

FEATURES :

- 10W DIL Package
- 4:1 Wide Input Voltage Range
- High Efficiency Up to 88%
- Regulated Output Types
- No Minimum Load Required
- Over Power and Short Circuit Protection
- Operating Temperature:-40°C to +91°C (with derating)
- UL/cUL/IEC/EN 62368-1 approved, CB-Report, CE Marking
- EMC standard of EMI EN55032:2015 approved
- EMC standard of EMS EN55035:2017 approved
- EMC standard of Canadian ICES-003 issue7(2020) approved
- EMC standard of 47CFR FCC Part 15 subpart B approved

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

Selection Guide

Part Number	Input Voltage Range	Input Current		Output Voltage	Output Current	Efficiency	Maximum capacitor Load
		No-Load	Full-Load				
	Vdc	mA (typ)	mA (typ)	Vdc	mA (typ)	% (typ)	μF
YTB10-24S05	9-36	9	496	5	2000	84	2200
YTB10-24S12	9-36	9	479	12	833	87	660
YTB10-24S15	9-36	9	473	15	666	88	470
YTB10-24S24	9-36	9	483	24	416	88	240
YTB10-24D12	9-36	9	473	±12	±416	88	±470
YTB10-24D15	9-36	9	473	±15	±333	88	±270
YTB10-48S05	18-75	6	248	5	2000	84	2200
YTB10-48S12	18-75	6	239	12	833	87	660
YTB10-48S15	18-75	6	237	15	666	88	470
YTB10-48S24	18-75	6	236	24	416	88	240
YTB10-48D12	18-75	6	236	±12	±416	88	±470
YTB10-48D15	18-75	6	237	±15	±333	88	±270

Part Number

YTB 10 - 24 S 05
 A B C D E

- A: Series
- B: Output Power
- C: Input Voltage
- D: Single/Dual Output
- E: Output Voltage

YUAN DEAN SCIENTIFIC



DC-DC Converter

YTB10 SERIES

10Watt

1600Vdc Isolated

4 : 1 Input Voltage Range

Single/Dual Output

DIP16 Package



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Input Specifications

Parameters	Conditions	Min	Typ	Max	Units
Input Voltage	24V Models	9		36	Vdc
	48V Models	18		75	
Input Surge Voltage (100 ms max.)	24V Models	-0.7		50	Vdc
	48V Models	-0.7		100	
Start-up Voltage	24V Models			9	Vdc
	48V Models			18	
Under Voltage Shutdown	24V Models		8		Vdc
	48V Models		15		
Start-up Time	Constant Resistive Load, Nominal Vin		Power-up	30	ms
Input Filter	All Models			Internal LC type	

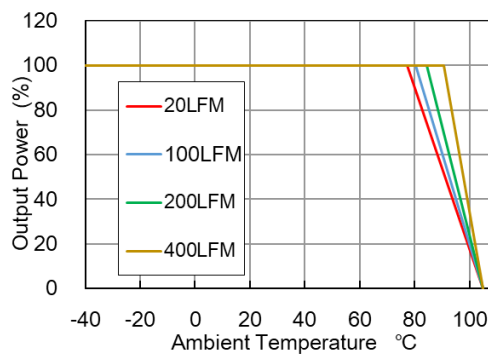
Output Specifications

Parameters	Conditions	Min	Typ	Max	Units	
Voltage Tolerance	100% Load	-2		+2	%	
Line Regulation	Vin(min) to Vin(max) @100% Load	-0.5		+0.5	%	
Load Regulation	0% Load to 100% Load	-0.5		+0.5	%	
Load Cross Regulation	Asymmetrical Load 25% / 100% Load	Dual Output		-5.0	+5.0	%
Ripple & Noise (BW=20MHz)	All models		60	100	mVp-p	
Transient Response Setting Time	25% Load Step Change		350	500	us	
Transient Response Deviation	25% Load Step Change	-5	±3	+5	%	
Temperature Coefficient		-0.03		+0.03	%/°C	
Output Power Protection	% of Io, Hiccup mode, Auto-recovery	120	155	190	%	
Short Circuit Protection	Continuous [Hiccup Mode] ,Auto-Recovery					
Over Voltage Protection	5Vout		6.2		Vdc	
	12Vout		15			
	15Vout		18			
	24Vout		30			

