2	Pout	Vin	Product code	Prod.ref	Footprint
+3.3	2	+5.0	2	15	36-75	PKR 4128B	PKR	MacroDens
	2.1	+5.0	0.5	9.4	36-75	PKR 4928A	PKR	MacroDens
+5.0	0.25	–5.0	0.25	2.5	18-72	PKV 5222	PKV	DIL 24
	0.6	–5.0	0.6	6	36-75	PKR 4622	PKR	MacroDens
	0.6	+3.3	0.9	6	36-75	PKR 4628	PKR	MacroDens
+12	0.125	–12	0.125	3	18-72	PKV 5321	PKV	DIL 24
	0.25	–12	0.25	6	36-75	PKR 4621	PKR	MacroDens
	0.62	–12	0.62	15	36-75	PKR 4221	PKR	MacroDens
+15	0.1	–15	0.1	3	18-72	PKV 5325	PKV	DIL 24

24 V INPUT SINGLES/DUALS

Vout1	Iout1	Vout2	Iout2	Pout	Vin	Product code	Prod.ref	Footprint
3.3	0.5			1.65	9-36	PKV 3110	PKV	DIL 24
	1.5			5	18-75	PKR 5510	PKR	MacroDens
	2			6.6	18-36	PKR 2610A	PKR	MacroDens
	15			50	18-36	PKM 2510E	PKM-E	QB
5	0.5			2.5	9-36	PKV 3211	PKV	DIL 24
	1.2			6	18-75	PKR 5611	PKR	MacroDens
	2			10	18-36	PKR 2111A	PKR	MacroDens
	10			50	18-36	PKM 2511E	PKM-E	QB
	0.25	–5.0	0.25	2.5	9-36	PKV 3222	PKV	DIL 24
12	0.25			3	9-36	PKV 3313	PKV	DIL 24
	0.92			11	18-75	PKR 5113	PKR	MacroDens
	1			12	18-36	PKR 2113A	PKR	MacroDens
	10			120	18-36	PKM 2113D	PKM-D	QB
	4.2			50	18-36	PKM 2513E	PKM-E	QB
	0.125	–12	0.125	3	9-36	PKV 3321	PKV	DIL 24
	0.62	–12	0.62	15	18-36	PKR 2221A	PKR	MacroDens
15	0.2			3	9-36	PKV 3315	PKV	DIL 24
	3.3			50	18-36	PKM 2515E	PKM-E	QB
	0.1	–15	0.1	3	9-36	PKV 3325	PKV	DIL 24
27	14.3			385	20-36	PKJ 2316U	PKJ	HB
28	21.5			600	18–36	PKY2616	PKY	FB

