

**FEATURES :**

- 4:1Wide Input Voltages Range
- High Efficiency up to 89%
- Regulated Output Types
- No minimum load required
- Operating Temperature:-40°C TO +100°C
- Industry Standard Pinout
- 3KV Isolation
- Design refer to EN50155

YUAN DEAN SCIENTIFIC



DC-DC Converter

98DW20-R3 SERIES

20Watt 3KV Isolated

4 : 1 Input Voltage Range

Single & Dual Output

DIL

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

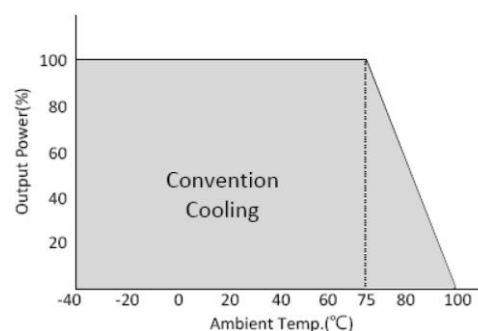
Part Number	Input Voltage Range	Nominal Input Voltage	Output Voltage Range	Output Current	Efficiency
	Vdc	Vdc	Vdc	A	%TYP
98DW20-24S03R3NL	9-36	24	3.3	4.5	85
98DW20-24S05R3NL	9-36		5	4.0	86
98DW20-24S12R3NL	9-36		12	1.67	88
98DW20-24S15R3NL	9-36		15	1.33	88
98DW20-48S03R3NL	18-75	48	3.3	4.5	85
98DW20-48S05R3NL	18-75		5	4.0	86
98DW20-48S12R3NL	18-75		12	1.67	88
98DW20-48S15R3NL	18-75		15	1.33	88
98DW20-110S03R3NL	40-160	110	3.3	4.5	85
98DW20-110S05R3NL	40-160		5	4.0	86
98DW20-110S12R3NL	40-160		12	1.67	88
98DW20-110S15R3NL	40-160		15	1.33	88
98DW20-24D12R3NL	9-36	24	±12	±0.833	88
98DW20-24D15R3NL	9-36		±15	±0.667	89
98DW20-48D12R3NL	18-75	48	±12	±0.833	88
98DW20-48D15R3NL	18-75		±15	±0.667	89
98DW20-110D12R3NL	40-160	110	±12	±0.833	88
98DW20-110D15R3NL	40-160		±15	±0.667	89



**Input Specifications**

Parameters	Conditions	Min	Typ	Max	Units
<b>Voltage Types</b>				4:1	
<b>Input current at no load (Nominal input voltage)</b>	24V models		6		mA
	48V models		4		
	110V models		3		
<b>Surge Voltage (1 sec. max.)</b>	24V models			50	Vdc
	48V models			100	
	110V models			170	
<b>Input Filter</b>	PI Type				
<b>Reflected ripple current</b>			30		mAp-p
<b>Remote ON/OFF (Refer to -Vin PIN)</b>	Positive Logic				Vdc
	ON : Open	3		12	
	OFF: Short	0		1.2	
	Input current of Ctrl PIN	0.5		0.5	mA
Remote off input current		3			

**Temperature Derating Graph**



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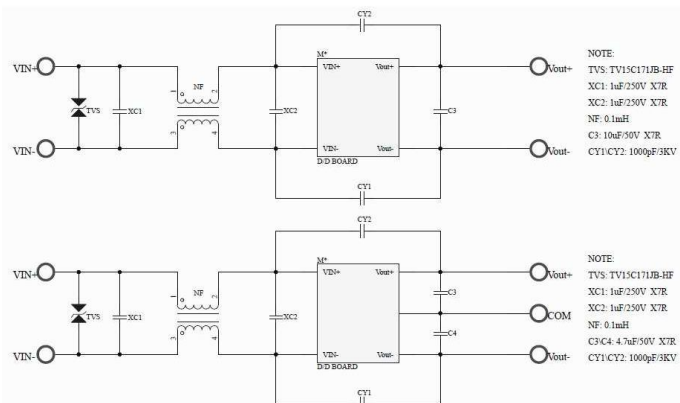
Output Specifications

Parameters	Conditions	Min	Typ	Max	Units
Voltage Tolerance	100% full load			±2	%
Short Circuit Protection	Continuous , Auto-Recovery				
Output Power Protection	Continuous , Auto-Recovery	110		170	%
Over Voltage Protection	3.3Vdc	3.7		5.4	Vdc
	5Vdc	5.6		7.0	
	12Vdc	13.5		19.6	
	15Vdc	16.8		20.5	
Line Regulation	Nominal Input Voltage			±0.5	%
Load Regulation	Single output models			±0.5	%
	Dual output models			±5	
Ripple & Noise (BW=DC To 20MHz Measured with a 10uF MLCC.)	3.3V&5.0V models			75	mVp-p
	Other models			100	
Start up time	Nominal Input Voltage			30	ms
Transient response setting time	50% load step change		350		us

General Specifications

Parameters	Conditions	Min	Typ	Max	Units
Isolation Voltage	Input To Output	3000			Vdc
	Input(Output) To Case	1600			
Isolation Resistance	500Vdc	1000			MΩ
Switching Frequency	Full load, nominal input		330		KHz
Operating Temperature		-40		100	°C
Case Temperature				105	°C
Humidity	Non Condensing	5		95	%
Cooling	Free air Convection				
Case material	Six-side shield case				
MTBF	MIL-HDBK-217F@25°C	1500000			Hours
Weight			30		g
Dimensions			50.8x25.4x10.6		mm

Recommended Test Circuit

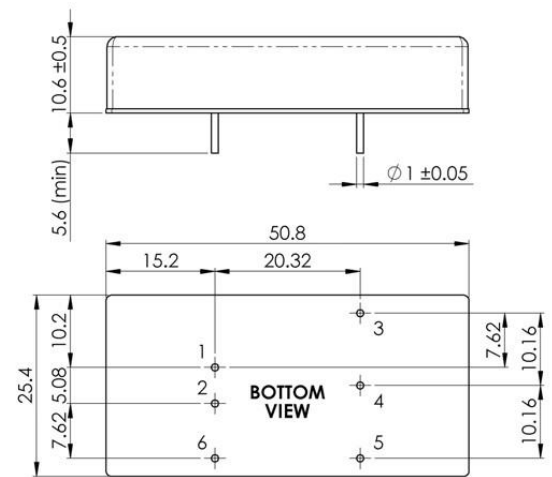


Part Number

98DW20 - 24 S 05 R 3 NL  
A B C D E F G

- A: Series
- B: Input Voltage
- C: Single Output(D),Dual(D)
- D: Output Voltage
- E: Regulated (R)
- F: Package
- G: RoHs Version

Markings and dimensions



Unit : mm  
Tolerance : XX.X ± 0.5 , XX.XX ± 0.25

PIN Assignment

Pin	1	2	3	4	5	6
Single	+Vin	-Vin	+Vout	Trim	-Vout	Remote ON/OFF
Dual	+Vin	-Vin	+Vout	COM	-Vout	Remote ON/OFF