



Size: 0.60in x 0.37in x 0.29in

FEATURES

- No Minimum Load Required
- Non-Isolation
- Low Standby Power
- Up to 15 Watts of Output Power
- High Efficiency Up to 96%
- 3.0~5.5VDC & 4.6~36VDC Wide Input Range
- Short Circuit, Over Load, and Over Temperature Protection
- UL60950-1, EN60950-1, IEC60950-1 Safety Approvals

APPLICATIONS

- Wireless Network
- Telecom/Datacom
- Industry Control System
- Distributed Power Architectures
- Semiconductor Equipment
- Microprocessor Power Application

DESCRIPTION

The DCLSR01 series of DC/DC converters offers up to 15 watts of output power in a compact 0.60" x 0.37" x 0.29" package. This series consists of single output models with wide input ranges of 3.0~5.5VDC & 4.6~36VDC. This series offers high efficiency up to 96% and short circuit, over load, and over temperature protection. The DCLSR01 series also offers UL60950-1, EN60950-1, and IEC60950-1 safety approvals.

MODEL SELECTION TABLE

Model Number	Input Voltage Range	Output Voltage	Output Current @Full Load	Ripple & Noise	Efficiency		Output Power	Maximum Capacitive Load	No Load Input Current
					Min. Vin	Max. Vin			
DCLSR01-05S1P2	5.0VDC (3.0~5.5VDC)	1.2VDC	1A	50mVp-p	90.5%	90.0%	Up to 15W	470µF	1mA
DCLSR01-05S1P5	5.0VDC (3.0~5.5VDC)	1.5VDC	1A	50mVp-p	92.0%	91.5%			
DCLSR01-05S1P8	5.0VDC (3.0~5.5VDC)	1.8VDC	1A	50mVp-p	92.5%	92.0%			
DCLSR01-05S2P5	5.0VDC (3.8~5.5VDC)	2.5VDC	1A	50mVp-p	94.5%	94.0%			
DCLSR01-12S1P2	12VDC (4.6~36VDC)	1.2VDC	1A	50mVp-p	74%	62%			
DCLSR01-12S1P5	12VDC (4.6~36VDC)	1.5VDC	1A	50mVp-p	79%	67%			
DCLSR01-12S1P8	12VDC (4.6~36VDC)	1.8VDC	1A	50mVp-p	82%	70%			
DCLSR01-12S2P5	12VDC (4.6~36VDC)	2.5VDC	1A	50mVp-p	87%	75%			
DCLSR01-12S3P3	12VDC (4.75~36VDC)	3.3VDC	1A	50mVp-p	91%	80%			
DCLSR01-12S05	12VDC (6.5~36VDC)	5.0VDC	1A	50mVp-p	94%	84%			
DCLSR01-12S6P5	12VDC (9.0~36VDC)	6.5VDC	1A	50mVp-p	94%	86%			
DCLSR01-24S09	24VDC (12~36VDC)	9.0VDC	1A	75mVp-p	95%	90%			
DCLSR01-24S12	24VDC (15~36VDC)	12VDC	1A	75mVp-p	95%	92%			
DCLSR01-24S15	24VDC (18~36VDC)	15VDC	1A	75mVp-p	96%	94%			

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							
Operating Input Voltage Range ⁽¹⁾	DCLSR01-05S1P2		3.0	5.0	5.5	VDC	
	DCLSR01-05S1P5		3.0	5.0	5.5		
	DCLSR01-05S1P8		3.0	5.0	5.5		
	DCLSR01-05S2P5		3.8	5.0	5.5		
	DCLSR01-12S1P2		4.6	12	36		
	DCLSR01-12S1P5		4.6	12	36		
	DCLSR01-12S1P8		4.6	12	36		
	DCLSR01-12S2P5		4.6	12	36		
	DCLSR01-12S3P3		4.75	12	36		
	DCLSR01-12S05		6.5	12	36		
	DCLSR01-12S6P5		9.0	12	36		
	DCLSR01-24S09		12	24	36		
	DCLSR01-24S12		15	24	36		
	DCLSR01-24S15		18	24	36		
Input Filter		Capacitor Type					
OUTPUT SPECIFICATIONS							
Output Voltage		See Table					
Voltage Accuracy		-2.0		+2.0	%		
Line Regulation	Low Line to High Line at Full Load	-0.2		+0.2	%		
Load Regulation	No Load to Full Load	-0.6		+0.6	%		
	10% to 90% of Full Load	-0.3		+0.3			
Output Power				15	W		
Output Current		See Table					
Maximum Capacitive Load		See Table					
Ripple & Noise (20MHz bandwidth)	Output Voltage ≤8V		50		mVp-p		
	Output Voltage >8V		75				
Start-Up Time	Constant Resistive Load, Power Up		5		mS		
Temperature Coefficient		-0.015		+0.015	%°C		
PROTECTION							
Short Circuit Protection		Continuous, Automatic Recovery					
Over Load Protection	% of Iout, Continuous mode	DCLSR01-05Sxx		4.8		A	
		Others		2.5			
Dynamic Load Response	50% Load Step Change	Peak Deviation		200		mV	
		Recovery Time		250		μs	
Over Temperature Protection	Internal IC Junction			+150		°C	
ENVIRONMENTAL SPECIFICATIONS							
Operating Ambient Temperature		-40		+100	°C		
Storage Temperature		-55		+125	°C		
Maximum Case Temperature				+105	°C		
Relative Humidity		5		95	%RH		
Thermal Shock		MIL-STD-810F					
Vibration		MIL-STD-810F					
MTBF	MIL-HDBK-217F Full Load	12,260,000			hours		
GENERAL SPECIFICATIONS							
Efficiency		See Table					
Switching Frequency	DCLSR01-05Sxx		1200		kHz		
	Others		500				
PHYSICAL SPECIFICATIONS							
Weight		0.06oz (1.7g)					
Dimensions (L x W x H)		0.60in x 0.37in x 0.29in (15.2mm x 9.3mm x 7.3mm)					
Case Material		Non-Conductive Black Plastic					
Base Material		Non-Conductive Black Plastic					
SAFETY							
Safety Approvals		UL60950-1 EN60950-1 IEC60950-1					

