

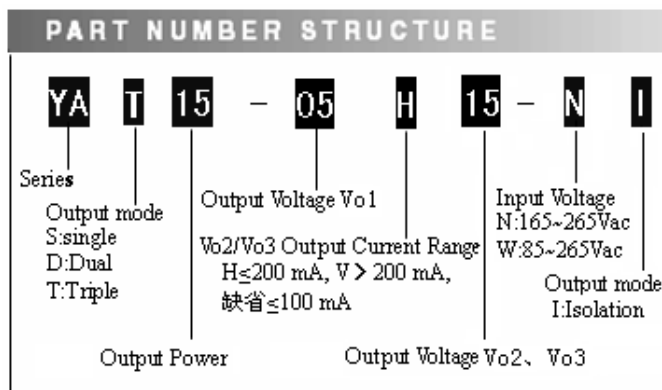
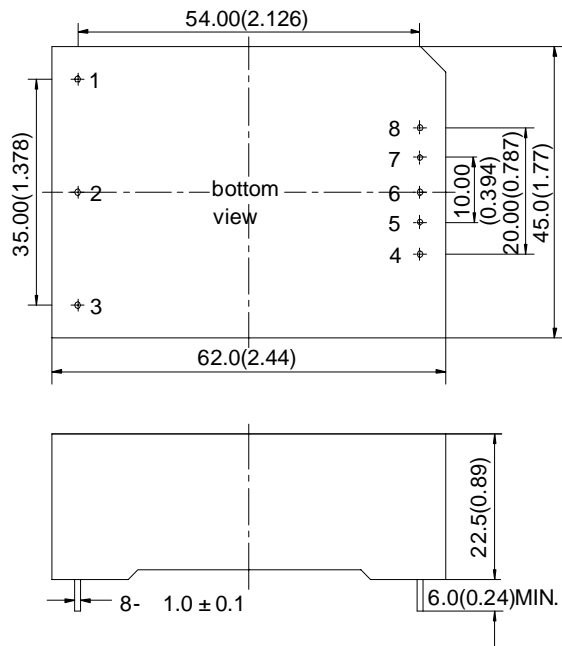
**YA15 Series Modules**

**Outline Diagram**



**Features**

- Industry Size ( 62.0 mm×45.0 mm×22.5mm )
- Universal Input Voltage
- 2500V<sub>ac</sub> Isolation Voltage
- 100KHz Switching Frequency
- Short Circuit Protection , Auto Recovery
- 100% Burn-in
- 2-year warranty



Pin.	Single	dual (balanced load)	dual (unbalanced load)	triple
1	L	L	L	L
2	N	N	N	N
3	FG	FG	FG	FG
4	-V <sub>O</sub>	-V <sub>O</sub>	-V <sub>O1</sub>	-V <sub>O1</sub>
5	NP	NP	+V <sub>O1</sub>	+V <sub>O1</sub>
6	NP	COM	NC	V <sub>O3</sub>
7	NP	NP	-V <sub>O2</sub>	COM
8	+V <sub>O</sub>	+V <sub>O</sub>	+V <sub>O2</sub>	V <sub>O2</sub>

Case material: Black plastic, UL94V-0.  
 Pins material: Copper, tin-cerium plating  
 Notes: All dimensions in mm (inches)  
 Tolerances: X.X±0.5 (X.XX±0.02)  
 X.XX±0.25 (X.XXX±0.010)

**Performance Specifications And Ordering Guide**

Unless otherwise specified, all values are given at: 25 °C, one standard atmosphere pressure, pure resistive load and basic connection.

Model	Output				Input	Efficiency
	Voltage(V)	Current(A)	Ripple and Noise(mV)	Capacitive load(μF)	Range-AC (Volts)	
<b>single</b>						
YAS15-3-N	3.3	3.6	50	4700	165-265	75%
YAS15-5-N	5.05	3	50	10000	165-265	76%
YAS15-12-N	12	1.25	100	3300	165-265	78%
YAS15-15-N	15	1	100	2200	165-265	79%
YAS15-24-N	24	0.63	100	1000	165-265	79%

