100-700 Watts

DBS Series

- Ideal for Distributed Power Systems
- Remote On/Off
- Inverter Operating Monitor
- Overcurrent, Overvoltage & Thermal Protection
- Remote Sense
- 85°C Maximum Baseplate Temperature
- Up to 91% Efficiency

Specification

Input

Input Voltage Range	• See table
Input Current	• See table

Output

Output Voltage	• See table
Output Voltage Trim	• 60-110% by external potentiometer or with an external voltage
Minimum Load	• No minimum load required
Line Regulation	• See table
Load Regulation	• See table
Setpoint Accuracy	• See table
Turn-on Time	• 200 ms max (nom. Vin max load)
Ripple & Noise	• See table
Overvoltage Protection	• See table, recycle input to reset
Overtemperature Protection	• Shut down output at a baseplate temperature >85°C
Overcurrent Protection	• Operates at >105%, trip & restart (Hiccup mode), auto recovery
Short Circuit Protection	• Trip & restart (Hiccup mode), auto recovery
Temperature Coefficient	• ±0.03 % /°C max
Remote Sense	• Compensates for 0.5V line drop max, when not used the remote sense terminals must be connected locally
Remote On/Off	• Fitted, both input & output of converter can be turned off. Contact sales for more details.
Current Share	• Active current share, derate max current by 10% of the total output power
Recommended Output Capacitor	• DBS100/150 : 2200 µF max DBS200 : 2200 µF max DBS400 : 6800 µF max DBS700 : 2200 µF max Contact sales for full details
Auxiliary Output	• 6.5 - 8.5 V at 10 mA (15 V max unregulated)

General

Efficiency	• See table
Isolation	• 3000 VAC Input to Output 2000 VAC Input to Case 500 VAC Output to Case 100 VAC Output to RC2, RC3
Isolation Resistance	• 50 MOhm
Switching Frequency	• 370 kHz
Power Density	• Up to 74 W/In^3
Package Style	• Full brick
MTBF	• 250 kHrs min per EIAJ RCR-9102

Environmental

Operating Temperature	• See derating curve
Cooling	• Base plate cooled
Operating Humidity	• 20-95% RH, non-condensing
Storage Temperature	• -40 ˚C to +85 ˚C
Storage Humidity	• 20-95% RH, non-condensing
Operating Altitude	• 3000 m
Shock	• 20 g 11ms once along each axis
Vibration	• 10-55 Hz, 5 g 3 minute period, 60 minutes along each axis

EMC & Safety

Emissions	• EN55022 level B conducted & radiated, external components required, contact sales for details
ESD Immunity	• EN61000-4-2, level 2 Perf Criteria A
Radiated Immunity	• EN61000-4-3, level 3 Perf Criteria A
EFT/Burst	• EN61000-4-4, level 3 Perf Criteria A
Surge	• EN61000-4-5, level 3 Perf Criteria A
Safety Approvals	• UL60950-1, C-UL, EN60950-1

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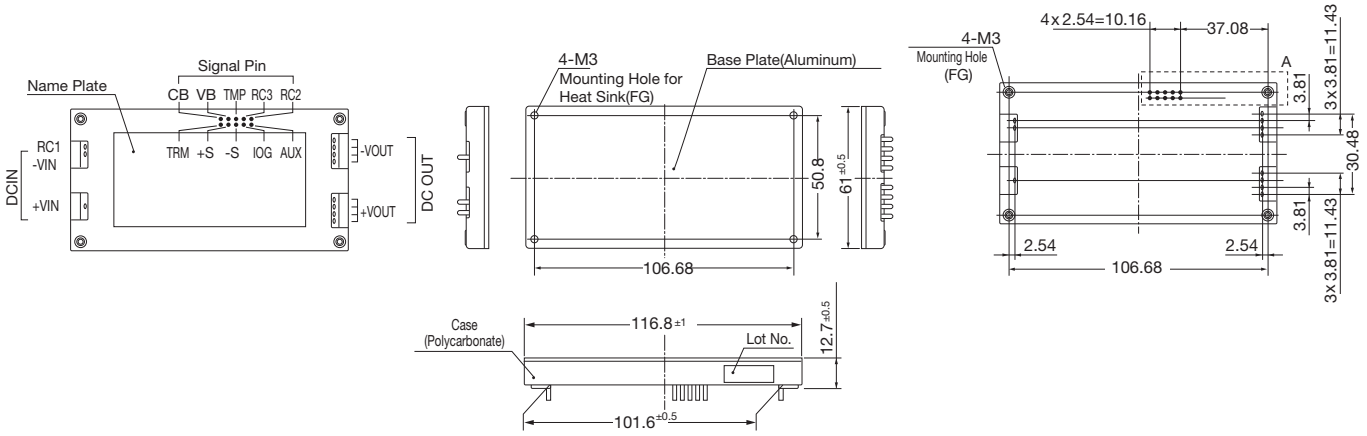
Models and Ratings

