



Size: 2in x 1in x 0.47in (50.8mm x 25.4mm x 12mm)

FEATURES

- Bidirectional DC/DC Converter
- High Efficiency
- Constant Voltage and Constant Current Mode
- Continuous Short Circuit Protection
- 3KVDC Isolation
- RoHS Compliant
- EN62368-1 Safety Approval

APPLICATIONS

- Process Control
- Electric Power Instrumentation
- Super Cap. Application
- Energy Storage Systems
- Electric Vehicles
- Battery Management Systems

DESCRIPTION

The DCCE24S2428-1000 model of bidirectional DC/DC converters offers 28 watts of output power in a very compact through hole package. This is a single output model with constant voltage and constant current mode and an input voltage of 15-36VDC. It features high efficiency, 3KVDC isolation, and short circuit protection. The DCCE24S2428-1000 model is also RoHS compliant. Contact factory for ordering information.

MODEL SELECTION TABLE

Model Number	Direction	Input Voltage Range	CV Output Voltage	CC Output Current	Ripple & Noise	Efficiency	Output Power
DCCE24S2428-1000	Forward	28VDC (15-36VDC)	24VDC	1000mA	200mVp-p	86%	28W
	Reverse	24VDC (15-36VDC)	28VDC	1000mA			

SPECIFICATIONS

All specifications are based on 25°C after warm-up time, Nominal Input Voltage, and Full Load 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	Forward Nominal VIN=28VDC Reverse Nominal VIN=24VDC	15		36	VDC
Start-Up Voltage	Forward/Reverse	9			VDC
No Load Input Voltage	Forward Reverse		50 70		mA
Input Surge Voltage	0.1s Max.			50	VDC
Disable Static Current	EN pin to open	2		5	mA
Input Filter		Pi Type			
Under Voltage Lockout	Forward/Reverse		8		VDC
OUTPUT SPECIFICATIONS					
Output Voltage Range	Forward Reverse	3 3		22.8 26.6	VDC
Voltage Accuracy (at CV mode)	Forward Io=900mA Reverse Io=900mA			±5	%
Current Accuracy (at CC mode)	Forward Vo=22.8VDC Reverse Vo=26.6VDC			±10	%
Voltage Load Regulation (at CV mode)	Forward Io=0-900mA Reverse Io=0-900mA			±3	%
Current Load Regulation (at CC mode)	Forward Vo=3-22.8VDC Reverse Vo=3-26.6VDC			±5	%
Voltage Line Regulation (LL-HL at CV mode)	Forward Io=900mA Reverse Io=900mA			±2	%
Current Line Regulation (LL-HL at CC mode)	Forward Vo=22.8VDC Reverse Vo=226.6VDC			±2	%
Output Current Range (at CV mode)	Forward Reverse	0 0		900 900	mA
Minimum Load				0	%
Operating Frequency	100% Load at all input range		400		KHz
Ripple & Noise ⁽¹⁾				200	mVp-p
Transient Response Recovery Time					
Start-Up Time	Nominal Vin		100	150	mS
Temperature Coefficient				0.05	%/°C

