ECHIN Technology Co., Ltd

C12W-004S

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	Max.
		Typ.	Typ.	Typ.				Typ.	
	VDC	mA	mA	mA	VDC	mA	mA	%	μF
C12W-004S	24 (18 ~ 36)	10	91	200	3.3	500	50	76	3300

General Specifications

Parameter	Condition	Min.	Typ.	Max.
Storage Temperature	Ambient,	-40	---	+125 ℃
Operating Temperature	Ambient	-40	---	+71 ℃
	Case	-40	---	+90 ℃
Relative humidity		---	---	95 %
Isolation Voltage	Input to Output, 60 sec.	1.5 KV	---	---
Isolation Resistance	Input to Output	1 G ohm	---	---
Isolation Capacitance	Input to Output	---	---	120 pF
Switching Frequency	Max. Load	---	250 KHz	---
MTBF	Vin-N, Max. Load, 25℃	---	1 MHrs	---
Weight	Epoxy	---	4.8 g	---
Case Material	Non-Conductive Black Plastic (Meets UL94V-0)			
Dimensions	0.86 x 0.37 x 0.44 inch (21.8 x 9.3 x 11.2 mm)			

Input Specifications

Parameter	Condition	Min.	Typ.	Max.
Input Voltage Range	24VDC	18	24	36 V
Power ON Voltage Range	24VDC	14	16	18 V
Power OFF Voltage Range	24VDC	---	---	17 V
Short Circuit Input Power		---	---	1500 mW
Input Filter	Capacitor type	See External Functions for meeting EN55022 Class-A		

Output Specifications

Parameter	Condition	Min.	Typ.	Max.
Output Voltage Accuracy	Vin-N, Max. Load	---	± 0.5	± 1 %
Line Regulation	Vin-L to Vin-H @ Max. Load	---	± 0.1	± 0.3 %
Load Regulation	Io = 10% to 100% Load @ Vin-N	---	± 0.3	± 0.5%
Balance Regulation	Vin-N, Max. Load, Dual Output	---	± 0.5	± 2.0 %
Temperature Drift	Lowest to Highest Temp.	---	± 0.01	± 0.02 %/℃
Ripple & Noise	Peak to Peak, Each Output, 20MHz	---	30	50 mV
Transient Recovery Time	Vin-N, 25% load step change	---	100	300 μSec
Transient Response Deviation		---	± 2	± 5 %Vo
Output Short Circuit	Continuous, Auto-Recovery			

Protection Specifications

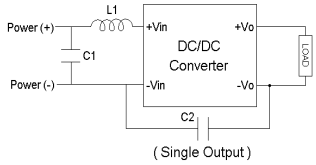
Parameter	Condition	Min.	Typ.	Max.
Over Power Protection	Vin-L to Vin-H	110%Io	---	---

Input Fuse Selection Guide

24VDC models
300mA Slow - Blow Type

External Functions

Extra component for meeting to EN55022 Class-A



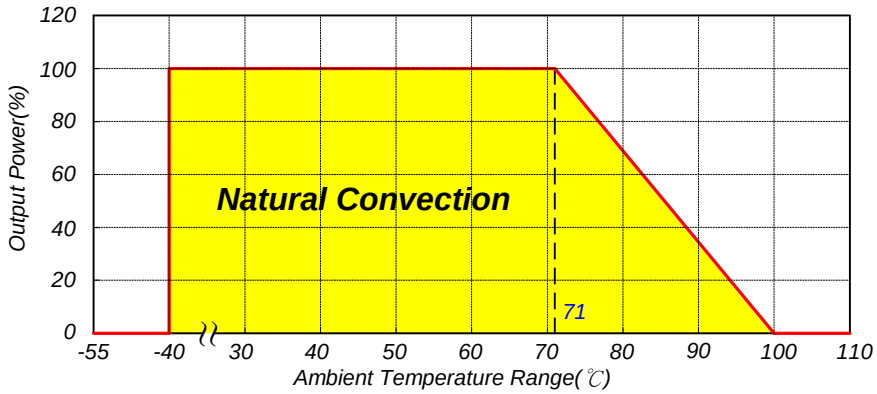
Model	24 Vin
L1	47uH
C1	1uF/50V
C2	330pF/2KV

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 ℃.*
2) *When Load is lower than Min. Output Current or under no-Load, will not damage these devices; however, it may not meets all specifications.*
3) *Output Ripple & Noise Test please refers to ECHIN Technology Co., Ltd. proposed test-method.*
4) *Load Regulation and Line Regulation calculating please refers to ECHIN Technology Co., Ltd. proposed formula.*
5) *An external fuse is needed at the front end of DC/DC converters for protection and base on surge current and maximum input current when settle it in recommended.*
6) *"Vin-H" means "Vin-High", "Vin-N" means "Vin-Nominal", and "Vin-L" means "Vin-Low".*
7) *"Reflected Ripple" means "Reflected Ripple of Input Current".*
8) *Total Capacitive Loads of output should be lower than this value.*
9) *Other Input Voltage, Output Voltage and Specifications may be available, please contact us.*

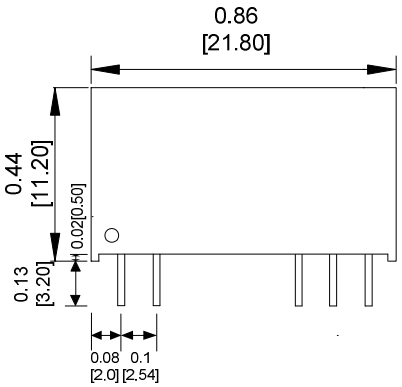
Characteristic Curve

Derating Curve

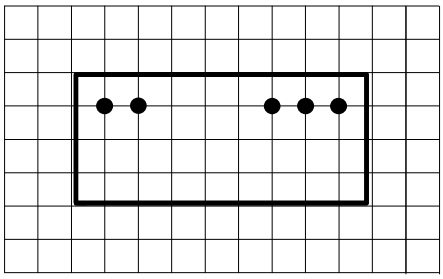


Package Dimension

Front View



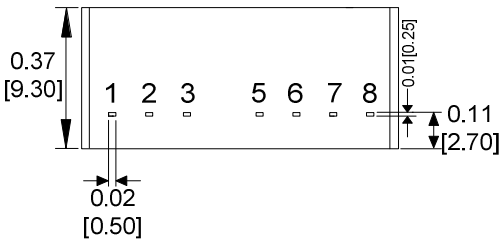
Recommend Footprint Details (Top View)



Single Output

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

Bottom View



Pin Functions

Pin No	Single Output
1	-Vin
2	+Vin
3	No Pin
5	No Pin
6	+Vout
7	-Vout
8	No Connect

Note:

All dimensions in inch [mm]

Tolerance : XX.X± 0.01 [XX.X±0.25]

XX.XX± 0.005 [XX.XX±0.13]

Pin pitch tolerance ±0.01[±0.25]

Pin dimension tolerance ±0.004 [±0.1]