POINT OF LOAD

Voutmin	Voutmax	Iout	Pout	Vin	Product code	Prod.ref	Footprint
0.55	1.8	6	10.8	2.95-3.65	PME 4118V	PME	POLA*
	1.8	6	10.8	4.5-5.5	PME 5118V	PME	POLA*
	1.8	6	10.8	10.8-13.2	PME 8118V	PME	POLA*
	1.8	10	18	2.95-3.65	PMF 4118V	PMF	POLA*
	1.8	10	18	4.5-5.5	PMF 5118V	PMF	POLA*
	1.8	10	18	10.8-13.2	PMF 8118V	PMF	POLA*
	1.8	12	21.6	10.8-13.2	PMG 8218V	PMG	POLA*
	1.8	15	27	2.95-3.65	PMG 4218V	PMG	POLA*
	1.8	15	27	4.5-5.5	PMG 5218V	PMG	POLA*
0.6	3.6	40	132	4.5-14	BMR 45100020200	BMR451	DiPOL 40
	5.5	20	100	4.5-14	BMR 45000020200	BMR450	DiPOL 20
0.7	3.6	30	108	4.5-5.5	PMN 5118U	PMN	POLA
	3.6	30	108	5.5-14	PMN 8118UW	PMN	POLA
	3.6	50	180	4.5-14	PMR 5115UW	PMR	POLA
	5.5	16	88	4.5-14	PMP 5818UW	PMP	POLA
0.75	3.63	10	36	3-5.5	PMB 4418T	PMB	SIL
	3.63	10	36	3-5.5	PMC 4318T	PMC	SMD
	3.63	16	58	3-5.5	PMB 4518T	PMB	SIL
	3.63	16	58	3-5.5	PMC 4518T	PMC	SMD
	5.5	10	50	8.3-16	PMB 8518T	PMB	SIL
	5.5	10	50	8.3-16	PMC 8518T	PMC	SMD
	5.5	16	80	8.3-16	PMB 8818T	PMB	SIL
	5.5	16	80	8.3-16	PMC 8818T	PMC	SMD
0.8	1.8	6	10.8	10.8-13.2	PME 8118T	PME	POLA
	1.8	10	18	10.8-13.2	PMF 8118T	PMF	POLA
	1.8	12	21.6	10.8-13.2	PMG 8218T	PMG	POLA
	1.8	18	32	10.8-13.2	PMH 8318T	PMH	POLA
	1.8	26	47	10.8-13.2	PMJ 8418T	PMJ	POLA
	2.5	6	15	2.95-3.65	PME 4418T	PME	POLA
	2.5	10	25	2.95-3.65	PMF 4218T	PMF	POLA
	2.5	15	37.5	2.95-3.65	PMG 4318T	PMG	POLA
	2.5	22	55	2.95-3.65	PMH 4518T	PMH	POLA
	2.5	30	75	2.95-3.65	PMJ 4718T	PMJ	POLA
	2.5	60	150	2.95-5.5	PMM 4218T	PMM	POLA
	3.3	30	82.5	7.0-13.2	ROA 128 3003	Power Block	SMD
	3.6	6	22	4.5-5.5	PME 5218T	PME	POLA
	3.6	10	36	4.5-5.5	PMF 5318T	PMF	POLA
	3.6	15	54	4.5-5.5	PMG 5518T	PMG	POLA
	3.6	22	79.2	4.5-5.5	PMH 5718T	PMH	POLA
	3.6	30	108	4.5-5.5	PMJ 5918T	PMJ	POLA
	5.5	50	275	8-14	PMM 8218T	PMM	POLA
0.9	3.6	3	10.8	3-5.5	PMD 4118O	PMD	POLA
	5.5	2.25	12.375	4.5-14	PMD 5118O	PMD	POLA
1.2	5.5	6	33	10.8-13.2	PME 8318L	PME	POLA
	5.5	10	55	10.8-13.2	PMF 8518L	PMF	POLA
	5.5	12	66	10.8-13.2	PMG 8618L	PMG	POLA
	5.5	18	99	10.8-13.2	PMH 8918L	PMH	POLA
	5.5	26	143	10.8-13.2	PMJ 8118L	PMJ	POLA
3.0	5.25	40	210	8.0-14	PMR 8210	PMR	POLA

APPLICATION SPECIFIC PRODUCTS

Vout1	Iout1	Vout2	Iout2	Vout3	Iout3	Pout	Vin	Prod code	Prod. ref	Footprint	Application information
3.2	2.8	1.8	2.8			15	40-72	BMR 640 5001/1	BMR 640	Macrodens	Non isolated, positive GND
3.3	4.0	1.5-3.6	4.0	4-10	1.5	33	40-72	BMR 603 1204/1	BMR 603	2"x 2" SMD	Non isolated positive GND, designed for radio-link applications. 3 separately regulated that can be adjusted idependently
5.5	2.4	3.3	1.0			15	44-60	BMR 640 5002/1	BMR 640	Macrodens	500 V isolation, designed for radio-link applications.
12	4.0					50	35-60	PKB 4513	PKB	EB	Designed for radio-link applications. Opimized for cold wall thermal management with gap filler
78	0.08	-52	0.5	-33	0.8	32	32-60	BMR 603 1203/1	BMR 603	2"x 2" SMD	Designed for POTS applications. Works hand in hand with BMR 640 5001/1

* Not recommended for new designs

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Selection Guide

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