NOTES

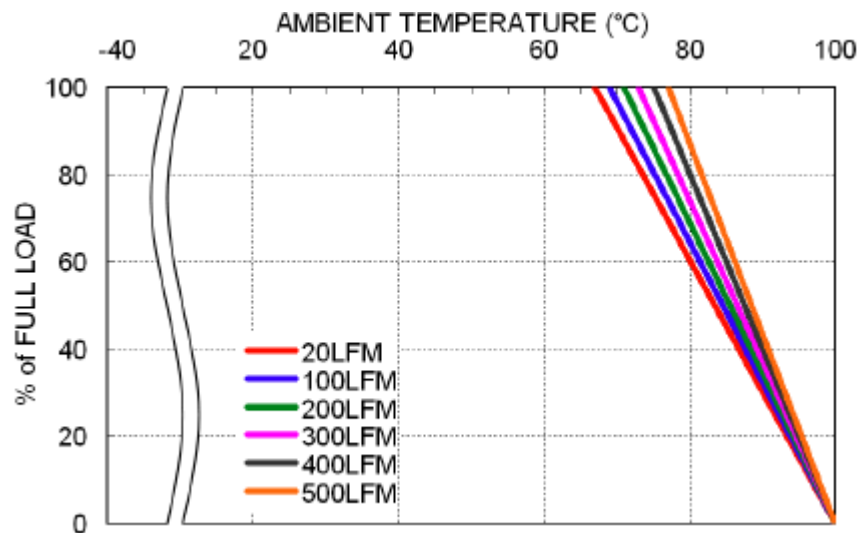
(1) With a C1 (22uF/50V) input capacitor for input voltage > 32VDC, the input allows 36VDC, max.

CAUTION: The 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.

