

DIP Type (Standard)



Size: 0.56in x 0.36in x 0.40in (14.2mm x 9.1mm x 10.2mm)

SMD Package ("S" Suffix)



Size: 0.52in x 0.36in x 0.40in (13.2mm x 9.1mm x 10.2mm)

OPTIONS

- SMD or SIP Package Type
- Input Voltage
- Single or Dual Output
- Isolation

FEATURES

- 4:1 Ultra Wide Input Range
- Single and Dual Outputs
- Ultra Small Package
- SMD and DIP Packages Available
- SMD Package Qualified for Lead Free Reflow Solder Process According to IPC J-STD-020D
- Short Circuit Protection
- Remote Control
- High Efficiency up to 84%
- No Minimum Load Required
- 1600VDC Input to Output Isolation and 3000VDC for Option
- CE Marked
- Compliant to RoHS II & REACH
- UL60950-1, EN60950-1, and IEC60950-1 Safety Approvals

APPLICATIONS

- Wireless Network
- Telecom/Datacom
- Industry Control System
- Measurement Equipment
- Semiconductor Equipment

DESCRIPTION

The DCSDW02 series of DC/DC converters offers up to 2.01 watts of output power in a compact DIP or SMD package. This series consists of single and dual outputs with ultra wide 4:1 input voltage range. Each model in this series has high efficiency, no minimum required load, short circuit protection, and is CE marked and compliant to RoHS II & REACH. This series has 1600VDC input to output isolation and UL60950-1, EN60950-1, and IEC60950-1 safety approvals. Please call factory for order details.

MODEL SELECTION TABLE

Single Output Models

Model Number	Input Voltage Range	Output Voltage	Output Current @Full Load	Ripple & Noise	No Load Input Current	Output Power	Maximum Capacitive Load	Efficiency
DCSDW02-12S33	12VDC (4.5~18)	3.3VDC	500mA	50mVp-p	25mA	Up to 2.01	2200µF	77%
DCSDW02-12S05		5VDC	400mA		30mA		1000µF	80%
DCSDW02-12S12		12VDC	167mA		30mA		550µF	83%
DCSDW02-12S15		15VDC	134mA		30mA		440µF	84%
DCSDW02-12S24		24VDC	83mA		30mA		200µF	84%
DCSDW02-24S33	24VDC (9~36)	3.3VDC	500mA	50mVp-p	15mA	Up to 2.01	2200µF	76%
DCSDW02-24S05		5VDC	400mA		18mA		1000µF	79%
DCSDW02-24S12		12VDC	167mA		18mA		550µF	82%
DCSDW02-24S15		15VDC	134mA		18mA		440µF	83%
DCSDW02-24S24		24VDC	83mA		18mA		200µF	82%
DCSDW02-48S33	48VDC (18~75)	3.3VDC	500mA	50mVp-p	8mA	Up to 2.01	2200µF	75%
DCSDW02-48S05		5VDC	400mA		8mA		1000µF	81%
DCSDW02-48S12		12VDC	167mA		11mA		550µF	83%
DCSDW02-48S15		15VDC	134mA		11mA		440µF	82%
DCSDW02-48S24		24VDC	83mA		11mA		200µF	82%

MODEL SELECTION TABLE

Dual Output Models

Model Number	Input Voltage Range	Output Voltage	Output Current @ Full Load	Ripple & Noise	No Load Input Current	Output Power	Maximum Capacitive Load	Efficiency
DCSDW02-12D05	12VDC (4.5~18)	±5VDC	±200mA	50mVp-p	30mA	Up to 2.01	±660µF	80%
DCSDW02-12D12		±12VDC	±83mA		30mA		±330µF	84%
DCSDW02-12D15		±15VDC	±67mA		30mA		±220µF	84%
DCSDW02-24D05	24VDC (9~36)	±5VDC	±200mA	50mVp-p	18mA	Up to 2.01	±660µF	80%
DCSDW02-24D12		±12VDC	±83mA		18mA		±330µF	82%
DCSDW02-24D15		±15VDC	±67mA		18mA		±220µF	81%
DCSDW02-48D05	48VDC (18~75)	±5VDC	±200mA	50mVp-p	11mA	Up to 2.01	±660µF	79%
DCSDW02-48D12		±12VDC	±83mA		11mA		±330µF	82%
DCSDW02-48D15		±15VDC	±67mA		11mA		±220µF	82%

SPECIFICATIONS

All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted.
We reserve the right to change specifications based on technological advances.