Continue

Model	Output				Input	Efficiency
	Voltage(V)	Current(A)	Ripple and Noise(mV)	Capacitive load( $\mu$ F)	Range-AC (Volts)	
YAS15-48-N	48	0.31	200	220	165-265	80%
YAS15-3-W	3.3	3.6	50	4700	85-265	75%
YAS15-5-W	5.05	3	50	10000	85-265	76%
YAS15-12-W	12	1.25	100	3300	85-265	78%
YAS15-15-W	15	1	100	1000	85-265	79%
YAS15-24-W	24	0.63	100	1000	85-265	79%
YAS15-48-W	48	0.31	200	220	85-265	80%
<b>dual</b>						
YAD15-05V05-NI	5/5	2.5/0.5	50/50	10000/2200	165-265	76%
YAD15-05V12-NI	5/12	1.8/0.5	50/100	4700/1000	165-265	76%
YAD15-0512-WI	5/12	2.8/0.1	50/100	4700/470	85-265	75%
YAD15-05H15-WI	5/15	2.4/0.2	50/100	2200/470	85-265	76%
YAD15-05V12-WI	5/12	1.8/0.5	50/100	4700/2200	85-265	76%
YAD15-05V24-WI	5/15	1.6/0.4	50/150	4700/470	85-265	76%
<b>triple</b>						
YAT15-05V12-NI	5/+12/-12	1.6/+0.3/-0.3	50/100/100	10000/1000/1000	165-265	75%
YAT15-05H12-WI	5/+12/-12	2.1/+0.2/-0.2	50/100/100	4700/1000/1000	85-265	76%
YAT15-05V15-WI	5/+15/-15	1.5/+0.25/-0.25	50/100/100	4700/470/470	85-265	76%

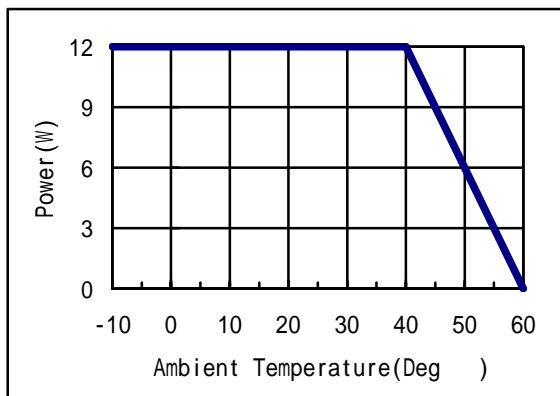
## Performance/Functional Specifications

Input			
<b>Input Voltage:</b>	AC:165~265	DC:200~375	suffix N
	AC:85~265	DC:100~375	suffix W
<b>Input Frequency:</b>	45~65Hz		
Output			
<b>Voltage Accuracy:</b>	$\pm 1\%$	$\text{Vo}1$	
	$\pm 3\%$	$\text{Vo}2, \text{Vo}3$	
<b>Line Regulation:</b>	$\pm 0.2\%$ max.		
<b>Load Regulation:</b>	$\pm 0.5\%$ max.		
<b>Ripple and Noise:</b>	50mVp-p	$\text{Vo} \leq 5\text{Vdc}$	
	100 mVp-p	Other	
	200 mVp-p	$\text{Vo} \geq 48\text{Vdc}$	
<b>Efficiency:</b>	See Ordering Guide		
<b>Transient Response Recovery Time(<math>\mu</math>s):</b>	see respective data sheet		
<b>Transient Response Voltage Deviation (%):</b>	see respective data sheet		
<b>Start-up Delay Time:</b>	see respective data sheet		
<b>Rise Time:</b>	see respective data sheet		

General	
<b>Isolation Voltage:</b>	2500 1min/5mA (Input-Output)
<b>Switching Frequency:</b>	60~100KHz
<b>MTBF :</b>	$3 \times 10^5$ h(Bellcore RT332, 25 )
<b>Temperature Coefficient:</b>	$\pm 0.2\%$ per (Max)
<b>Case Temperature:</b>	-10 ~ +70 (Commercial)
<b>Storage Temperature:</b>	-40 ~ +105
<b>Relative Humidity:</b>	10%~90%
<b>Short-circuit Protection:</b>	Hiccup mode, automatic recovery
<b>Isolation Resistance:</b>	100 M $\Omega$ min(500V <sub>dc</sub> , 90%RH)
<b>Manual Soldering:</b>	425 max (5s Max)
<b>Wave Soldering:</b>	260 max (10s Max)
<b>Weight:</b>	70~105g

