



50 Watt, 2:1 Wide Input DC/DC Converters Series DVE50A2



Features

- 50 Watt Isolated Output
- Regulated Outputs
- 2:1 Wide Input Range
- 1" x 1" Package
- Efficiency to 91%
- Remote On/Off
- I/O Isolation 1500 VDC
- Input Over Voltage Protection
- Under Voltage Lock Out
- Continuous Short Circuit Protection
- OVP, OCP, OTP
- Output Voltage Adjustable (Trim)

MODEL NUMBER	INPUT VOLTAGE [VDC] (Note 1)	OUTPUT VOLTAGE [VDC]	OUTPUT CURRENT Max. [A]	CAPACITOR LOAD MAX. (Note 2) [mA]	EFF. [%]	CASE
DVE50A2-24S05	18 – 36	5	10	10000	91	A
DVE50A2-24S12		12	4,17	4700	91	
DVE50A2-24S15		15	3,33	4700	91	

Note:

1. Nominal Input Voltage 24VDC
2. Total Capacitive Loads of output port should be lower than this value.

Technische Änderungen vorbehalten / Technical change reserved

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INPUT SPECIFICATIONS:

Input Voltage Range.....	24V.....	18 – 36V
Start-up Voltage	0-100% Load.....	17Vdc typ.
Shut-down Voltage.....	0-50% Load.....	16Vdc typ.
Input Surge Voltage.....	1 second max.....	50VDC max.
Input Current	No Load / 100% Load.....	50 - 80 mA typ. / 3230mA typ.
Short Circuit Input Power.....	Auto Recovery, Hiccup Mode	4000mW max.
Input Filter		PI Type
Positive Logic Remote ON/OFF Control (Note 2):		
Logic Compatibility	Control Voltage Reference to -Vin	
Remote OFF	Control Voltage.....	0V min. / 0,8Vdc max.
	Current.....	-2mA min / 2mA max.
Remote ON	Control Voltage.....	3V min. / 15Vdc max.
	Current.....	-2mA min / 2mA max.
Negative Logic Remote ON/OFF Control (Note 2 & 3):		
Logic Compatibility	Control Voltage Reference to -Vin	
Remote ON	Control Voltage.....	0V min. / 0,8Vdc max.
	Current.....	-2mA min / 2mA max.
Remote OFF	Control Voltage.....	3V min. / 15Vdc max.
	Current.....	-2mA min / 2mA max.
Input Over Voltage Protection.....	Shut Down, Auto Recovery.....	40VDC typ.

OUTPUT SPECIFICATIONS:

Voltage Accuracy	100% Load.....	±1,0%max.
Line Regulation	100% Load.....	±0,3% max.
Load Regulation	Io= 10% to 100% Load.....	±1% max.
Temperature Drift		0,03%/°C max.
Ripple and Noise, 20 MHz BW		75mV p-p max.
Transient Recovery Time	50% - 75% Step Load Change.....	500µ sec.
Transient Response Deviation.....	50% - 75% Step Load Change.....	±6% Vo max.
Over Voltage Protection		Clamp, Auto Recovery
Over Current Protection.....		105% - 160%
Over Temperature Protection		Auto-Recovery, 115°C typ.
Short Circuit Protection.....		Auto-Recovery, Hiccup Mode
External Trim Adj. Range (Single Output only).....		±10% typ.
Start up Time.....		60ms max.

GENERAL SPECIFICATIONS:

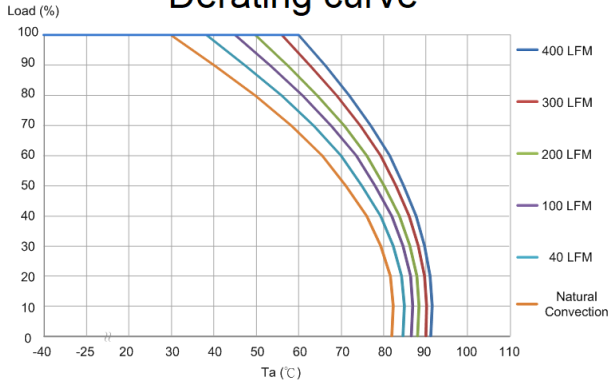
Efficiency.....		See Table
Isolation Voltage I/O	60 sec.....	1500 VDC min.
Isolation Voltage Case/I & Case/O	60 sec.....	1000 VDC min.
Isolation Resistance		1 GΩ min.
Isolation Capacitance		2000pF typ.
Switching Frequency	Vout 5V.....	450KHz typ.
	Vout 12V & 15V.....	350KHz typ.
Operating Case Temperature Range.....		-40°C to +105°C
Derating		see derating curve
Case Temperature		105°C max.
Over Temperature Protection (Case).....		115°C typ.
Over Current Protection.....		115 min. to 160% Load max.
Cooling.....		Natural Convection
Storage Temperature Range		-55°C to +125°C
Humidity		95% RH max. Non condensing
Dimensions		1,00 x 1,00 x 0,40 inches (25,4 x 25,4 x 10,2 mm)
Case Material		Anodized Aluminum Case with Plastic Base (meet UL94V-0)
Weight.....		16 g