SPECIFICATION	TEST CONDITIONS	Min	Typ	Max	Unit	
INPUT SPECIFICATIONS						
Input Voltage Range	12Vin(nom)	4.5	12	18	VDC	
	24Vin(nom)	9	24	36		
	48Vin(nom)	18	48	75		
Input Surge Voltage (1 second, max.)	12Vin(nom)			25	VDC	
	24Vin(nom)			50		
	48Vin(nom)			100		
Input Reflected Ripple Current ⁽¹⁾			20		mAp-p	
Input Filter		Capacitor Type				
OUTPUT SPECIFICATIONS						
Output Voltage		See Table				
Voltage Accuracy		-1.0		+1.0	%	
Line Regulation	Low Line to High Line at Full Load	-0.2		+0.2	%	
	No Load to Full Load	-1.0		+1.0	%	
Load Regulation	10% Load to 90% Load	-0.5		+0.5	%	
		Single		+0.8		
		Dual		+0.8		
Cross Regulation	Asymmetrical Load 25%/100% FL; Dual Outputs	-5.0		+5.0	%	
Output Power		See Table				
Output Current		See Table				
Maximum Capacitive Load		See Table				
Ripple & Noise	Measured by 20MHz Bandwidth		50		mVp-p	
Transient Response Recovery Time	25% Load step change		500		µS	
Start-Up Time	Constant Resistive Load	Power Up		5	10	Ms
		Remote ON/OFF		5	10	
Temperature Coefficient		-0.02		+0.02	%/°C	
REMOTE ON/OFF CONTROL						
Positive Logic		DC-DC ON		Open or High Impedance		
	Ctrl Pin Applied Current via 1kΩ	DC-DC OFF		2.0	3.0	4.0
Remote Off Input Current					2.5	mA
Application Circuit	DC-DC ON	DC-DC OFF				
PROTECTION						
Short Circuit Protection	Continuous	Automatic Recovery				

SPECIFICATIONS

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SPECIFICATION	TEST CONDITIONS	Min	Typ	Max	Unit
ENVIRONMENTAL SPECIFICATIONS					
Operating Ambient Temperature	Without Derating	-40		80	°C
	With Derating	80		+105	
Storage Temperature Range		-55		+125	°C
Relative Humidity		5		95	%RH
Thermal Shock		MIL-STD-810F			
Vibration		MIL-STD-810F			
MTBF	MIL-HDBK-217F, Full Load		6,204,000		Hours
GENERAL SPECIFICATIONS					
Efficiency		See Table			
Switching Frequency		100			kHz
Isolation Voltage (1 minute)	Standard	1600			VDC
	"H" Suffix	3000			
Isolation Resistance	500VDC	1			GΩ
Isolation Capacitance	Standard			50	pF
	"H" Suffix			50	
Lead-Free Reflow Solder Process		IPC J-STD-020D			
Moisture Sensitivity Level (MSL)		IPC J-STD-033B Level 2			
PHYSICAL SPECIFICATIONS					
Weight		0.10oz (2.7g)			
Dimensions (L x W x H)	DIP Type	0.52in x 0.36in x 0.40in (13.2mm x 9.1mm x 10.2mm)			
	SMD Type	0.56in x 0.36in x 0.40in (14.2mm x 9.1mm x 10.2mm)			
Case Material		Non-Conductive Black Plastic			
Base Material		Non-Conductive Black Plastic			
Potting Material		Silicone (UL94 V-0)			
SAFETY CHARACTERISTICS					
Safety Approvals		UL60950-1 EN60905-1 IEC60950-1			
EMI ⁽¹⁾		EN55022		Class A, Class B	
ESD	EN61000-4-2	Air ±8kV Contact ±6kV		Perf. Criteria A	
Radiated Immunity	EN61000-4-3	10 V/m		Perf. Criteria A	
Fast Transient ⁽²⁾	EN61000-4-4	±2kV		Perf. Criteria A	
Surge ⁽²⁾	EN61000-4-5	±1kV		Perf. Criteria A	
Power Frequency Magnetic Field	EN61000-4-8	100A/m continuous; 1000A/m 1 second		Perf. Criteria A	

