

Features

- ◇ 6 Watt Output Power
- ◇ Regulated Output
- ◇ 2:1 Wide Range Input Voltage
- ◇ Efficiency up to 80%
- ◇ Operating Temperature Range -40°C~60°C
(Non-Derating)
- ◇ 4000VAC/5600VDC Isolation Voltage
- ◇ EMI EN55022 Class A Approval
(with external coupling capacitor $C_{io}=1nF < B$)
- ◇ Meets UL60601 Safety (Approved For Customer)
- ◇ Comply with Industrial & Medical Safety
- ◇ Dual-in-line package (DIP)
- ◇ UL94V-0 Package Material
- ◇ 3 Years Warranty



Description

E26WH series are isolated 6 Watt DC/DC converters in DIP-24pin packages, and allow a wide 2:1 input voltage range of 12V, 24V and 48V to convert to an output voltage of 5V, 12V, 15V, $\pm 5V$, $\pm 12V$ and $\pm 15V$.

The output continuous short circuit protection, low isolation capacitance, and operating temperature -40°C to +60°C (Non-Derating) are features of this converter.

Applications

- △ Automatic Control System
- △ Industry Computer
- △ Communication System
- △ Distribute Power System
- △ Movable/Portable Test Equipment
- △ Local Power System
- △ Medical System
- △ Other Applications meet Specifications.

General Specifications

Parameter	Condition	Min.	Typ.	Max.
Storage Temperature	Ambient	-40	---	+125 °C
Operating Temperature	Ambient	-40	---	+60 °C
	Case	-40	---	+90 °C
Relative humidity		---	---	95 %
Isolation Voltage	Input to Output, 60 sec.	5600 VDC	---	---
Isolation Resistance	Input to Output	10 G ohm	---	---
Isolation Capacitance	Input to Output	---	7	13 pF
Switching Frequency	Max. Load	110	130	150 KHz
MTBF	Vin-N, Max. Load, 25°C	---	1 MHrs	---
Weight	Silicon	---	14 g	---
Case Material	Non-Conductive Black Plastic (Meets UL94V-0)			
Dimensions	1.25 x 0.8 x 0.41 inch (31.8 x 20.3 x 10.4 mm)			

Selection Guide

Part Number	Input				Output			Efficiency	Cap. Load ⁽⁸⁾
	Voltage	Current		Ref. Ripple ⁽⁷⁾	Voltage	Current			
	Nominal (Low ~ High)	No Load	Max. Load	Max. Load	Typ.	Min.	Max.	Max. Load	
		Typ.	Typ.	Typ.				Typ.	
VDC	mA	mA	mA	VDC	mA	mA	%	μF	
E26WH-1205S	12 (9 ~ 18)	20	549	60	5	100	1000	76	1000
E26WH-1212S			641		12	50	500	78	470
E26WH-1215S			641		15	40	400	78	470
E26WH-1205D			549		± 5	± 50	± 500	76	470
E26WH-1212D			641		± 12	± 25	± 250	78	220
E26WH-1215D			641		± 15	± 20	± 200	78	220
E26WH-2405S	24 (18 ~ 36)	10	271	30	5	100	1000	77	1000
E26WH-2412S			313		12	50	500	80	470
E26WH-2415S			313		15	40	400	80	470
E26WH-2405D			271		± 5	± 50	± 500	77	470
E26WH-2412D			313		± 12	± 25	± 250	80	220
E26WH-2415D			313		± 15	± 20	± 200	80	220
E26WH-4805S	48 (36 ~ 75)	5	136	15	5	100	1000	77	1000
E26WH-4812S			156		12	50	500	80	470
E26WH-4815S			156		15	40	400	80	470
E26WH-4805D			136		± 5	± 50	± 500	77	470
E26WH-4812D			156		± 12	± 25	± 250	80	220
E26WH-4815D			156		± 15	± 20	± 200	80	220

Note:

- 1) All specifications are measured at nominal input voltage, constant resistive load between Min. and Max. output current, and probe bandwidth should be under 20MHz, Ta = +25°C.
- 2) When the Load is at No-Load or lower than Min. output current, the DC/DC converters will not be damaged; however, all the parameters may be not reaching all specifications listed.
- 3) Output Ripple & Noise Test please refer to E-Chin Technology Co., Ltd. proposed test-method.
- 4) Load Regulation and Line Regulation calculation please refer to E-Chin Technology Co., Ltd. proposed formula.
- 5) An external fuse is needed at the front end of DC/DC converters for a protection as a recommended settlement in order to avoid a surge current or a maximum input current.
- 6) "Vin-H" means "Vin-High", "Vin-N" means "Vin-Nominal", and "Vin-L" means "Vin-Low".
- 7) "Ref. Ripple" means "Reflected Ripple of Input Current".
- 8) The total Capacitive Loads of output should be lower than the value written above.
- 9) Other Input Voltages, Output Voltages and Specifications may be available, please contact us.
- 10) E26WH series meets EMI EN 55022 Class A with external coupling capacitor Cio= 1 nF < B.