SPECIFICATIONS

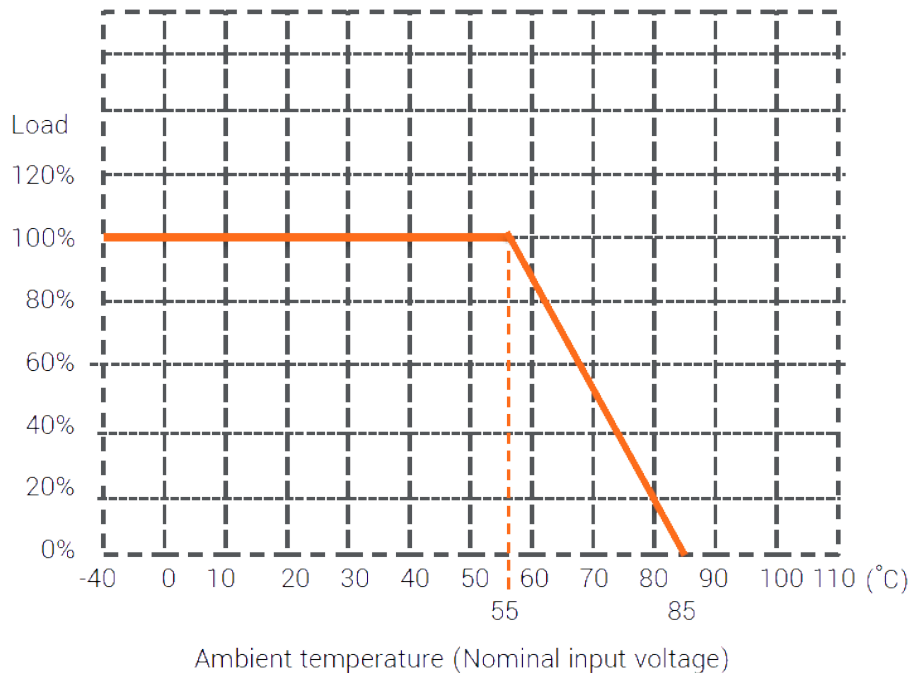
All specifications are based on 25°C after warm-up time, Nominal Input Voltage, and Full Load unless otherwise noted.
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SPECIFICATION	TEST CONDITIONS	Min	Typ	Max	Unit
PROTECTION					
Short Circuit Protection		Continuous, Automatic Recovery			
ENVIRONMENTAL SPECIFICATIONS					
Operating Temperature	Natural Convection with Derating	-40		85	°C
Storage Temperature		-45		105	°C
Max. Case Temperature	100% Load at Nominal Vin			105	°C
Relative Humidity		5		95	%RH
Vibration		MIL-STD-202G			
MTBF		TBD			Hours
GENERAL SPECIFICATIONS					
Efficiency	Tested by nominal input and max. full load @25°C	See Table			
Isolation Voltage	1 minute, input to output	3			KVDC
Isolation Resistance	500VDC	1000			MΩ
Isolation Capacitance			500		pF
PHYSICAL SPECIFICATIONS					
Weight		0.88oz (25g)			
Dimensions (L x W x H)		2in x 1in x 0.47in (50.8mm x 25.4mm x 12mm)			
Case Material		Plastic Case			
Potting Material		Epoxy			
Cooling Method		Free Air Convection			
SAFETY CHARACTERISTICS					
Safety Approvals		EN62368-1			