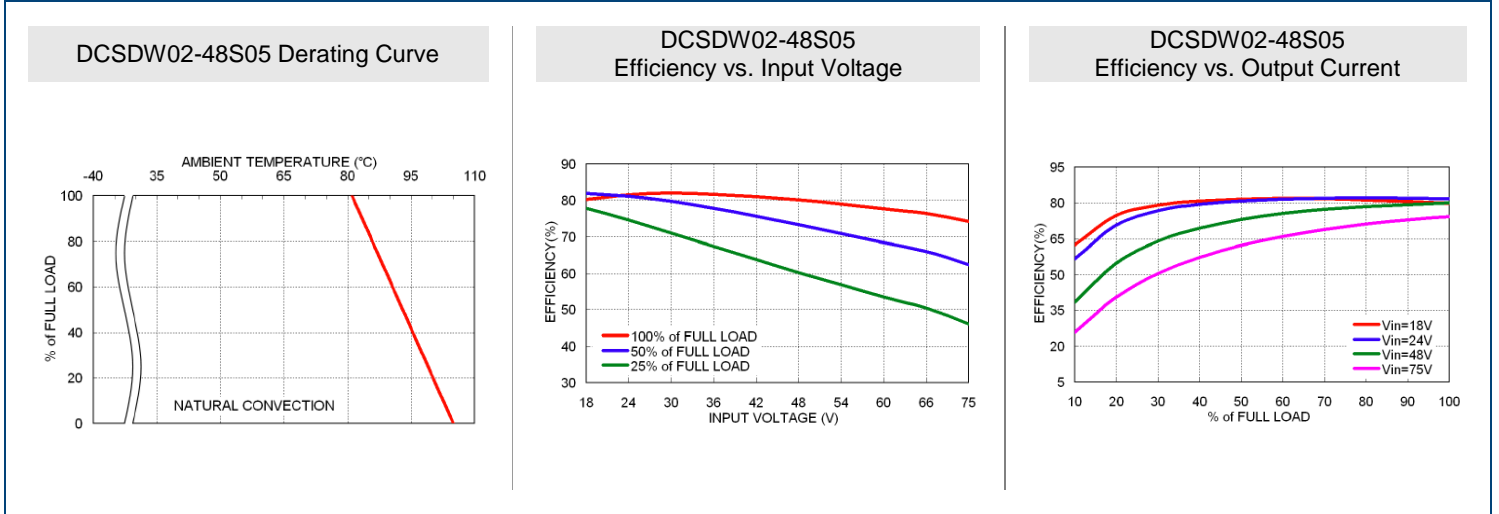
NOTES

- The standard module meets EMI Class A or Class B and input reflected ripple current with external components. For further information, please contact factory.
- An external input filter capacitor is required if the module is to meet EN61000-4-4, EN61000-4-5. Suggested filter: Nippon chemi-con KY series, 220µF/100V.