Input Specifications

Parameter	Condition	Min.	Typ.	Max.
Input Voltage Range	12VDC models	9	12	18 V
	24VDC models	18	24	36 V
	48VDC models	36	48	75 V
Power ON Voltage Range	12VDC models	7	8	9 V
	24VDC models	14	16	18 V
	48VDC models	30	33	36 V
Power OFF Voltage Range	12VDC models	---	---	8.5 V
	24VDC models	---	---	16 V
	48VDC models	---	---	32 V
Short Circuit Input Power	All models	---	---	2500 mW
Input Filter	Pi-Network	EMI EN55022 Class A Approval		

Output Specifications

Parameter	Condition	Min.	Typ.	Max.	
Output Voltage Accuracy	Vin-N, Max. Load	---	± 0.5	± 1.0 %	
Line Regulation	Vin-L to Vin-H @ Max. Load	---	± 0.3	± 0.5 %	
Load Regulation	Io = 10% to 100% Load @ Vin-N	---	± 0.5	± 1.0%	
Balance Regulation	Vin-N, Max. Load, Dual Output	---	± 0.5	± 2.0 %	
Temperature Drift	Lowest to Highest Temp.	---	± 0.01	± 0.02 %/°C	
Ripple & Noise	Peak to Peak, 20MHz	Single Output	---	30	50 mV
		Dual Output	---	50	75 mV
Transient Recovery Time	Vin-N, 25% load step change	---	300	500 µSec	
Transient Response Deviation		---	± 3.0	± 6.0 %Vo	

Protection Specifications

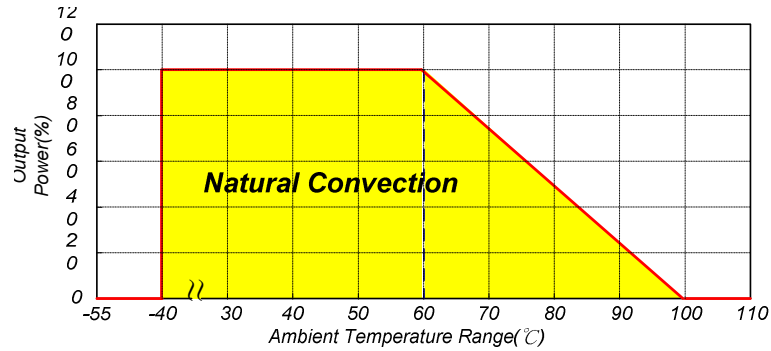
Parameter	Condition	Min.	Typ.	Max.
Over Power Protection	Vin-L to Vin-H	110%Io	---	---
Output Short Circuit Protection	Continuous, Auto-recovery			

Input Fuse Selection Guide

12VDC models	24VDC models	48VDC models
1200 mA Slow – Blow Type	600 mA Slow – Blow Type	300 mA Slow – Blow Type

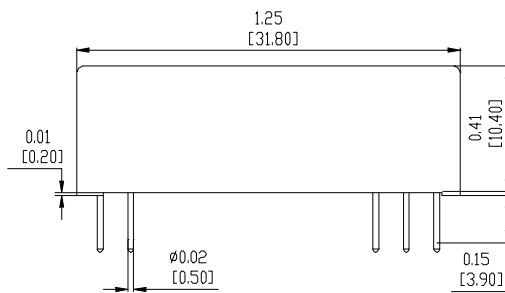
Characteristic Curve

Derating Curve

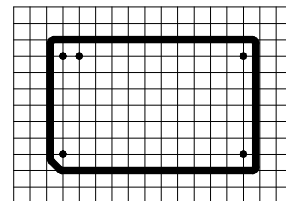


Package Dimension

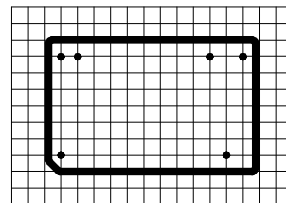
Front View



Recommend Footprint Details (Top View)



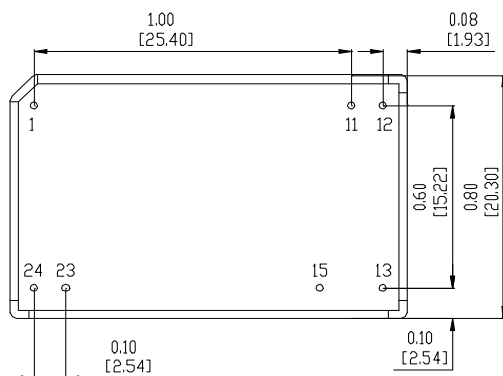
Single Output



Dual Output

Grid: 0.1 inch / 2.54 mm
Dot(Drill Hole): $\phi 0.8 +0.2/-0$ mm

Bottom View



Pin Functions

Pin No.	Single Output	Dual Output
1	+Vin	+Vin
11	No Pin	Common
12	-Vout	No Pin
13	+Vout	-Vout
15	No Pin	+Vout
23	-Vin	-Vin
24	-Vin	-Vin

Note:

All dimensions in inch [mm]
Tolerance : XX.X± 0.01 [XX.X±0.25]
 XX.XX± 0.01 [XX.XX±0.25]
Pin pitch tolerance ±0.01 [±0.25]
Pin dimension tolerance ±0.004 [±0.1]