

DC-DC Converter 10Watt 1600Vdc Isolated CYLB10SERIES Single Output 4:1 Input



FEATURES :

- 10W DIL Package
- 4:1 Wide Input Voltage Range
- High Efficiency Up to 91%
- Regulated Output Types
- No Minimum Load Required
- Over Power and Short Circuit Protection
- Operating Temperature: -40°C to +89°C (Without Derating)
- UL94V-0 Package Material
- 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



1" X 1" 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 (5Vin/12Vin)		Output Voltage	Output Current	Efficiency (5Vin/12Vin)	Maximum capacitor Load
		No-Load	Full-Load				
	Vdc	mA (typ)	mA (typ)	Vdc	mA (typ)	% (typ)	μF
CYLB10-05S05	4.5-18	20 / 15	2247 / 936	5	2000	89 / 89	3400
CYLB10-05S12	4.5-18	20 / 15	2246 / 926	12	833	89 / 90	590
CYLB10-05S15	4.5-18	20 / 15	2223 / 916	15	667	90 / 91	390
CYLB10-05S24	4.5-18	25 / 20	2200 / 927	24	417	91 / 90	220

Part Number

CYLB 10 - 05 S 05
A B C D E

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

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Input Specifications

Parameters	Conditions		Min	Typ	Max	Units
Input Voltage	All Models		4.5		18	Vdc
Input Surge Voltage (100 ms max.)	All Models		-0.7		25	Vdc
Start-up Voltage	All Models				4.5	Vdc
Under Voltage Shutdown	All Models			3.5		Vdc
Start-up Time	Constant Resistive Load, Nominal Vin	Power-up		30		ms
		Remote ON/OFF		30		
Input Filter	All Models			Internal Pi type		
Remote ON/OFF (Ctrl PIN Refer To –Vin PIN)	Positive Logic	DC/DC ON		Open or 3.5 Vdc - 12 Vdc		
		DC/DC OFF		Short or 0 Vdc – 1.2 Vdc		
	Input Current of Ctrl PIN		-0.5		0.5	mA
	Remote Off Input Current			3.5		

Output Specifications

Parameters	Conditions	Min	Typ	Max	Units
Voltage Tolerance	100% Load	-2		+2	%
Line Regulation	Vin(min) to Vin(max) @100% Load	-0.2		+0.2	%
Load Regulation	0% Load to 100% Load	-0.5		+0.5	%
Ripple & Noise (BW=20MHz)	With an 0.47uF MLCC	15Vout & 24Vout		150	mVp-p
		5Vout & 12Vout		100	
Transient Response Setting Time	25% Load Step Change		300	500	us
Transient Response Deviation	25% Load Step Change	-5	±3	+5	%
Temperature Coefficient		-0.02		+0.02	%/°C
Output Power Protection	% of Io, Hiccup mode, Auto-recovery	120	150	180	%
Short Circuit Protection	Continuous [Hiccup Mode], Auto-Recovery				
Over Voltage Protection	5Vout		6.2		Vdc
	12Vout		15		
	15Vout		18		
	24Vout		30		

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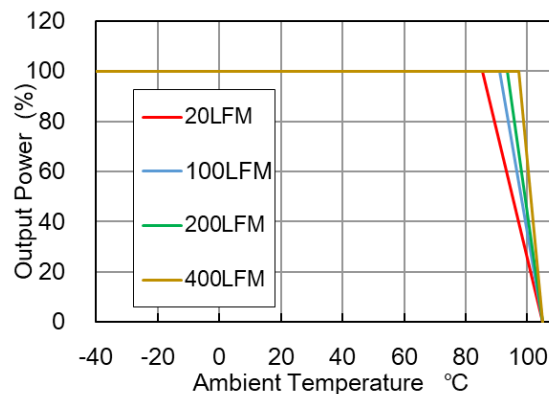


