

# TDD15 SERIES



DC - DC CONVERTER  
12 ~ 15W SINGLE & DUAL OUTPUT

## FEATURES

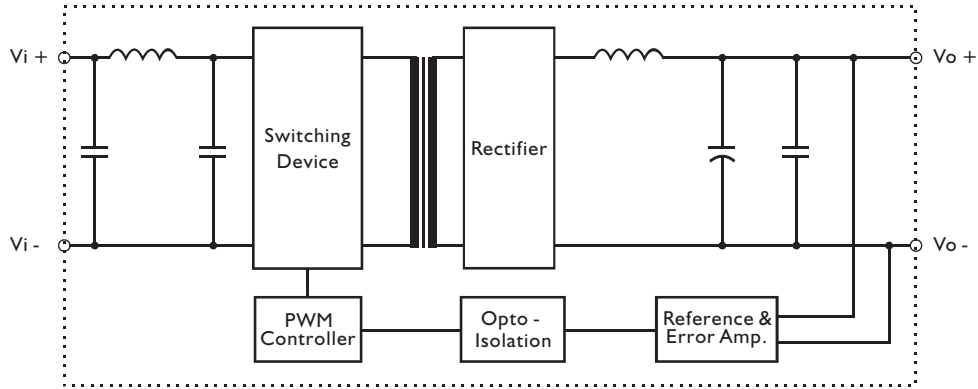
- LOW COST
- 2:1 WIDE INPUT RANGE
- I/O ISOLATION
- INPUT Pi FILTER
- SHORT CIRCUIT PROTECTION
- HIGH PERFORMANCE
- 2 YEARS WARRANTY

## MODEL LIST

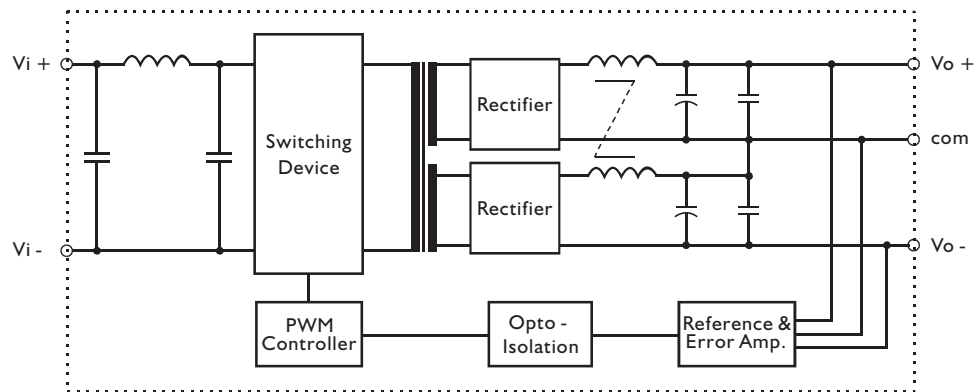
MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (typ.)	EFF. (min.)
<b>Single Output Models</b>						
TDD15 - 03S2	18~36 VDC	12 WATTS	+3.3 VDC	3600 mA	79%	77%
TDD15 - 05S2	18~36 VDC	15 WATTS	+ 5 VDC	3000 mA	81%	79%
TDD15 - 12S2	18~36 VDC	15 WATTS	+ 12 VDC	1250 mA	82%	80%
TDD15 - 15S2	18~36 VDC	15 WATTS	+ 15 VDC	1000 mA	85%	83%
TDD15 - 03S3	35~75 VDC	12 WATTS	+3.3 VDC	3600 mA	80%	78%
TDD15 - 05S3	35~75 VDC	15 WATTS	+ 5 VDC	3000 mA	82%	80%
TDD15 - 12S3	35~75 VDC	15 WATTS	+ 12 VDC	1250 mA	86%	84%
TDD15 - 15S3	35~75 VDC	15 WATTS	+ 15 VDC	1000 mA	87%	85%
<b>Dual Output Models</b>						
TDD15 - 12D2	18~36 VDC	15 WATTS	± 12 VDC	± 630 mA	83%	81%
TDD15 - 15D2	18~36 VDC	15 WATTS	± 15 VDC	± 500 mA	84%	82%
TDD15 - 12D3	35~75 VDC	15 WATTS	± 12 VDC	± 630 mA	84%	82%
TDD15 - 15D3	35~75 VDC	15 WATTS	± 15 VDC	± 500 mA	85%	83%

