

**FEATURES :**

- 15W 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 +88°C(with derating)
- UL94V-0 Package Material
- 100% Burned In
- 3 Years Warranty

YUAN DEAN SCIENTIFIC



DC-DC Converter

YKB15 SERIES

15Watt

1600Vdc Isolated

4 : 1 Input Voltage Range

Single/Dual Output

DIP24 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
YKB15-24S05	9-36	7	687	5	3000	91	6800
YKB15-24S12	9-36	7	702	12	1250	89	1200
YKB15-24S15	9-36	7	694	15	1000	90	750
YKB15-24S24	9-36	7	694	24	625	90	300
YKB15-24D12	9-36	7	702	±12	±625	89	±680
YKB15-24D15	9-36	7	694	±15	±500	90	±560
YKB15-48S05	18-75	5	344	5	3000	91	6800
YKB15-48S12	18-75	5	347	12	1250	90	1200
YKB15-48S15	18-75	5	344	15	1000	91	750
YKB15-48S24	18-75	5	344	24	625	91	300
YKB15-48D12	18-75	5	347	±12	±625	90	±680
YKB15-48D15	18-75	5	347	±15	±500	90	±560



**Part Number**

YKB / A    15 / B    -    24 / C    S / D    05 / E

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



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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		7.5		Vdc	
	48V Models		16			
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		

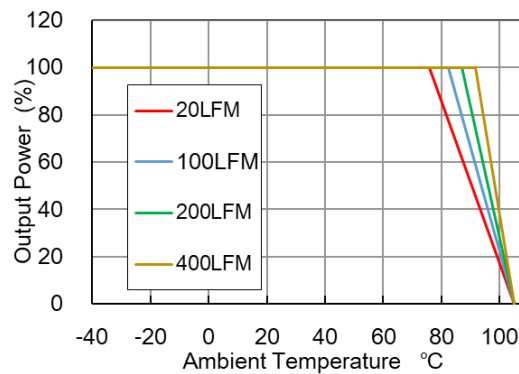
## Output Specifications

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	5V Output	-1	+1	%
		Other Outputs	-0.5	+0.5	
Load Cross Regulation	Asymmetrical Load 25% / 100% Load	Dual Output	-5.0	+5.0	%
Ripple & Noise (BW=20MHz)	24Vout			150	mVp-p
	Other Outputs			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		

General Specifications

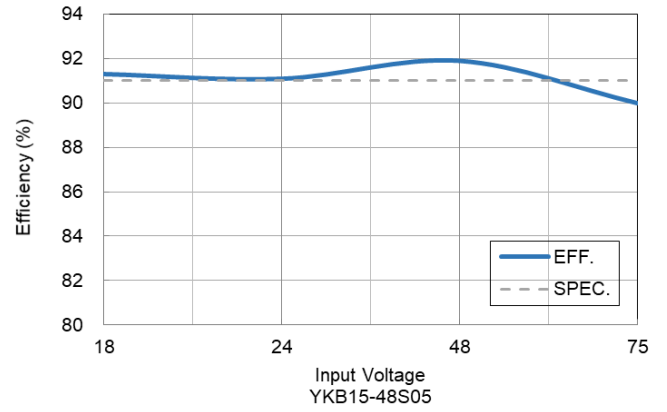
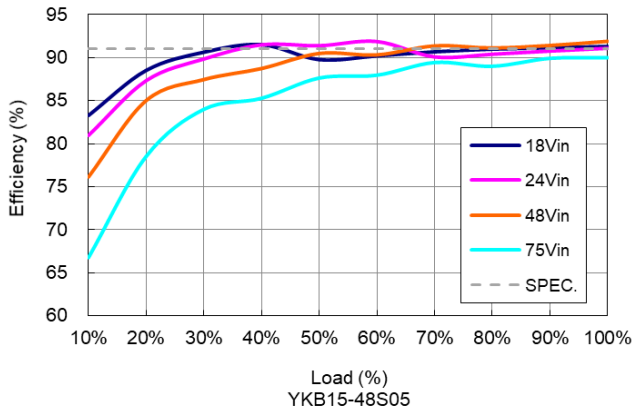
Parameters	Conditions	Min	Typ	Max	Units
Isolation Voltage	Input To Output (60sec)	1600			Vdc
	Input(Output) To Case (60sec)	1000			Vdc
Isolation Resistance	500Vdc	1000			MΩ
Isolation Capacitance	100kHz, 1V			2200	pF
Switching Frequency	100% Load, Nominal Input	5V Output		250	KHz
		Other Output		330	
Operating Ambient Temperature (Power Derating See Derating Graph)	Nominal Vin, 100% Load	YKB15-24S05, YKB15-48S05 YKB15-48S15, YKB15-48S24	-40	75.9	°C
		YKB15-24S12, YKB15-24D12		68.7	
		YKB15-24S15, YKB15-24S24, YKB15-24D15, YKB15-48S12, YKB15-48D12, YKB15-48D15		72.3	
Thermal Impedance	20LFM		19.6		°C/W
	100LFM		15.3		
	200LFM		12.1		
	400LFM		8.9		
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)		9.03X10 <sup>5</sup>		Hours
Weight			17		g
Dimensions	31.6 x 20.1 x 10.0				mm

Temperature Derating Graph

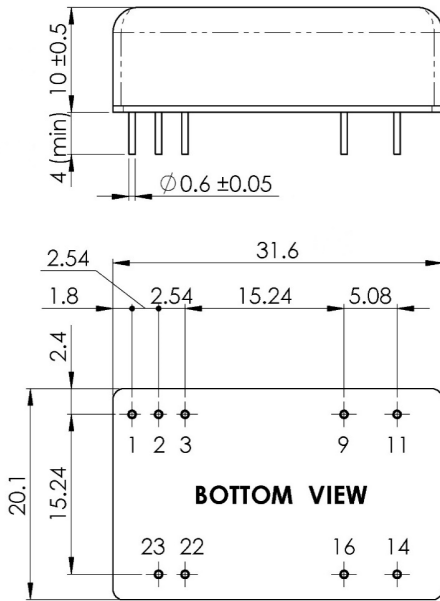


YKB15-48S05

Characteristic Curve



Dimensions



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

PIN Assignment

Pin	Single	Dual	Diameter
1	Ctrl	Ctrl	0.6mm[0.024"]
2	-Vin	-Vin	0.6mm[0.024"]
3	-Vin	-Vin	0.6mm[0.024"]
9	NC	Com	0.6mm[0.024"]
11	NC	-Vout	0.6mm[0.024"]
14	+Vout	+Vout	0.6mm[0.024"]
16	-Vout	Com	0.6mm[0.024"]
22	+Vin	+Vin	0.6mm[0.024"]
23	+Vin	+Vin	0.6mm[0.024"]