

# WDD30U SERIES



DC - DC CONVERTER

23 ~ 30W SINGLE & DUAL OUTPUT

## FEATURES

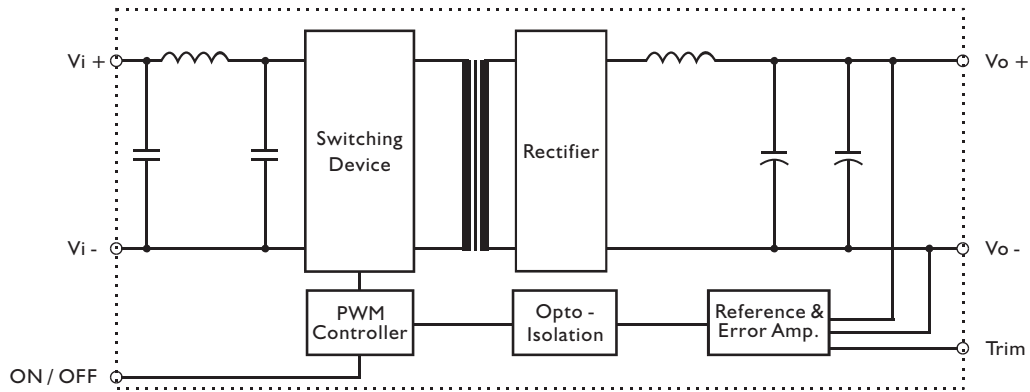
- LOW COST
- 2:1 WIDE INPUT RANGE
- I/O ISOLATION
- INPUT Pi FILTER
- SHORT CIRCUIT PROTECTION
- HIGH PERFORMANCE
- 2 YEARS WARRANTY

## MODEL LIST

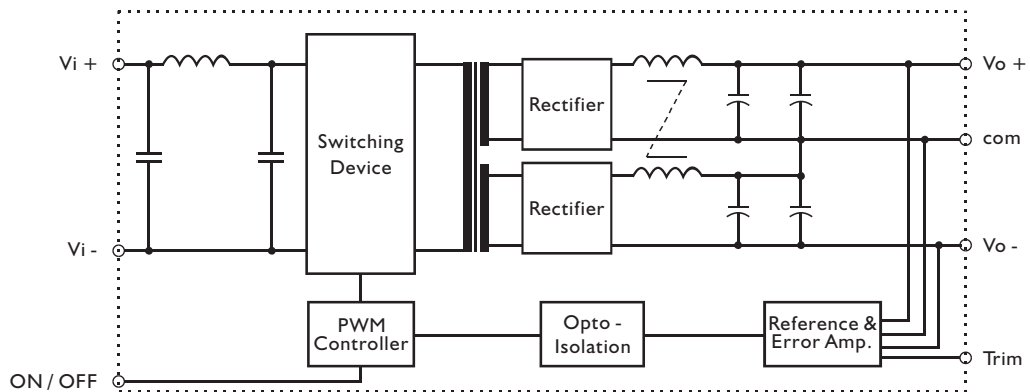
MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (typ.)	EFF. (min.)
<b>Single Output Models</b>						
WDD30 - 03S1U	9~18 VDC	23 WATTS	+3.3 VDC	7000 mA	81%	79%
WDD30 - 05S1U	9~18 VDC	25 WATTS	+ 5 VDC	5000 mA	85%	83%
WDD30 - 12S1U	9~18 VDC	30 WATTS	+ 12 VDC	2500 mA	84%	82%
WDD30 - 15S1U	9~18 VDC	30 WATTS	+ 15 VDC	2000 mA	85%	83%
WDD30 - 03S2U	18~36 VDC	23 WATTS	+3.3 VDC	7000 mA	82%	80%
WDD30 - 05S2U	18~36 VDC	25 WATTS	+ 5 VDC	5000 mA	86%	84%
WDD30 - 12S2U	18~36 VDC	30 WATTS	+ 12 VDC	2500 mA	88%	86%
WDD30 - 15S2U	18~36 VDC	30 WATTS	+ 15 VDC	2000 mA	89%	87%
WDD30 - 03S3U	35~75 VDC	23 WATTS	+3.3 VDC	7000 mA	83%	81%
WDD30 - 05S3U	35~75 VDC	25 WATTS	+ 5 VDC	5000 mA	86%	84%
WDD30 - 12S3U	35~75 VDC	30 WATTS	+ 12 VDC	2500 mA	88%	86%
WDD30 - 15S3U	35~75 VDC	30 WATTS	+ 15 VDC	2000 mA	89%	87%
<b>Dual Output Models</b>						
WDD30 - 05D1U	9~18 VDC	25 WATTS	± 5 VDC	± 2500 mA	84%	82%
WDD30 - 12D1U	9~18 VDC	30 WATTS	± 12 VDC	± 1250 mA	85%	83%
WDD30 - 15D1U	9~18 VDC	30 WATTS	± 15 VDC	± 1000 mA	86%	84%
WDD30 - 05D2U	18~36 VDC	25 WATTS	± 5 VDC	± 2500 mA	86%	84%
WDD30 - 12D2U	18~36 VDC	30 WATTS	± 12 VDC	± 1250 mA	88%	86%
WDD30 - 15D2U	18~36 VDC	30 WATTS	± 15 VDC	± 1000 mA	89%	87%
WDD30 - 05D3U	35~75 VDC	25 WATTS	± 5 VDC	± 2500 mA	86%	84%
WDD30 - 12D3U	35~75 VDC	30 WATTS	± 12 VDC	± 1250 mA	88%	86%
WDD30 - 15D3U	35~75 VDC	30 WATTS	± 15 VDC	± 1000 mA	89%	87%

