

# TDD25 SERIES



DC - DC CONVERTER  
23 ~ 25W SINGLE & DUAL OUTPUT

## FEATURES

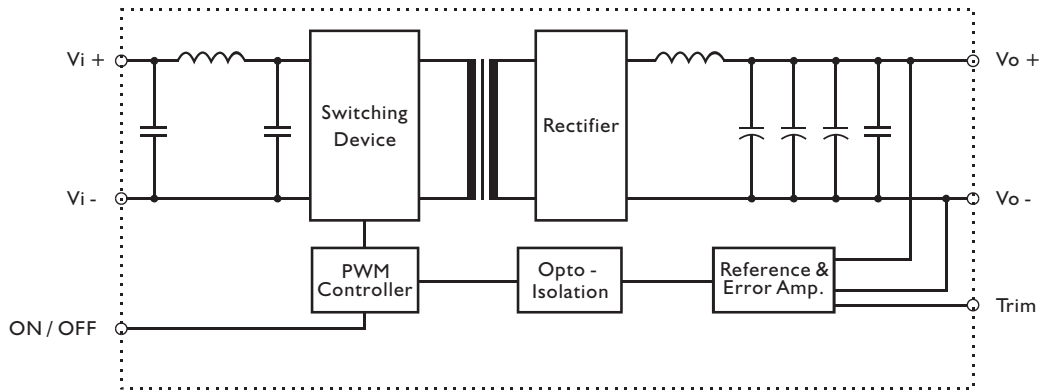
- LOW COST
- 2:1 & 3:1 WIDE INPUT RANGE
- I/O ISOLATION
- INPUT Pi FILTER
- SHORT CIRCUIT PROTECTION
- HIGH PERFORMANCE
- 2 YEARS WARRANTY

## MODEL LIST

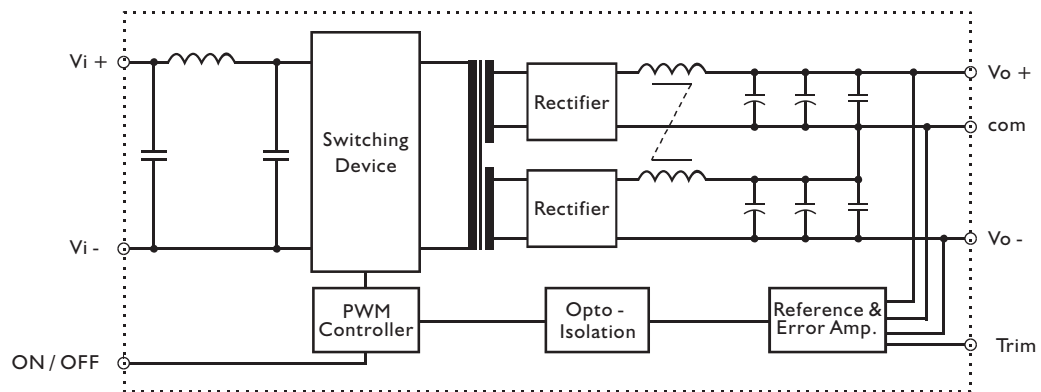
MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)
<b>Single Output Models</b>					
TDD25 - 03S2	18~60 VDC	23 WATTS	+3.3 VDC	7000 mA	78%
TDD25 - 05S2	18~60 VDC	25 WATTS	+ 5 VDC	5000 mA	84%
TDD25 - 12S2	18~60 VDC	24 WATTS	+ 12 VDC	2000 mA	84%
TDD25 - 15S2	18~60 VDC	25 WATTS	+ 15 VDC	1700 mA	84%
TDD25 - 03S3	35~75 VDC	23 WATTS	+3.3 VDC	7000 mA	78%
TDD25 - 05S3	35~75 VDC	25 WATTS	+ 5 VDC	5000 mA	84%
TDD25 - 12S3	35~75 VDC	24 WATTS	+ 12 VDC	2000 mA	84%
TDD25 - 15S3	35~75 VDC	25 WATTS	+ 15 VDC	1700 mA	84%
<b>Dual Output Models</b>					
TDD25 - 12D2	18~60 VDC	25 WATTS	± 12 VDC	± 1000 mA	84%
TDD25 - 15D2	18~60 VDC	25 WATTS	± 15 VDC	± 850 mA	84%
TDD25 - 12D3	35~75 VDC	25 WATTS	± 12 VDC	± 1000 mA	84%
TDD25 - 15D3	35~75 VDC	25 WATTS	± 15 VDC	± 850 mA	84%