Note:

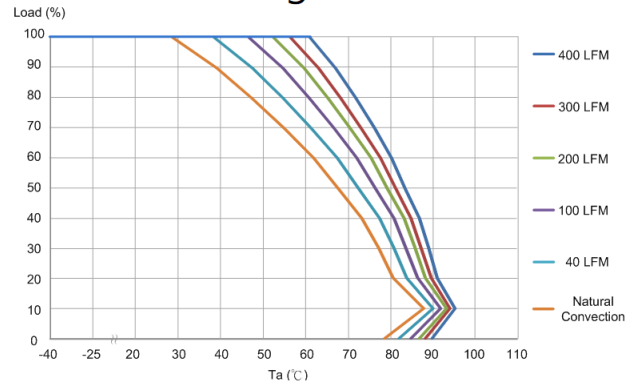
1. All specifications are measured at nominal input voltage, load between Min. and Max. Output current, and probe bandwidth should be under 20MHz, Ta = +25°C.
2. Control Voltage Reference to Negative Input (-Vin).
3. Suffix "N" to the model number with negative logic remote On/Off.
4. Output Ripple & Noise Test please connect a Capacitor 10uF (1206/X7R/16V/MLCC) .
5. An external fuse is needed at the front end of DC/DC converter for protection based on surge current and maximum input current when settle it in recommended ,recommend value is 7A (typical / Slow-Blow Type) .

All Specifications Typical at Nominal Line, Full Load and 25°C. Unless Otherwise Noted

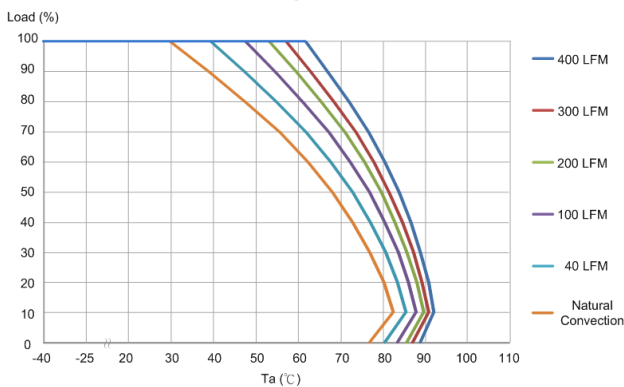
DVE50A2-24S05 Derating curve



DVE50A2-24S12 Derating curve



DVE50A2-24S15 Derating curve



CASE A

Series DVE50A2

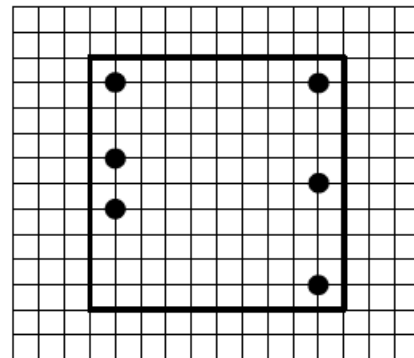
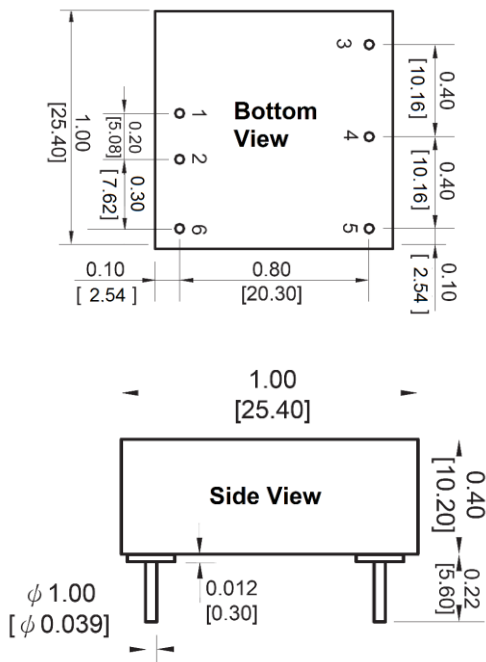
Note:

All dimensions in inch [mm]

Tolerance : ± 0.01 [± 0.25]

Pin pitch tolerance ± 0.01 [± 0.25]

Pin dimension tolerance ± 0.004 [± 0.1]



Grid : 0.1 inch / 2.54 mm
Dot(Drill Hole) : $\phi 1.5 +0.2/-0$ mm

PIN CONNECTION DVE50A2

Pin	Single Output	
1	+V Input	
2	-V Input	
3	+V Output	
4	Trim	
5	-V Output	
6	Remote ON/OFF	

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