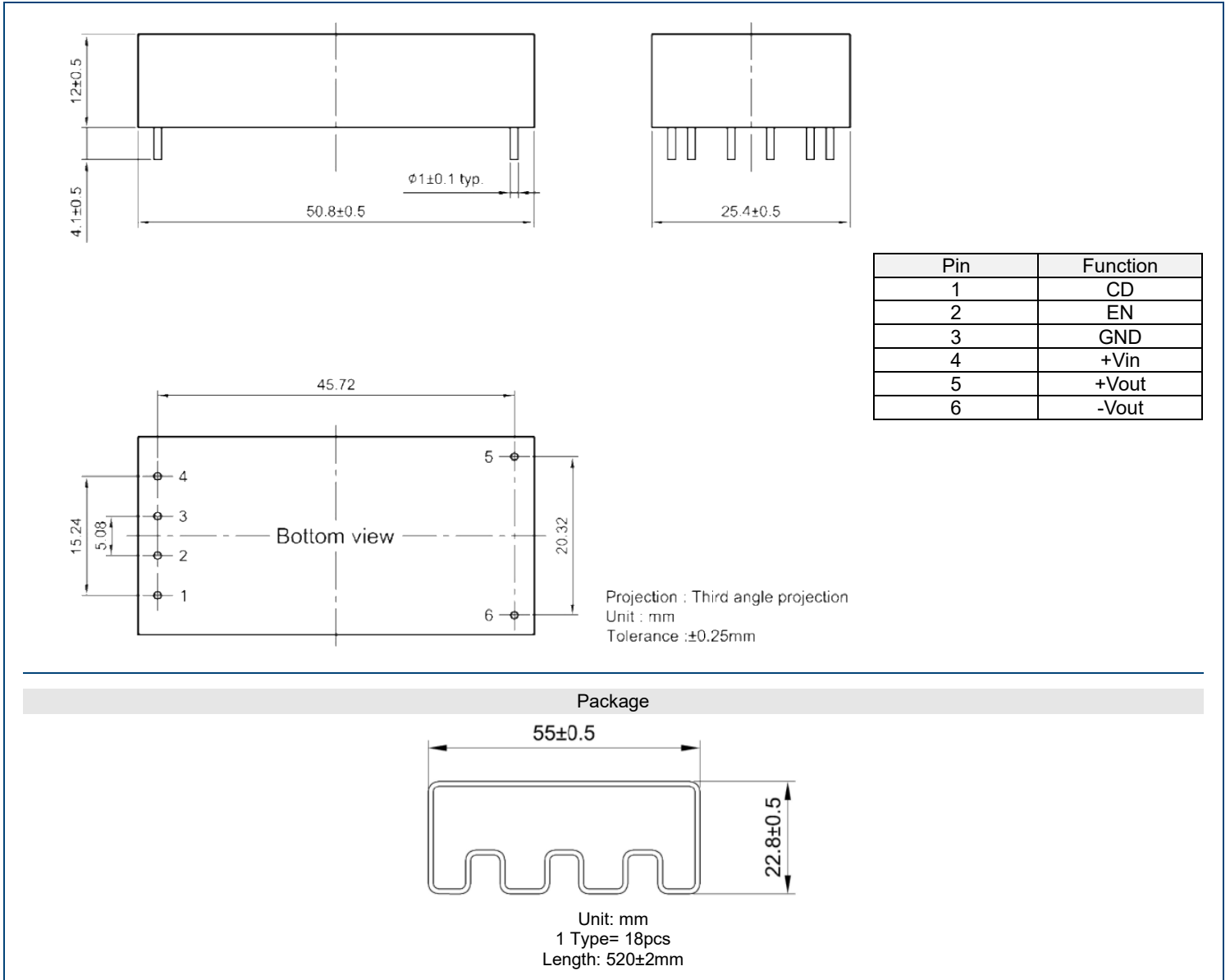
NOTES

- 20MHz BW at vin range CV-mode, 0~90% load 9 (contact MLCC 1μF).
- *Due to advances in technology, specifications subject to change without notice.*

