

**FEATURES :**

- 15W DIL Package
- 2:1 Wide Input Voltage Range
- High Efficiency Up to 92%
- Regulated Output Types
- No Minimum Load Required
- Over Power and Short Circuit Protection
- Operating Temperature: -40°C to +79°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

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
YKA15-12S033	9-18	8	1222	3.3	4000	90	4700
YKA15-12S051	9-18	8	1401	5.1	3000	91	3600
YKA15-12S12	9-18	8	1389	12	1250	90	600
YKA15-12S15	9-18	8	1389	15	1000	90	500
YKA15-12S24	9-18	12	1374	24	625	91	200
YKA15-12D05	9-18	8	1454	±5	±1500	86	±1500
YKA15-12D12	9-18	12	1405	±12	±625	89	±360
YKA15-12D15	9-18	12	1389	±15	±500	90	±250
YKA15-24S033	18-36	6	618	3.3	4000	89	4700
YKA15-24S051	18-36	6	695	5.1	3000	90	3600
YKA15-24S12	18-36	6	695	12	1250	90	600
YKA15-24S15	18-36	6	687	15	1000	91	500
YKA15-24S24	18-36	10	695	24	625	90	200
YKA15-24D05	18-36	6	727	±5	±1500	86	±1500
YKA15-24D12	18-36	10	702	±12	±625	89	±360
YKA15-24D15	18-36	10	695	±15	±500	90	±250
YKA15-48S033	36-75	5	306	3.3	4000	90	4700
YKA15-48S051	36-75	5	350	5.1	3000	91	3600
YKA15-48S12	36-75	5	347	12	1250	90	600
YKA15-48S15	36-75	5	343	15	1000	91	500
YKA15-48S24	36-75	8	340	24	625	92	200
YKA15-48D05	36-75	5	364	±5	±1500	86	±1500
YKA15-48D12	36-75	8	347	±12	±625	90	±360
YKA15-48D15	36-75	8	347	±15	±500	90	±250

**Part Number**

YKA    15    -    12    S    24  
 A        B        C        D        E

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

YUAN DEAN SCIENTIFIC



DC-DC Converter

YKA15 SERIES

15Watt

1600Vdc Isolated

2 : 1 Input Voltage Range

Single/Dual Output

1.25" X 0.8" Size



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Rev: 0 2023/01/30

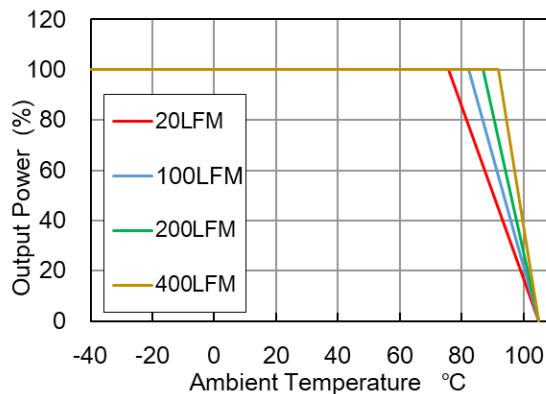
Input Specifications						
Parameters	Conditions	Min	Typ	Max	Units	
Input Voltage	12V Models	9		18	Vdc	
	24V Models	18		36		
	48V Models	36		75		
Input Surge Voltage (100 ms max.)	12V Models	-0.7		25	Vdc	
	24V Models	-0.7		50		
	48V Models	-0.7		100		
Start-up Voltage	12V Models			9	Vdc	
	24V Models			18		
	48V Models			36		
Under Voltage Shutdown	12V Models		7.5		Vdc	
	24V Models		15.5			
	48V Models		32			
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	%
Load Cross Regulation	Asymmetrical Load 25% / 100% Load	Dual Output Models	-5.0	+5.0	%
Ripple & Noise (BW=20MHz)	(±)15Vout & 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	190	%
Short Circuit Protection	Continuous [Hiccup Mode], Auto-Recovery				
Over Voltage Protection	3.3Vout		3.9		Vdc
	5.1Vout		6.2		
	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	XXS051 & 24D12	235	250	285	KHz
		Others	290	320	350	
Operating Ambient Temperature (Power Derating See Derating Graph)	Nominal Vin, 100% Load	YKA15-12D05, YKA15-24D05 YKA15-48D05	-40		57	°C
		YKA15-12D12, YKA15-24D12			68	
		YKA15-12S12, YKA15-12S15 YKA15-12D15, YKA15-24S033 YKA15-24S051, YKA15-24S12 YKA15-24S24, YKA15-24D15 YKA15-48S12, YKA15-48D12 YKA15-48D15			72	
		YKA15-12S033, YKA15-12S051 YKA15-12S24, YKA15-24S15 YKA15-48S033, YKA15-48S051 YKA15-48S15			76	
		YKA15-48S24			79	
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)		4.61X10 <sup>5</sup>		Hours	
Weight			18		g	
Dimensions	31.6 x 20.1 x 10.0				mm	