### CIRCUIT SCHEMATIC

• Block diagram for TDD15 series with single output



• Block diagram for TDD15 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		200		KHz
Isolation voltage	Input / Output	1,500			VDC
Isolation resistance	Input / Output, @ 500VDC	100			MΩ
Ambient temperature	Operating at Vi nom, Io nom	-25		+ 60	°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	L25.4 x W50.8 x H12				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	18	24	36	VDC
		35	48	75	VDC
No load input current	Vi = nom Io = 0			25	mA
	24V models 48V models			15	mA
Input voltage w/o damage	Io nom			40	VDC
		24V models 48V models			78
Startup voltage	Io nom		15.8		VDC
		24V models 48V models		28.6	
Input filter	Pi type				

#### OUTPUT SPECIFICATIONS

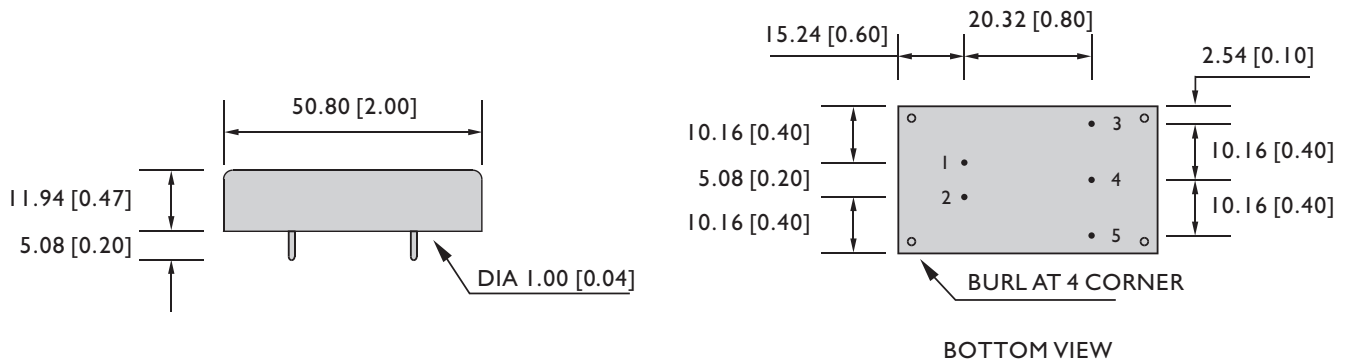
Characteristics	Conditions	min.	typ.	max.	unit
Output voltage accuracy	Vi nom, Io nom			± 2	%
Minimum load	Vi nom				%
	single output models dual output models (each output)	0 16			%
Line regulation	Io nom, Vi min ... Vi max			± 1	%
Load regulation	Vi nom Io 0 ... Io nom, single output models			± 2	%
	Vi nom, Io min ... Io nom, dual output models			± 5	%
Transient recovery time	25% load, step changed		500		μS
Temperature coefficient	Vi nom, Io nom			± 0.02	% / °C
Ripple & noise	Vi nom, Io nom, BW = 20MHz			150	mV
	3.3V & 5V model 12V, 15V & dual			Vout x ± 1%	mV
Efficiency	Vi nom, Io nom, Po / Pi	Up to 87%, See model list			

#### CONTROL AND PROTECTION

Input reversed	Shunt diode built in, external fuse recommended
Output short circuit	Continuous

### MECHANISM & PIN CONFIGURATION

mm [inch]



### PHYSICAL CHARACTERISTICS

CASE SIZE	25.4 x 50.8 x 12 mm 1 x 2 x 0.47 inches
CASE MATERIAL	Metal
WEIGHT	33 g (typ.)

### PIN ASSIGNMENT

#### GENERAL

PIN NO.	1	2	3	4	5
SINGLE	Vi+	Vi-	Vo+	NO PIN	Vo-
DUAL	Vi+	Vi-	Vo+	com	Vo-

### DERATING