Input Voltage	Output Voltage	Output Current	Setpoint Accuracy	Overvoltage Protection	Input Current (Typ)	Ripple & Noise[2]	Regulation		Efficiency (Typ)[1]	Model Number
							Load	Line		
45-160 VDC	5 VDC	20.0 A	4.90-5.20 V	5.75-7.00 V	1.11 A	150 mV	40 mV	20 mV	82.0%	DBS100A05
45-160 VDC	13.8 VDC	7.3 A	13.25-14.35 V	15.87-19.32 V	1.10 A	180 mV	150 mV	60 mV	83.0%	DBS100A13R8
66-160 VDC	12 VDC	12.5 A	11.60-12.60 V	13.80-16.80 V	1.57 A	180 mV	100 mV	40 mV	87.0%	DBS150A12
66-160 VDC	15 VDC	10.0 A	14.40-15.60 V	17.25-21.00 V	1.59 A	180 mV	150 mV	60 mV	86.0%	DBS150A15
66-160 VDC	24 VDC	6.3 A	23.04-24.96 V	27.60-33.60 V	1.58 A	180 mV	190 mV	95 mV	87.0%	DBS150A24
200-400 VDC	3.3 VDC	50.0 A	3.25-3.45 V	4.00-5.50 V	0.75 A	150 mV	30 mV	16 mV	79.0%	DBS200B03
200-400 VDC	5 VDC	40.0 A	4.90-5.20 V	5.75-7.00 V	0.86 A	150 mV	40 mV	20 mV	83.0%	DBS200B05
200-400 VDC	7.5 VDC	28.0 A	7.25-7.85 V	8.60-10.50 V	0.87 A	160 mV	60 mV	30 mV	86.0%	DBS200B07
200-400 VDC	12 VDC	20.0 A	11.60-12.60 V	13.80-16.80 V	0.99 A	180 mV	100 mV	40 mV	87.0%	DBS200B12
200-400 VDC	3.3 VDC	80.0 A	3.25-3.45 V	4.00-5.50 V	1.19 A	150 mV	30 mV	16 mV	79.0%	DBS400B03
200-400 VDC	5 VDC	80.0 A	4.90-5.20 V	5.75-7.00 V	1.72 A	150 mV	40 mV	20 mV	83.0%	DBS400B05
200-400 VDC	7.5 VDC	54.0 A	7.25-7.85 V	8.60-10.50 V	1.68 A	160 mV	60 mV	30 mV	86.0%	DBS400B07
200-400 VDC	12 VDC	34.0 A	11.60-12.60 V	13.80-16.80 V	1.67 A	180 mV	100 mV	40 mV	87.0%	DBS400B12
200-400 VDC	15 VDC	27.0 A	14.40-15.60 V	17.25-21.00 V	1.66 A	180 mV	150 mV	60 mV	87.0%	DBS400B15
200-400 VDC	18 VDC	22.0 A	17.28-18.72 V	20.70-25.20 V	1.61 A	180 mV	150 mV	60 mV	89.0%	DBS400B18
200-400 VDC	24 VDC	17.0 A	23.04-24.96 V	27.60-33.60 V	1.67 A	180 mV	190 mV	95 mV	87.0%	DBS400B24
200-400 VDC	28 VDC	14.5 A	26.88-29.12 V	32.20-39.20 V	1.63 A	180 mV	190 mV	95 mV	88.0%	DBS400B28
200-400 VDC	24 VDC	29.0 A	23.28-24.72 V	27.60-33.60 V	2.76 A	180 mV	190 mV	95 mV	90.0%	DBS700B24
200-400 VDC	28 VDC	25.0 A	27.16-28.84 V	32.20-39.20 V	2.76 A	180 mV	190 mV	95 mV	90.5%	DBS700B28
200-400 VDC	48 VDC	14.5 A	46.56-49.44 V	55.20-63.00 V	2.73 A	400 mV	240 mV	120 mV	91.0%	DBS700B48

Notes

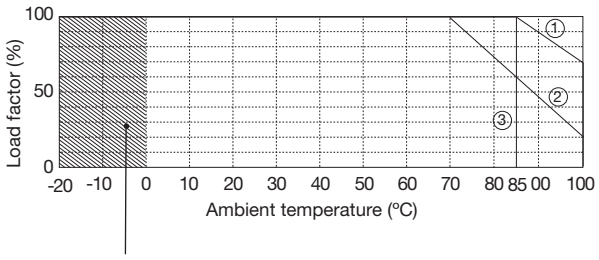
1. At rated input (110V, 280V) and rated load.
2. Ripple & Noise is measured with a 0.1 µF film capacitor across outputs using a 20 MHz B/W limited oscilloscope.
3. For -40 °C operation, please contact sales.

Mechanical Details



Pin Connections			
Pin	Function	Pin	Function
+VIN	+DC input	RC3	Remote On/Off (output side) OPTO Isolator - Anode
-VIN	-DC input	RC2	Remote On/Off (output side) OPTO Isolator - Cathode
RC1	Remote On/Off (input side)	TRM	Adjustment of output voltage
+VOUT	+DC output	+S	+Remote sense
-VOUT	-DC output	-S	-Remote sense
CB	Current balance	IOG	Inverter operation monitor
VB	Voltage balance	AUX	Auxiliary power supply (6.5 V - 8.5 V at 10 mA)
TMP	Thermal detection signal		

Derating Curve



Ripple & noise spec may be exceeded.

Notes

1. All measurements are in mm. Tolerance: 0.3 mm
2. Weight: DBS100-200: <150g
   DBS400: <180g
3. Baseplate: Aluminium.
4. Mounting hole screwing torque: 0.4 Nm

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