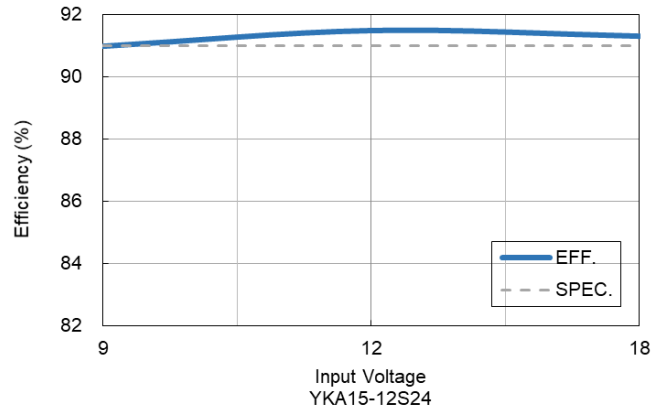
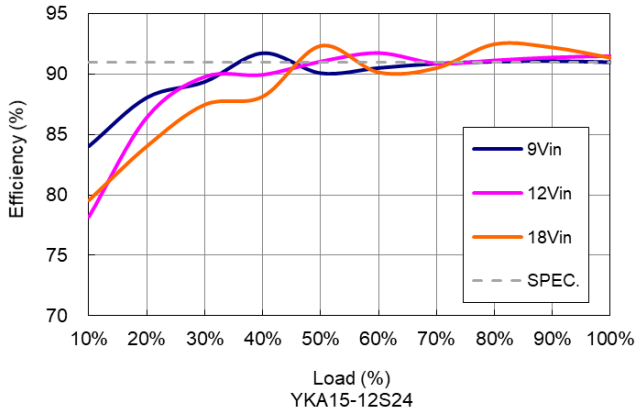
Temperature Derating Graph



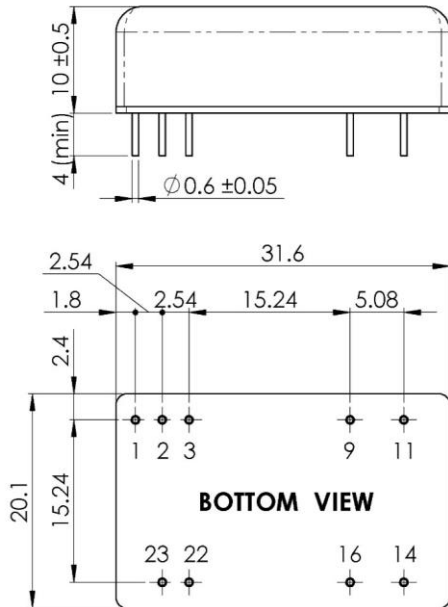
YKA15-12S24



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"]