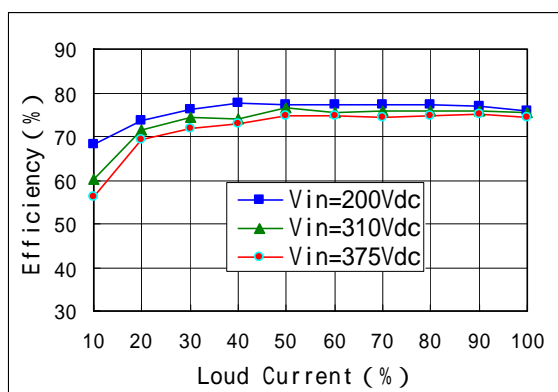
Characteristic Curves

Derating

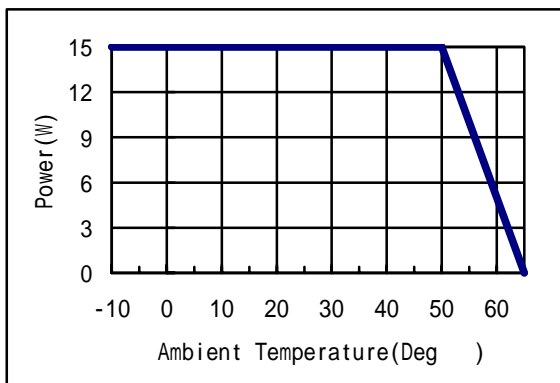


YAS15-3-N

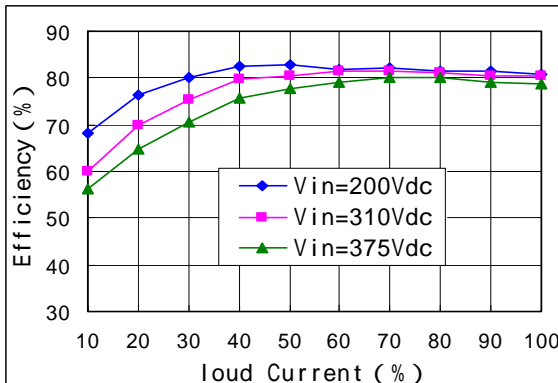
Efficiency



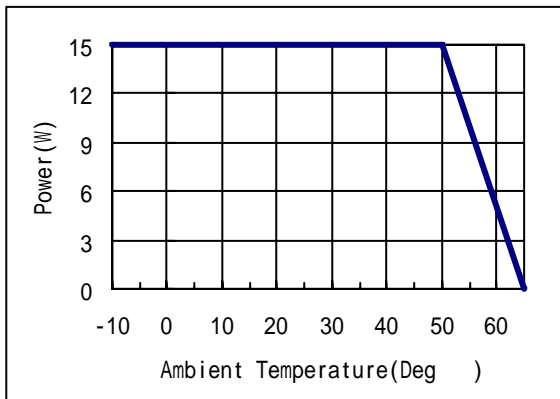
YAS15-3-N



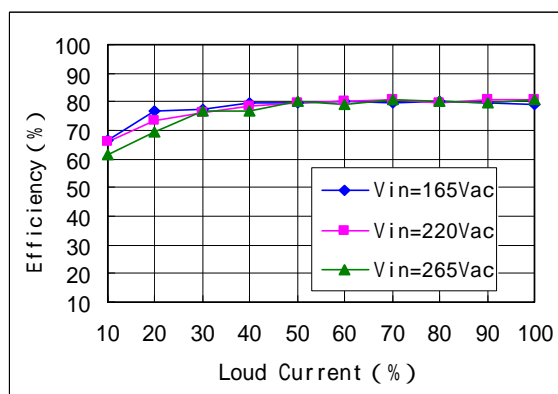
YAS15-5-N



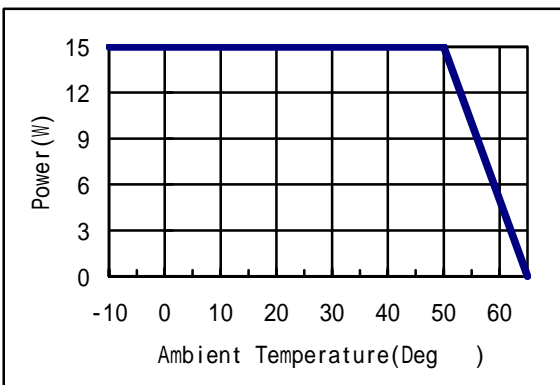
