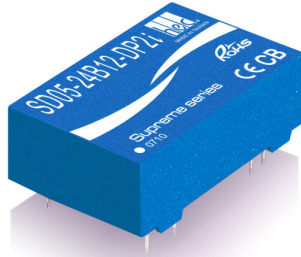


# HEC DC/DC Non-Brick Group *Supreme Series* SS/SD 5Watt Family *DP2i & DM2i* Type



## FEATURES

- 5 WATTS REGULATED OUTPUT POWER
- STANDARD 1.25" X 0.80" X 0.40" Size
- HIGH EFFICIENCY UP TO 86%
- 2 : 1 WIDE INPUT VOLTAGE RANGE
- OVERLOAD AND CONTINUOUS SHORT CIRCUIT PROTECTION
- STANDARD 24 PIN DIP PACKAGE & SMD TYPE PACKAGE
- 3-YEAR WARRANTY

The Supreme 6W series offer 6 Watts of output power from a package in an IC compatible 24pin DIP configuration without derating up to 71°C ambient temperature. It provides a 2:1 wide input voltage.

## Table of MODELS

### SS Series

Model Name	Vin Range	Output	Max. Output Current	Input Current Full load	Capacitive Load max.	Efficiency (%)
*SS05-1203-DP2i	9-18VDC	3.3VDC	1500mA	515mA	2200 μF	80
*SS05-1205-DP2i	9-18VDC	5VDC	1000mA	514mA	1000 μF	81
*SS05-1212-DP2i	9-18VDC	12VDC	420mA	494mA	220 μF	85
*SS05-1215-DP2i	9-18VDC	15VDC	340mA	500mA	150 μF	85
SS05-2403-DP2i	18-36VDC	3.3VDC	1500mA	257mA	2200 μF	80
*SS05-2405-DP2i	18-36VDC	5VDC	1000mA	248mA	1000 μF	84
*SS05-2412-DP2i	18-36VDC	12VDC	420mA	244mA	220 μF	86
*SS05-2415-DP2i	18-36VDC	15VDC	340mA	247mA	150 μF	86
*SS05-4803-DP2i	36-75VDC	3.3VDC	1500mA	127mA	2200 μF	81
*SS05-4805-DP2i	36-75VDC	5VDC	1000mA	125mA	1000 μF	83
*SS05-4812-DP2i	36-75VDC	12VDC	420mA	122mA	220 μF	86
*SS05-4815-DP2i	36-75VDC	15VDC	340mA	123mA	150 μF	86
*SS05-1203-DM2i	9-18VDC	3.3VDC	1500mA	515mA	2200μF	80
*SS05-1205-DM2i	9-18VDC	5VDC	1000mA	514mA	1000μF	81
*SS05-1212-DM2i	9-18VDC	12VDC	420mA	494mA	220μF	85
*SS05-1215-DM2i	9-18VDC	15VDC	340mA	500mA	150μF	85
*SS05-2403-DM2i	18-36VDC	3.3VDC	1500mA	257mA	2200μF	80
*SS05-2405-DM2i	18-36VDC	5VDC	1000mA	248mA	1000μF	84
*SS05-2412-DM2i	18-36VDC	12VDC	420mA	244mA	220μF	86
*SS05-2415-DM2i	18-36VDC	15VDC	340mA	247mA	150μF	86
*SS05-4803-DM2i	36-75VDC	3.3VDC	1500mA	127mA	2200μF	81
*SS05-4805-DM2i	36-75VDC	5VDC	1000mA	125mA	1000μF	83
*SS05-4812-DM2i	36-75VDC	12VDC	420mA	122mA	220μF	86
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## SD Series

Model Name	Vin Range	Output	Max. Output Current	Input Current Full load	Capacitive Load max.	Efficiency (%)
*SD05-12B05-DP2i	9-18VDC	±5VDC	±500mA	508mA	±330µF	82
*SD05-12B12-DP2i	9-18VDC	±12VDC	±210mA	494mA	±100 µF	85
*SD05-12B15-DP2i	9-18VDC	±15VDC	±167mA	491mA	±68 µF	85
SD05-24B05-DP2i	18-36VDC	±5VDC	±500mA	251mA	±330µF	83
SD05-24B12-DP2i	18-36VDC	±12VDC	±210mA	244mA	±100 µF	86
SD05-24B15-DP2i	18-36VDC	±15VDC	±167mA	242mA	±68 µF	86
SD05-48B05-DP2i	36-75VDC	±5VDC	±500mA	127mA	±330µF	82
SD05-48B12-DP2i	36-75VDC	±12VDC	±210mA	122mA	±100 µF	86
SD05-48B15-DP2i	36-75VDC	±15VDC	±167mA	121mA	±68 µF	86
*SD05-12B05-DM2i	9-18VDC	±5VDC	±500mA	508mA	±330µF	82
*SD05-12B12-DM2i	9-18VDC	±12VDC	±210mA	494mA	±100 µF	85
*SD05-12B15-DM2i	9-18VDC	±15VDC	±167mA	491mA	±68 µF	85
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*SD05-24B12-DM2i	18-36VDC	±12VDC	±210mA	244mA	±100 µF	86
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*SD05-48B12-DM2i	36-75VDC	±12VDC	±210mA	122mA	±100 µF	86
*SD05-48B15-DM2i	36-75VDC	±15VDC	±167mA	121mA	±68 µF	86

**NOTE:** > For models with \* marks, please contact Tensor C. Cribbs [tensor-chen@hec-group.com.tw](mailto:tensor-chen@hec-group.com.tw)  
> Typical lead time for engineering sample: 4~6 weeks