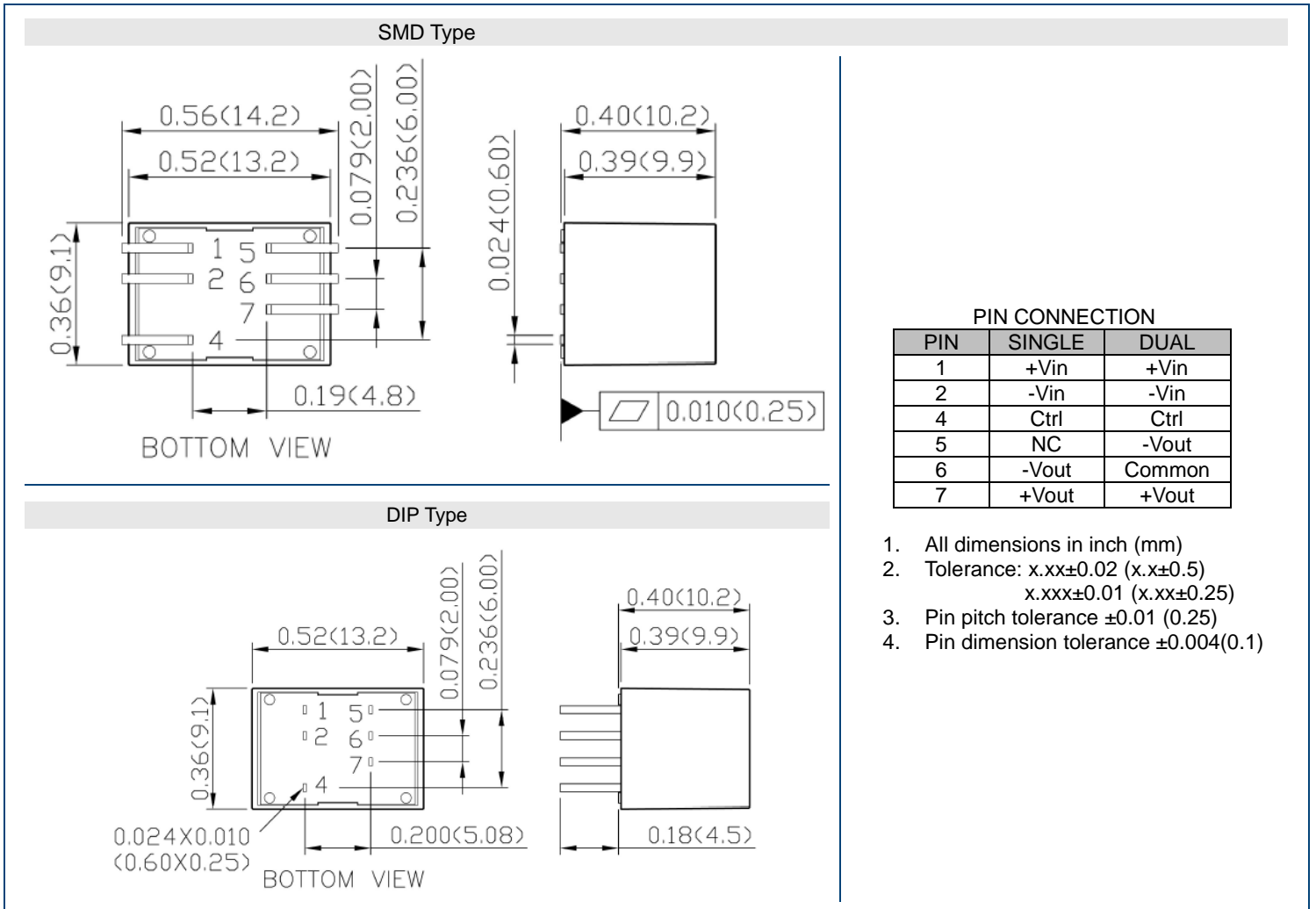
CAUTION: This power module is not internally fused. An input line fuse must always be used.

**Due to advances in technology, specifications subject to change without notice.*

CHARACTERISTIC CURVES



MECHANICAL DRAWINGS



MODEL NUMBER SETUP

DCSDW	02	-	12	S	33	S	H
Series Name	Output Power		Input Voltage	Output Quantity	Ouptut Voltage	Package Type	Isolation Option
			12: 4.5~18VDC 24: 9~36VDC 48: 18~75VDC	S: Single D: Dual	33: 3.3VDC 05: 5VDC 12: 12VDC 15: 15VDC 24: 24VDC 05: ±5VDC 12: ±12VDC 15: ±15VDC	None: DIP S: SMD	None: 1600VDC H: 3000VDC

COMPANY INFORMATION

Wall Industries, Inc. has created custom and modified units for over 50 years. Our in-house research and development engineers will provide a solution that exceeds your performance requirements on-time and on budget. Our ISO9001-2008 certification is just one example of our commitment to producing a high quality, well-documented product for our customers.

Our past projects demonstrate our commitment to you, our customer. Wall Industries, Inc. has a reputation for working closely with its customers to ensure each solution meets or exceeds form, fit and function requirements. We will continue to provide ongoing support for your project above and beyond the design and production phases. Give us a call today to discuss your future projects.

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