YAS15-5-N



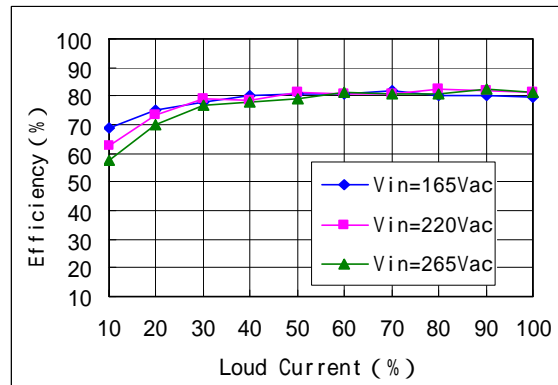
YAS15-12-N



YAS15-12-N

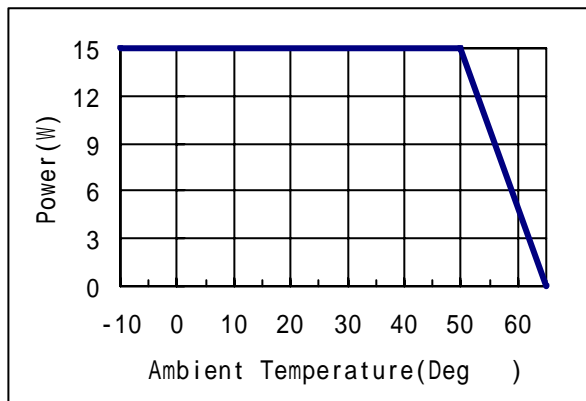


YAS15-15-N



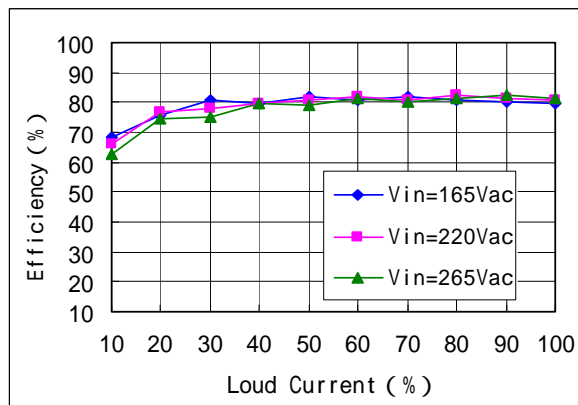
YAS15-15-N

**Derating**

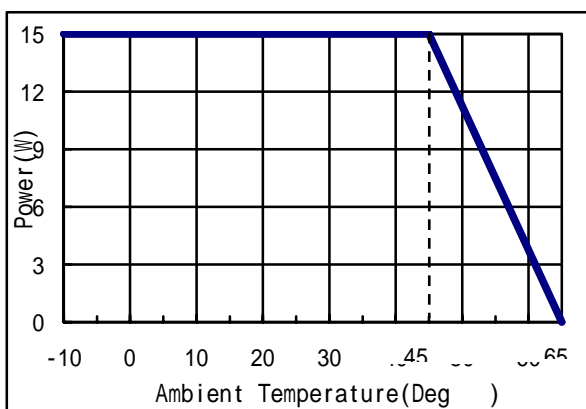


YAS15-24-N

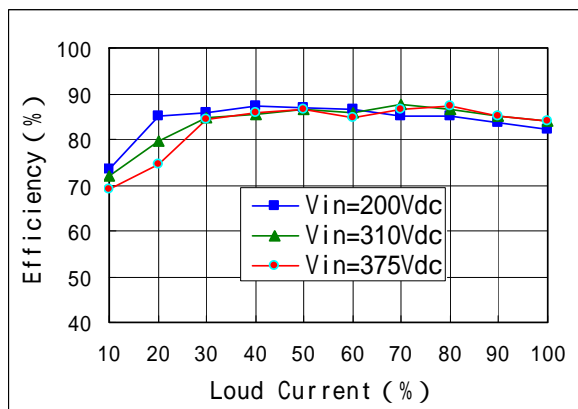
**Efficiency**



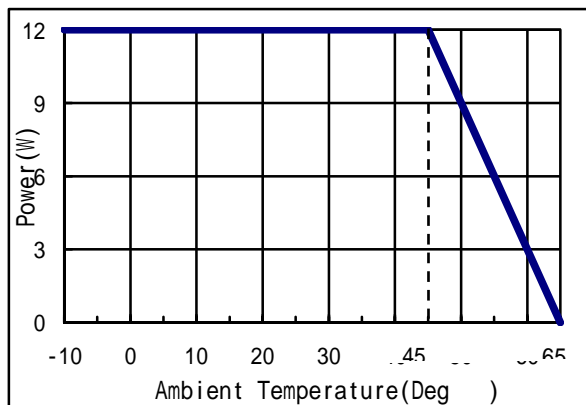