General Specifications

Parameters	Conditions	Min	Typ	Max	Units	
Isolation Voltage	Input To Output (60sec)	1600			Vdc	
Isolation Resistance	500Vdc	1000			MΩ	
Isolation Capacitance	100kHz, 1V			2200	pF	
Switching Frequency	100% Load, Nominal Input		390		KHz	
Operating Ambient Temperature (Power Derating See Derating Graph)	Nominal Vin, 100% Load	YTB10-24S05, YTB10-48S05	-40		66	°C
		YTB10-24S12, YTB10-48S12			74	
		YTB10-24S15, YTB10-48S15 YTB10-24S24, YTB10-48S24 YTB10-24D12, YTB10-48D12 YTB10-24D15, YTB10-48D15			77	
Thermal Impedance	20LFM		20.4		°C/W	
	100LFM		18.1			
	200LFM		15.1			
	400LFM		10.5			
Maximum Case Temperature				105	°C	
Storage Temperature		-55		125	°C	
Humidity	Non Condensing	5		95	%	
Cooling			Natural Convection			
Case Material			Copper, Black Coating			
Potting Material			Silicone (UL94-V0)			
MTBF	MIL-HDBK-217F@25°C (calculated)		1.1X10 ⁶		Hours	
Weight			10		g	
Dimensions			24.3 x 14.3 x 9.8		mm	

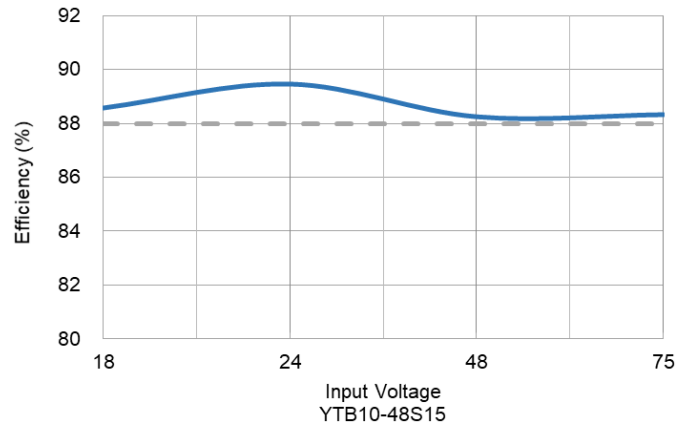
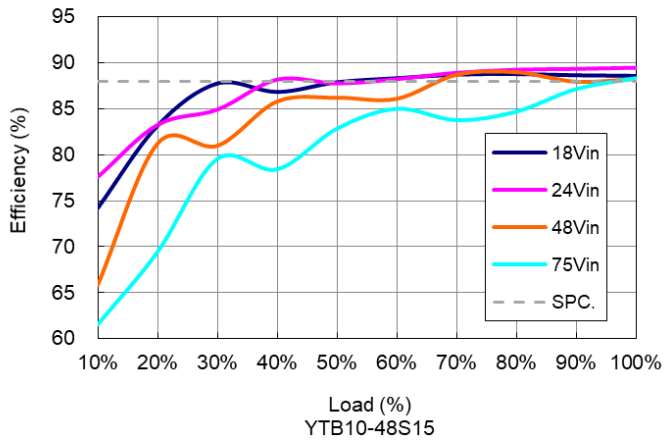
Temperature Derating Graph



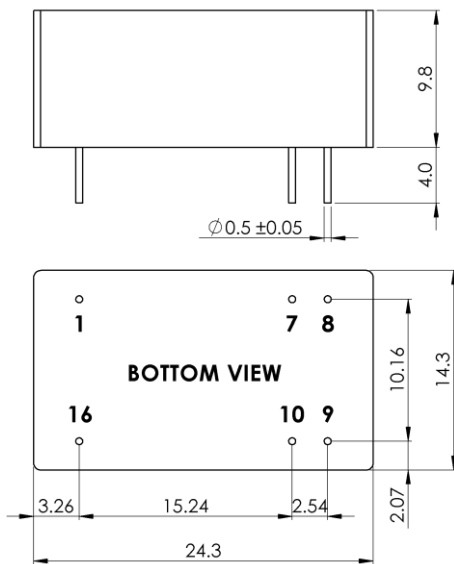
YTB10-48S15



Characteristic Curve



Dimensions



PIN Assignment

Pin	Single	Dual	Diameter
1	-Vin	-Vin	0.5mm[0.02"]
7	NC	NC	0.5mm[0.02"]
8	NC	Com	0.5mm[0.02"]
9	+Vout	+Vout	0.5mm[0.02"]
10	-Vout	-Vout	0.5mm[0.02"]
16	+Vin	+Vin	0.5mm[0.02"]