FEATURES :

- Ultra-wide 4:1 input voltage range
- 6 Watt 6PIN DIL Package
- Railway Applications
- Efficiency to 86%
- Regulated Output Types
- 2500Vdc Isolation
- MTBF:>1,000,000 hrs
- Input under-voltage protection, output short circuit, over-current, over–voltage protection
- Operating Temperature:-40℃ to +85℃

YUAN DEAN SCIENTIFIC

DC-DC Converter

76DW-6W SERIES

6Watt 2.5KV Isolated

Ultra-wide 4:1 input voltage

Single & Dual Output

1" x 1"

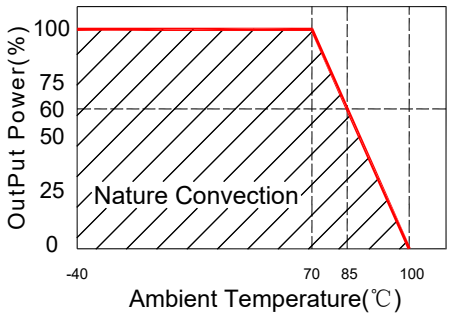
Specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified

Part Number	Input Voltage		Output Voltage	Output Current	Efficiency	Max. Capacitive Load (uF)
	Vdc	Vdc(Max)	Vdc	mA	%TYP	
76DW-110S03R6W	40-160	170	3.3	1800	78	1500
76DW-110S05R6W	40-160		5	1200	80	1000
76DW-110S12R6W	40-160		12	500	84	470
76DW-110S15R6W	40-160		15	400	85	220
76DW-110S24R6W	40-160		24	250	86	100
76DW-110D05R6W	40-160		±5	±600	80	470
76DW-110D12R6W	40-160		±12	±250	84	220
76DW-110D15R6W	40-160		±15	±200	85	100

Input Specifications

Parameters	Conditions	Min	Typ	Max	Units
Voltage Types				4:1	
Surge Voltage (1sec max)				180	Vdc
Start-up Voltage				40	Vdc
Shutdown Voltage		32	35		Vdc
Start-up Time	Nominal input voltage & Nominal load		20		ms
CTRL	Module on		Ctrl pin open		
	Module off		Ctrl pin to Vin		
Input Filter			Pi filter		

Temperature Derating Graph



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Rev:1 2020/03/17

Output Specifications

Parameters	Conditions	Min	Typ	Max	Units
Voltage Tolerance	(F.L To 100% Load)		±1	±3	%
Line Regulation	Input voltage variation from low to high at full load		±0.5	±1.0	%
Load Regulation	Single (F.L To 100% Load)			±1.0	%
Load Regulation	Dual (F.L To 100% Load)			±1.5	%
Ripple & Noise	BW=DC To 20MHz			100	mVp-p
Transient response setting time	50% load step change		350		us
Temperature Coefficient	100% Load		±0.02	±0.03	%/℃
Over-current Protection	40~160Vdc	120		210	%Io
Over-voltage Protection	40~160Vdc	110		160	%Vo
Short Circuit Protection	40~160Vdc	Continuous, recovers automatically after fault condition is removed			

General Specifications

Parameters	Conditions	Min	Typ	Max	Units
Isolation Resistance	500Vdc	1000			MΩ
Isolation Voltage	Input / Output		2500Vdc/ 0.5mA/60Sec		
Switching Frequency			300		KHz
Isolation Capacitance	Input-output,100KHz/0.1V		1000		pF
Operating Temperature		-40		85	℃
Humidity	Non Condensing			95	%
Cooling	Free air Convection				
Case material	Nickel Coated Copper with Non-Conductive Base				
Weight			15.0		g
Dimensions			25.4x25.4x10.6		mm

Electromagnetic Compatibility (EMC)

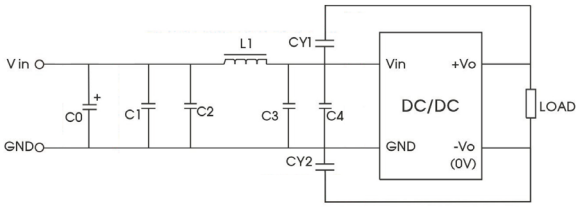
Parameters	Standards & Level
EMI	EN55032, EN55011, FCC part 15(see Fig.1 for recommended circuit)
EMS	EN55024
ESD	EN61000-4-2 air ±8kV, Contact ±6kV
Radiated immunity	EN61000-4-3 10V/m
Fast transient	EN61000-4-4 ±2kV
Surge	EN61000-4-5 ±2kV

Part Number

76DW - 110 S 05 R 6W
A B C D E F

A:Series
B:Input Voltage
C:Single(S)Dual(D)
D:Output Voltage
E:Regulated(R)
F:Output Power

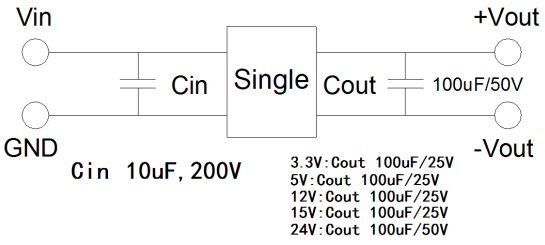
EMC Compliance Circuit

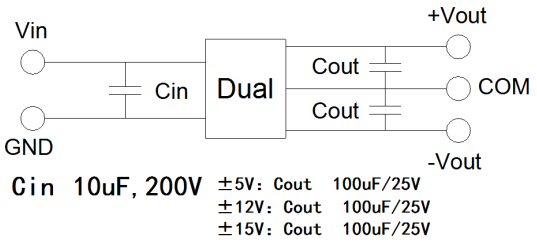


C0	100uF/200V
C1, C2, C3, C4	0.22uF/250V
L1	68 μ H
CY1, CY2	1nF/3KV

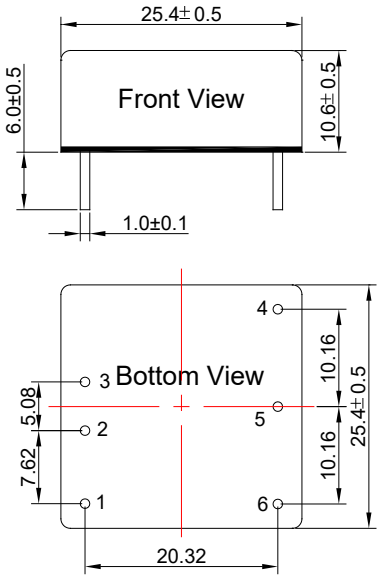
Fig. 1

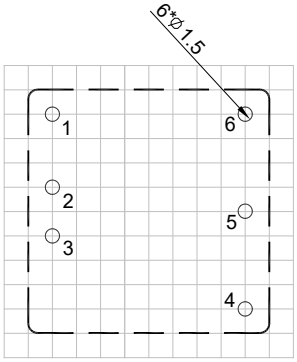
Recommended Test Circuit





Markings and Dimensions





Note:Grid 2.54*2.54mm

UNIT : mm Unless otherwise specified, all tolerances are ±0.25

PIN Connection

Pin	1	2	3	4	5	6
Single	CTRL	-Vin	+Vin	+Vout	No Pin	-Vout
Dual	CTRL	-Vin	+Vin	+Vout	COM	-Vout

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