### CIRCUIT SCHEMATIC

• Block diagram for WDD30U series with single output



• Block diagram for WDD30U series with dual output



### SPECIFICATION

All Specifications Typical At Nominal Line, Full Load, 25°C Unless Otherwise Noticed

#### GENERAL

Characteristics	Conditions	min.	typ.	max.	unit
Switching frequency	Vi nom, Io nom		250		KHz
Isolation voltage	Input / Output	1,500			VDC
Isolation resistance	Input / Output, @ 500VDC	100			MΩ
Ambient temperature	Vi nom, 3.3V & 5V output models	-40		+ 60	°C
	Io nom 12V, 15V & dual output models	-40		+ 71	°C
Case temperature	Operating at Vi nom, Io nom			+ 100	°C
Derating	Vi nom	See derating curve			% / °C
Storage temperature	Non operational	-40		+ 100	°C
Dimension	L40.6 x W50.8 x H10.2				mm
Cooling	Free air convection				
Case material	Metal				

#### INPUT SPECIFICATIONS

Characteristics	Conditions	min.	typ.	max.	unit
Input voltage range	Ta min ... Ta max, Io nom	9	12	18	VDC
		18	24	36	VDC
		35	48	75	VDC
No load input current	Vi nom, Io = 0	12V models	30		
		24V models	20		mA
		48V models	15		
Input voltage w/o damage	Io nom	12V models		20	
		24V models		40	VDC
		48V models		80	
Startup voltage	Io nom	12V models	8.5		VDC
		24V models	16		VDC
		48V models	33		VDC
Input filter	Pi type				

#### OUTPUT SPECIFICATIONS

Characteristics	Conditions	min.	typ.	max.	unit
Output voltage accuracy	Vi nom, Io nom			± 2	%
Minimum load	Vi nom single output models	0			%
	Vi nom dual output models (each output)	10			%
Line regulation	Io nom, Vi min ... Vi max			± 1	%
Load regulation	Vi nom, Io 0 ... Io nom, single output models			± 2	%
	Vi nom, Io min ... Io nom, dual output models			± 5	%
Transient recovery time	Vi nom, Io 0 ... 1/2 Io nom		500		μs
Temperature coefficient	Vi nom, Io nom			± 0.02	% / °C
Ripple & noise	Vi nom, Io nom, 3.3V & 5V output models			100	mV
	BW = 20MHz 12V, 15V & dual			150	mV
Voltage trim range	Vi nom 3.3V output models		± 5		%
	Vi nom 5V, 12V, 15V & dual		± 10		%
Efficiency	Vi nom, Io nom, Po / Pi	Up to 89%, See model list			

### SPECIFICATION

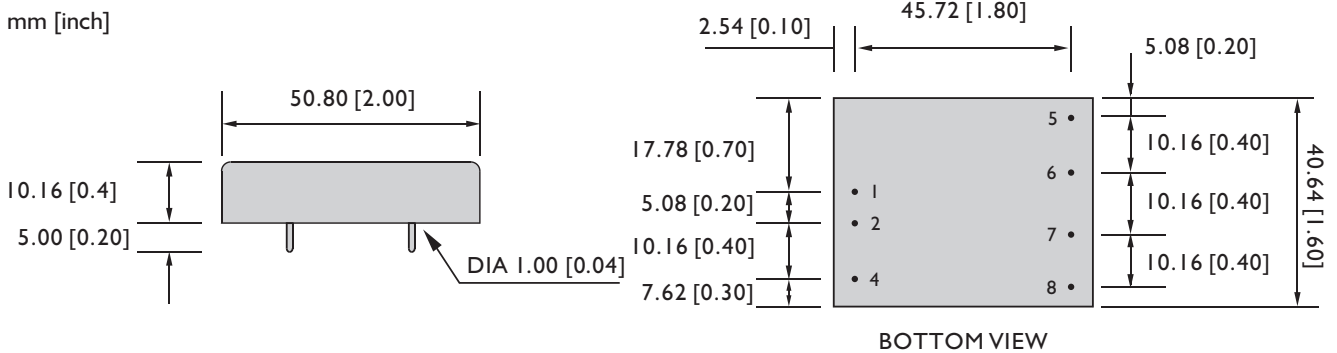
#### CONTROL AND PROTECTION

Remote ON / OFF	ON: opened or 8 ~ 10VDC applied, reference to input GND OFF: -0.3 ~ 2VDC applied, reference to input GND
Input reversed	Shunt diode built in, external fuse recommended
Output short circuit	Continuous

#### APPROVALS AND STANDARD

UL/cUL	UL60950-1
TUV	EN60950-1
CE	EN61204-3(Class A for EMI)

### MECHANISM & PIN CONFIGURATION



### PHYSICAL CHARACTERISTICS

CASE SIZE	40.6 x 50.8 x 10.2 mm 1.6 x 2 x 0.4 inches
CASE MATERIAL	Metal
WEIGHT	60 g

### PIN ASSIGNMENT

#### GENERAL

PIN NO.	1	2	4	5	6	7	8
SINGLE	Vi+	Vi-	S. D.	NO PIN	Vo+	Vo-	Trim
DUAL	Vi+	Vi-	S. D.	Vo+	com	Vo-	Trim

S.D. : REMOTE ON / OFF

### DERATING