### CIRCUIT SCHEMATIC

- Block diagram for TDD25 series with single output



- Block diagram for TDD25 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	$V_i$ nom, $I_o$ nom		200		KHz
Isolation voltage	Input / Output	1,500			VDC
Isolation resistance	Input / Output, @ 500VDC	100			MΩ
Ambient temperature	3.3V & 5V model	-25		+ 60	°C
	12V, 15V & dual output model	-25		+ 71	°C
Case temperature	Operating at $V_i$ nom, $I_o$ nom			+ 100	°C
Derating	$V_i$ nom	See derating curve			% / °C
Storage temperature	Non operational	-40		+ 100	°C
Dimension	L50.8 x W76.2 x H12				mm
Cooling	Free air convection				
Case material	Metal				

#### INPUT SPECIFICATIONS

Characteristics	Conditions	min.	typ.	max.	unit
Input voltage range	$T_a$ min ... $T_a$ max, $I_o$ nom				
	3:1 models	18	24	60	VDC
	2:1 models	35	48	75	VDC
No load input current	$V_i = \text{nom}$				
	24V models		15		mA
	48V models		10		mA
Input voltage w/o damage	$I_o$ nom				
	24V models			65	VDC
	48V models			80	VDC
Startup voltage	$I_o$ nom				
	24V models		16		VDC
	48V models		30		VDC
Input filter	Pi type				

#### OUTPUT SPECIFICATIONS

Characteristics	Conditions	min.	typ.	max.	unit
Output voltage accuracy	$V_i$ nom, $I_o$ nom			± 2	%
Minimum load	$V_i$ nom				
	single output models	0			%
	dual output models (each output)	10			%
Line regulation	$I_o$ nom, $V_i$ min ... $V_i$ max			± 1	%
Load regulation	$V_i$ nom, $I_o$ 0 ... $I_o$ nom, single output models			± 2	%
	$V_i$ nom, $I_o$ min ... $I_o$ nom, dual output models			± 5	%
Transient recovery time	25% load, step changed		500		μs
Temperature coefficient	$V_i$ nom, $I_o$ nom			± 0.02	% / °C
Ripple & noise	$V_i$ nom, $I_o$ nom, BW = 20MHz				
	3.3V & 5V models			150	mV
	12V & ±12V			240	mV
	15V & ±15V			300	mV
Voltage trim range	$V_i$ nom				
	3.3V output models		± 5		%
	5V, 12V, 15V & dual		± 10		%
Efficiency	$V_i$ nom, $I_o$ nom, $P_o$ / $P_i$	Up to 84%, See model list			

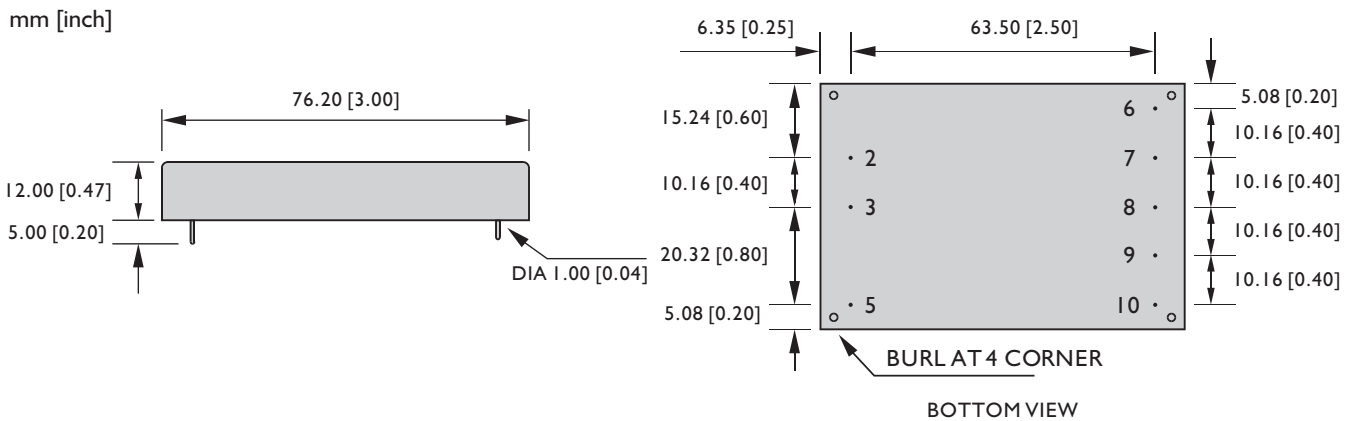
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#### CONTROL AND PROTECTION

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

### MECHANISM & PIN CONFIGURATION



### PHYSICAL CHARACTERISTICS

CASE SIZE	50.8 x 76.2 x 12 mm 2 x 3 x 0.47 inches
CASE MATERIAL	Metal
WEIGHT	105 g

### PIN ASSIGNMENT

#### GENERAL

PIN NO.	2	3	5	6	7	8	9	10
SINGLE	Vi -	Vi +	ON / OFF	N. C.	N. C.	Vo -	Vo +	Trim
DUAL	Vi -	Vi +	ON / OFF	Vo -	N. C.	com	Vo +	Trim

### DERATING

