FEATURES :

- 15W DIL Package
- 4:1 Wide Input Voltage Range
- High Efficiency Up to 90%
- Regulated Output Types
- No Minimum Load Required
- Over Power and Short Circuit Protection
- Operating Temperature:-40℃ to +84℃ (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

YUAN DEAN SCIENTIFIC

DC-DC Converter

YTB15 SERIES

15Watt

1600Vdc Isolated

4 : 1 Input Voltage Range

Single/Dual Output

DIP16 Package

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
YTB15-24S05	9-36	10	702	5	3000	89	3300
YTB15-24S12	9-36	10	702	12	1250	89	1000
YTB15-24S15	9-36	10	710	15	1000	88	680
YTB15-24S24	9-36	10	702	24	625	89	360
YTB15-24D12	9-36	10	710	±12	±625	88	±560
YTB15-24D15	9-36	10	702	±15	±500	89	±360
YTB15-48S05	18-75	7	351	5	3000	89	3300
YTB15-48S12	18-75	7	351	12	1250	89	1000
YTB15-48S15	18-75	7	355	15	1000	88	680
YTB15-48S24	18-75	7	351	24	625	89	360
YTB15-48D12	18-75	7	351	±12	±625	89	±560
YTB15-48D15	18-75	7	347	±15	±500	90	±360

Part Number

YTB	15	-	48	S	12
A	B		C	D	E

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

www.yds.com.tw
TEL : 886-6-3842899 FAX : 886-6-3843288
E-MAIL : ydsweb@yds.com.tw
Rev: 1.3 2023/08/02

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		35		ms
Input Filter	All Models			Internal LC type		

Output Specifications

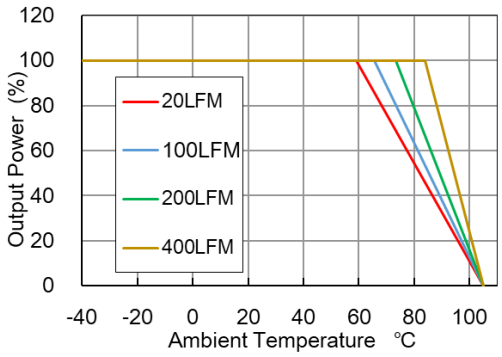
Parameters	Conditions		Min	Typ	Max	Units
Voltage Tolerance	100% Load		-2		+2	%
Line Regulation	Vin(min) to Vin(max) @100% Load		-0.5		+0.5	%
Load Regulation	0% Load to 100% Load		-0.5		+0.5	%
Load Cross Regulation	Asymmetrical Load 25% / 100% Load	Dual Output	-5.0		+5.0	%
Ripple & Noise (BW=20MHz)	All 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			-0.02		+0.02	%/℃
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		

TEL：886-6-3842899 FAX：886-6-3843288
E-MAIL：ydsweb@yds.com.tw
Rev: 1.3 2023/08/02

General Specifications

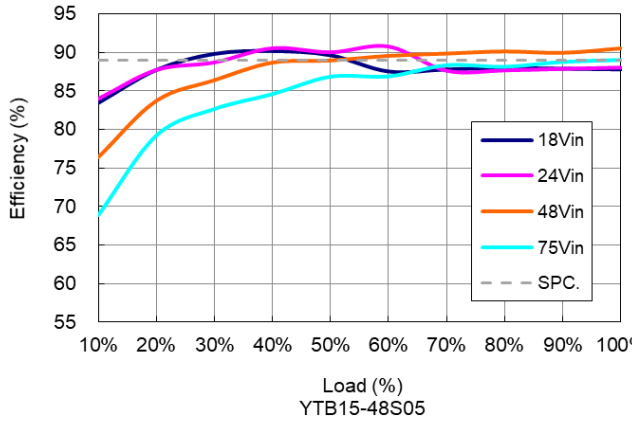
Parameters	Conditions		Min	Typ	Max	Units
Isolation Voltage	Input To Output (60sec)		1600			Vdc
	Input(Output) To Case (60sec)		1000			Vdc
Isolation Resistance	500Vdc		1000			MΩ
Isolation Capacitance	100kHz, 1V				2200	pF
Switching Frequency	100% Load, Nominal Input	5V Output		270		KHz
		Other Output		390		
Operating Ambient Temperature (Power Derating See Derating Graph)	Nominal Vin, 100% Load	YTB15-24S05, YTB15-48S05 YTB15-24S12, YTB15-48S12 YTB15-24S24, YTB15-48S24 YTB15-24D15, YTB15-48D12	-40		59.2	℃
		YTB15-24S15, YTB15-48S15 YTB15-24D12			54.5	
		YTB15-48D15			63.8	
Thermal Impedance	20LFM			24.7		℃/W
	100LFM			21.2		
	200LFM			17.1		
	400LFM			11.3		
Maximum Case Temperature					105	℃
Storage Temperature			-55		125	℃
Humidity	Non Condensing		5		95	%
Cooling	Natural Convection					
Case Material	Copper, Black Coating					
Potting Material	Silicone (UL94-V0)					
MTBF	MIL-HDBK-217F@25℃ (calculated)			$7.05X10^5$		Hours
Weight				11		g
Dimensions	24.3 x 14.3 x 9.8					mm

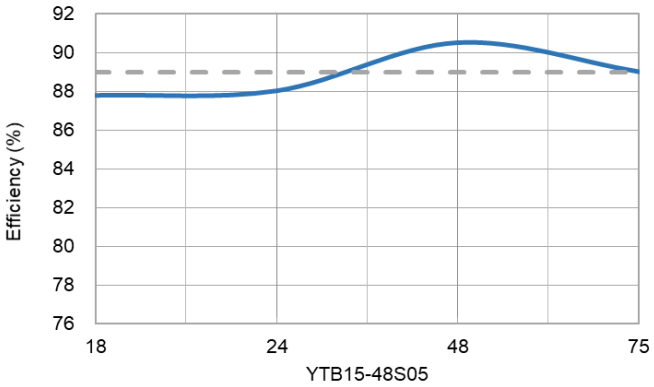
Temperature Derating Graph



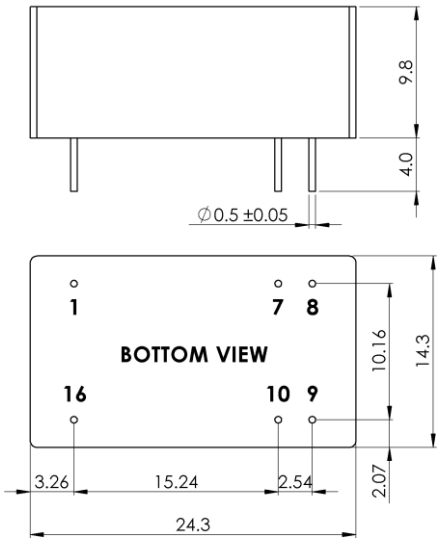
YTB15-48S05

Characteristic Curve





Dimensions



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

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"]