General Specifications

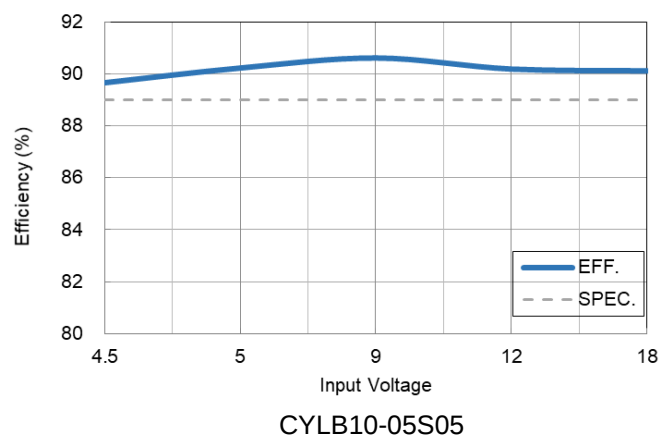
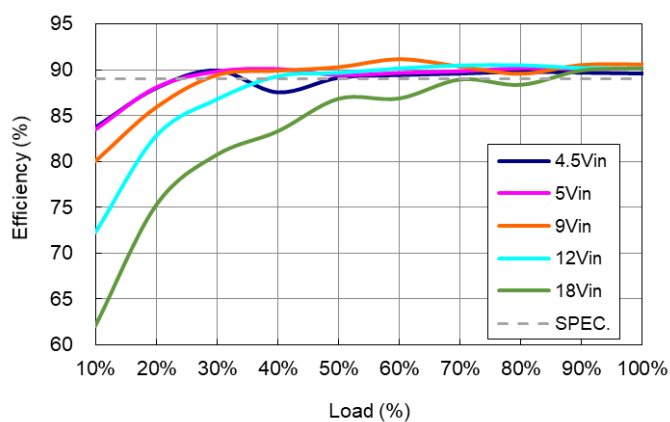
Parameters	Conditions	Min	Typ	Max	Units
Isolation Voltage	Input to Output (60sec)	1600			Vdc
	Input (Output) To Case (60sec)	1000			Vdc
Isolation Resistance	500Vdc	1000			MΩ
Isolation Capacitance	100kHz, 1V			2200	pF
Switching Frequency	100% Load, Nominal Input		200		KHz
Operating Ambient Temperature (Power Derating See Derating Graph)	Nominal Vin, 100% Load	CYLB10-05S05, CYLB10-05S12	-40	85.5	°C
		CYLB10-05S15		87.4	
		CYLB10-05S24		89.4	
Thermal Impedance	20LFM			15.8	°C/W
	100LFM			11.3	
	200LFM			9.2	
	400LFM			6.3	
Maximum Case Temperature				105	°C
Storage Temperature		-55		125	°C
Humidity	Non-Condensing	5		95	%
Cooling	Natural Convection				
Case Material	Copper				
Potting Material	Silicone (UL94-V0)				
MTBF	MIL-HDBK-217F@25°C (calculated)		1,468,837		Hours
Weight			17.2		g
Dimensions	25.4 x 25.4 x 10.6				mm

Temperature Derating Graph

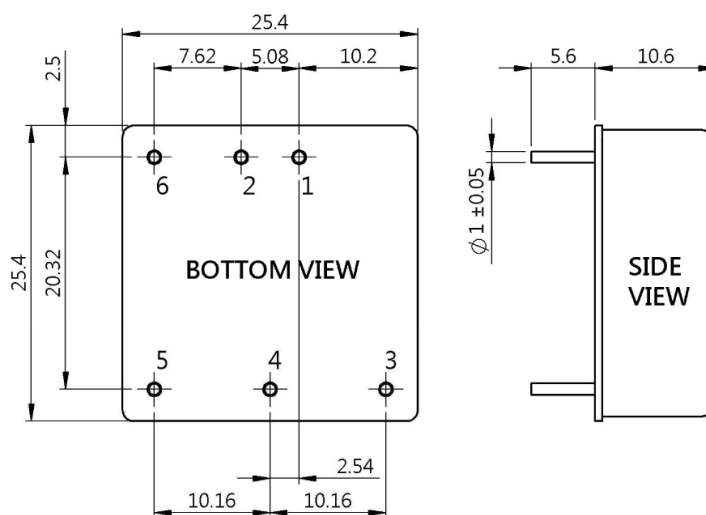
YLB10-05S05



Characteristic Curve



Dimensions



Unit : mm

Tolerance : XX.X ±0.5 , XX.XX ±0.25

PIN Assignment

Pin	1	2	3	4	5	6
Single	+Vin	-Vin	+Vout	Trim	-Vout	Ctrl
Diameter	1.0mm [0.04"]	1.0mm [0.04"]	1.0mm [0.04"]	1.0mm [0.04"]	1.0mm [0.04"]	1.0mm [0.04"]