## TECHNICAL SPECIFICATION

### INPUT SPECIFICATION

Input voltage range	12V nominal input	9 - 18VDC
	24V nominal input	18 - 36VDC
	48V nominal input	36 - 75VDC
Input filter		Pi type
Input surge voltage (100 ms max.)	12V input	36VDC
	24V input	50VDC
	48V input	100VDC
Input reflected ripple current	Nominal Vin and full load	20mA p-p
Start up time	Nominal Vin and resistive load	450 ms max.
Under voltage shut down	12V nominal input	8VDC
	24V nominal input	16VDC
	48V nominal input	32VDC

### OUTPUT SPECIFICATIONS

Output power		5 Watts Nom.
Voltage accuracy	Full load and nominal Vin	±1%
Line regulation	LL to HL at Full Load	±0.2%
Load regulation (10% Load to 100% Load)	Single	±0.5%
	Dual	±1.5%
Cross regulation (Dual)	Asymmetrical load 25% / 100% FL	±4%
Ripple and noise	20MHZ bandwidth	50mVp-p
Temperature coefficient		±0.02%/°C,max
Transient response recovery time	25% load step change	200µS
Rising time		10ms
Over load protection	% of FL at nominal input	150% typical
Short circuit protection		Continuous, auto recover

### GENERAL SPECIFICATIONS

Efficiency		See above table
Isolation voltage	Input to Output, standard	1600VDC,min
Isolation resistance		10 <sup>9</sup> ohms, min
Isolation capacitance		1,000pF typical
Switching frequency		300KHz, typical
Case material		Non-conductive blue plastic, or Metal with no-conductive Base plate

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## GENERAL SPECIFICATIONS

Potting material		Silicone
Dimensions		1.25" X 0.80" X 0.40" (31.6 X 20.3 X 10.2 mm <sup>3</sup> )
Weight	DIP	TBD
	SMD	TBD
MTBF	BELLCORE TR-NWT-000332	3.731 X 10 <sup>6</sup> hrs

## ENVIRONMENTAL SPECIFICATIONS

Operating ambient temperature	DP Type (Plastic Case)	-25°C ~ +71°C (no derating)
	DM Type (Metal Case)	-40°C ~ +85°C (no derating)
Storage temperature range	DP Type (Plastic Case)	-40°C + 105°C
	DM Type (Metal Case)	-55°C + 125°C
Thermal shock		MIL-STD-810F
Vibration		MIL-STD-810F
Relative humidity		5% to 95% RH

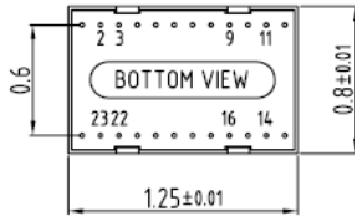
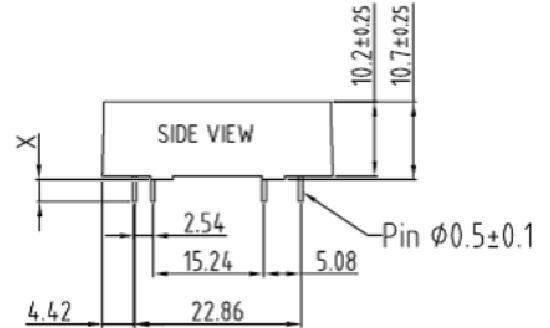
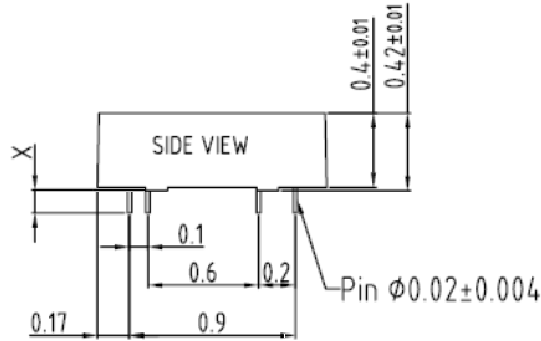
## EMC CHARACTERISTICS

EMI	EN55022		Class B with external circuit
ESD	EN61000-4-2	Air	± 8KV
		Contact	± 6KV
Radiated immunity	EN61000-4-3		10V/m
Fast transient	EN61000-4-4		± 2KV
Surge	EN61000-4-5		± 1KV
Conducted immunity	EN61000-4-6		10Vr.m.s

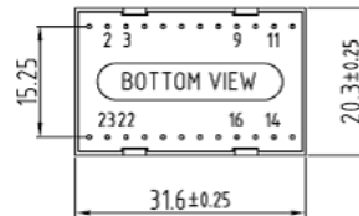
- NOTE:**
1. ALL specifications are typical at nominal input, full load and 25°C unless otherwise noted.
  2. Specifications are subject to change without notice.
  3. Printed or downloaded datasheets are not subject to HEC document control.
  4. Product labels shown, including safety agency certificates, may vary based on the date of manufacture.
  5. Information provided in this documentation is for ordering purposes only.
  6. This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications, which necessitate specific safety and regulatory standards other than the ones listed in this datasheet.

**MECHANICAL SPECIFICATION**

**Pin Length X –**  
 Short pin: 3.0mm ± 0.1mm  
 Middle pin: 3.8mm ± 0.1mm  
 Long pin: 5.0mm ± 0.1mm



Unit : inch



Unit : mm

PIN ASSIGNMENT					
PIN	SS Series	SD Series	PIN	SS Series	SD Series
2	-INPUT (GND)	-INPUT (GND)	14	+OUTPUT	+OUTPUT
3	-INPUT (GND)	-INPUT (GND)	16	-OUTPUT	COMMON
9	NC	COMMON	22	+INPUT (Vcc)	+INPUT (Vcc)
11	NC	-OUTPUT	23	+INPUT (Vcc)	+INPUT (Vcc)