DERATING CURVES



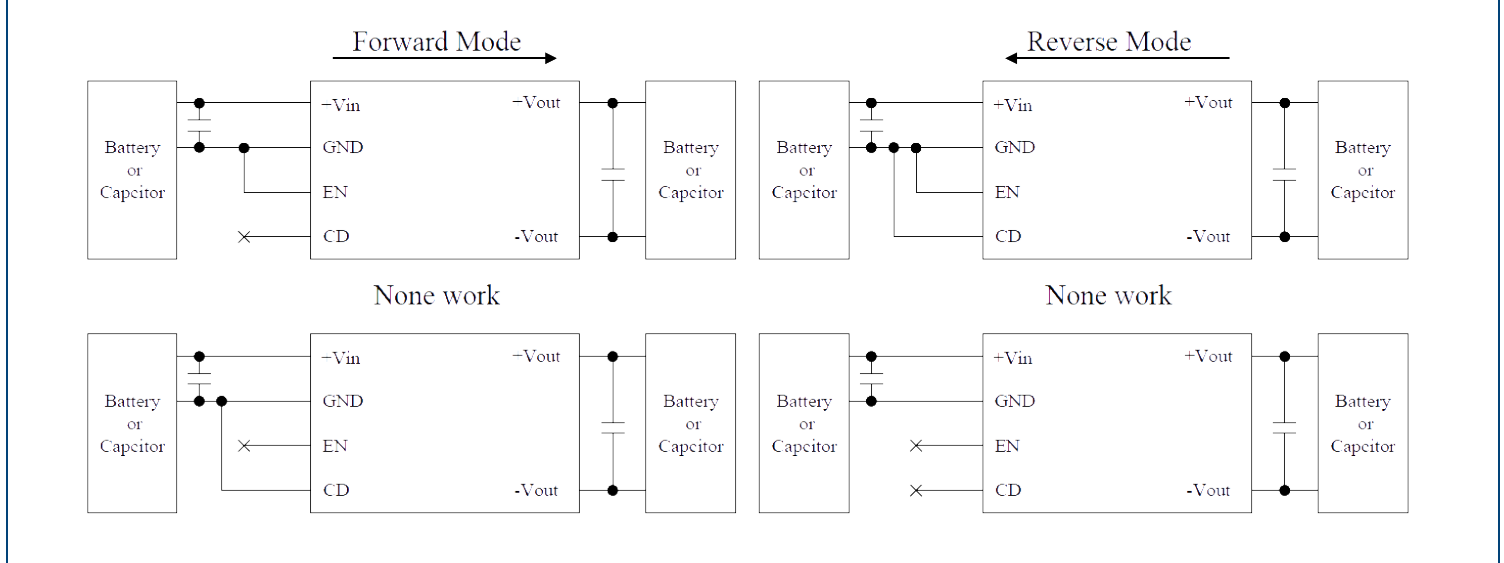
MECHANICAL DRAWINGS



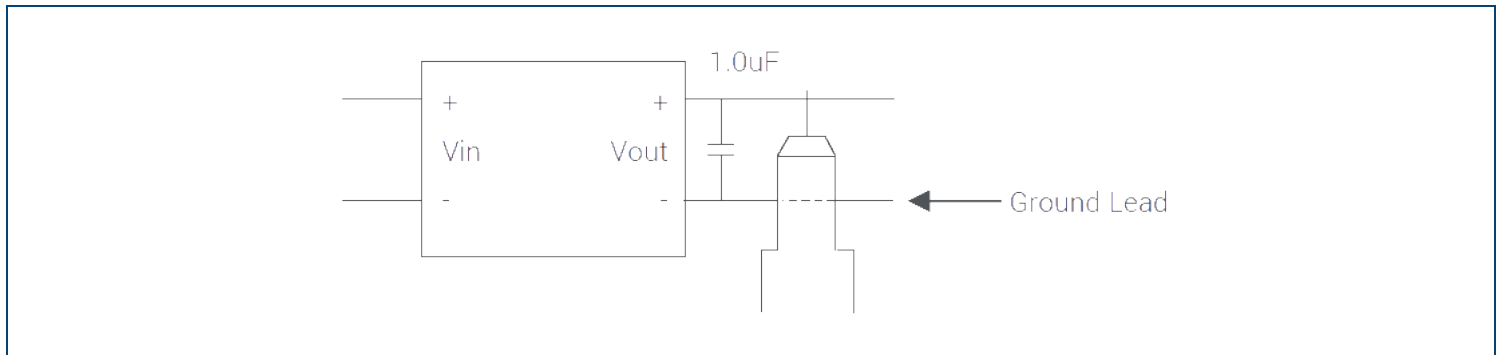
CONTROL CHARACTERISTICS

EN Pin	CD Pin	Working State
Open	Open	None Work
Open	Gnd	None Work
Gnd	Open	Forward
Gnd	Gnd	Reverse

The control function requires a minimum operating voltage 3VDC at +Vin to GND



RIPPLE & NOISE MEASURE METHOD



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 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.

Contact **Wall Industries** for further information:

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