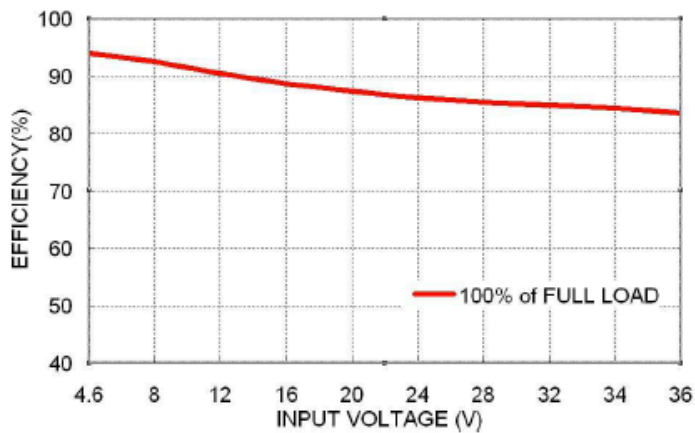
DERATING CURVES

DCLSR01-12S05 Derating Curve

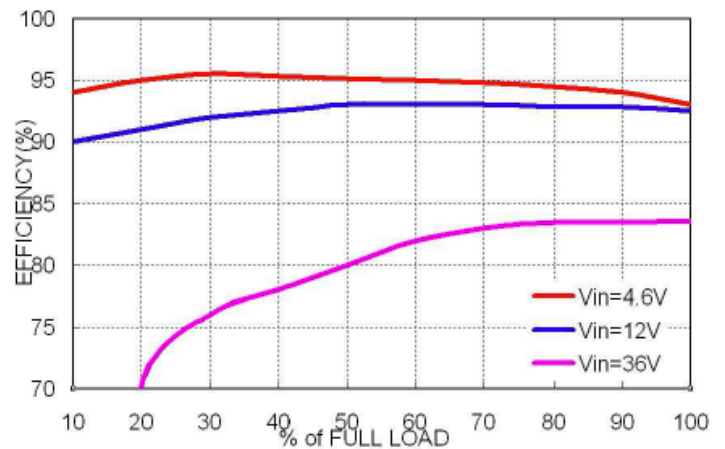


EFFICIENCY GRAPHS

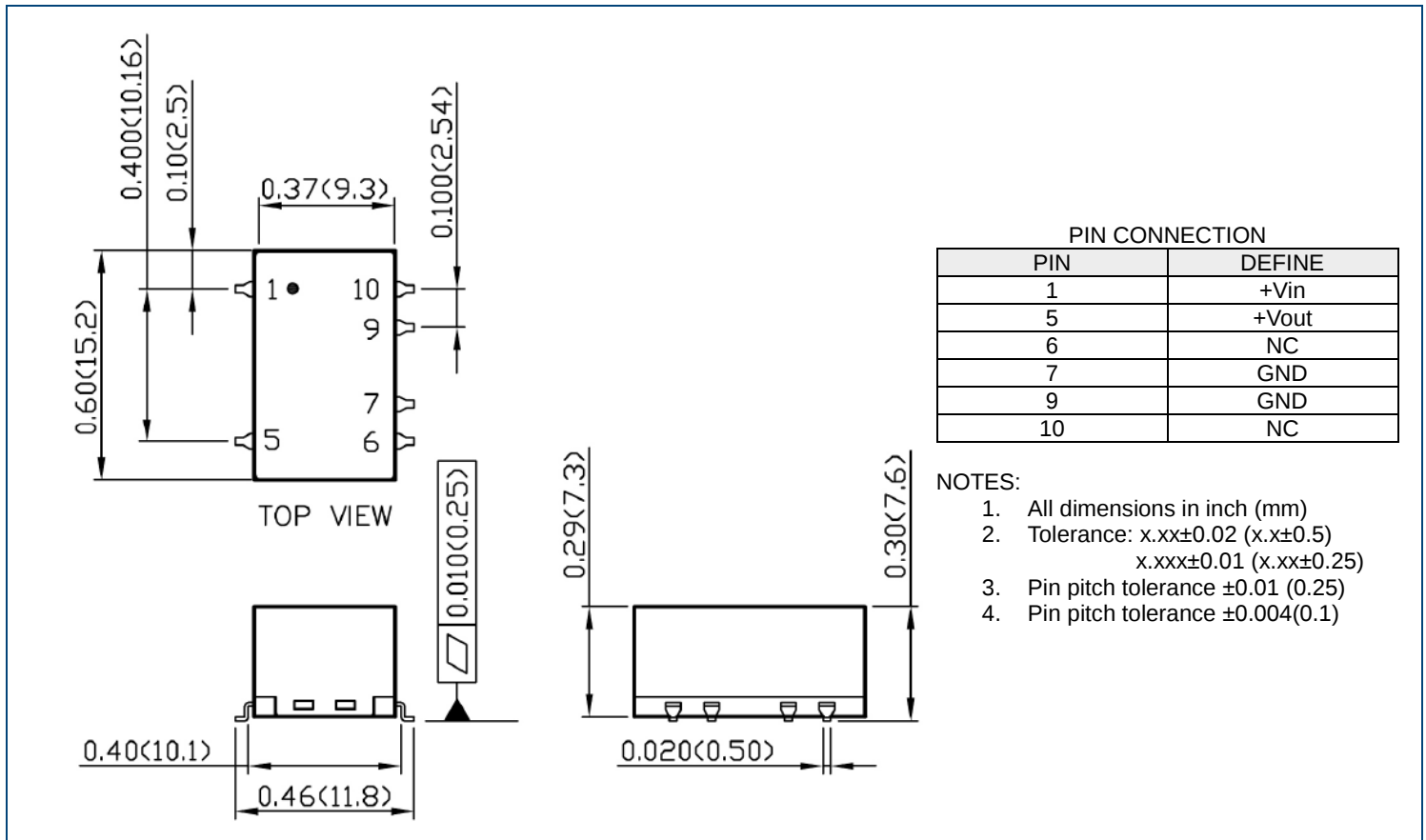
DCLSR01-12S05 Efficiency vs. Input Voltage



DCLSR01-12S05 Efficiency vs. Output Load



MECHANICAL DRAWINGS



MODEL NUMBER SETUP

DCLSR01	-	24	S	12
Series Name		Input Voltage	Output Quantity	Ouput Voltage
		05: 3.0~5.5VDC 12: 4.6~36VDC 24: 12~36VDC	S: Single	1P2: 1.2VDC 1P5: 1.5VDC 1P8: 1.8VDC 2P5: 2.5VDC 3P3: 3.3VDC 05: 5VDC 6P5: 6.5VDC 09: 9VDC 12: 12VDC 15: 15VDC

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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