YAS15-24-N



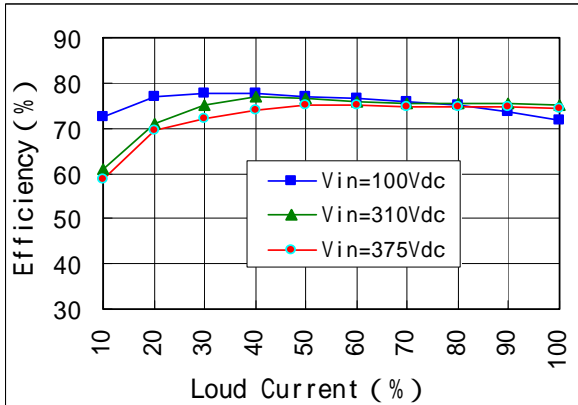
YAS15-48-N



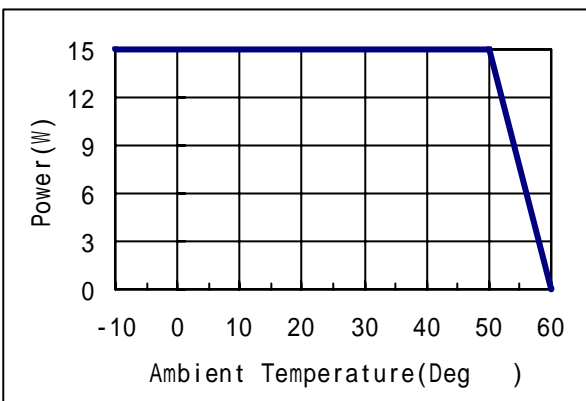
YAS15-48-N



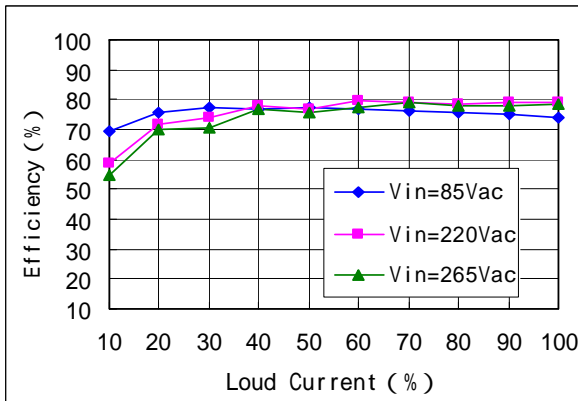
YAS15-3-W



YAS15-3-W

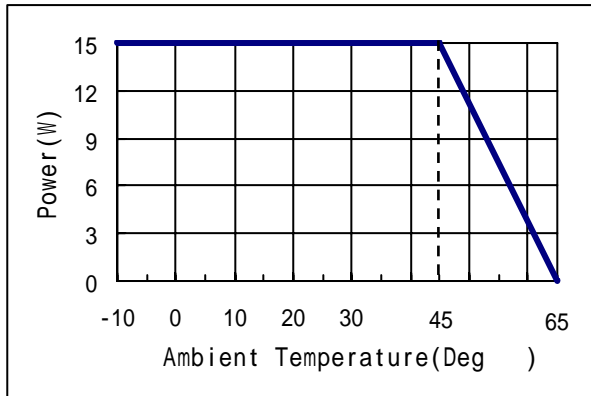


YAS15-5-W



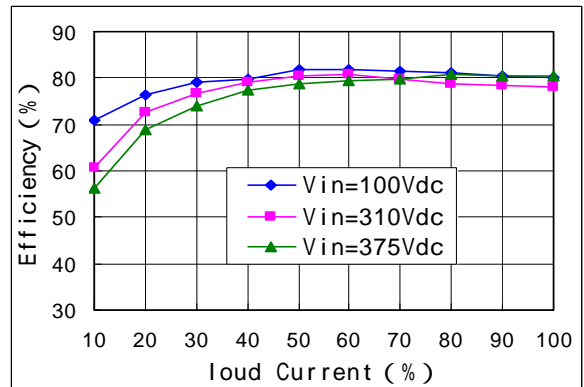
YAS15-5-W

**Derating**

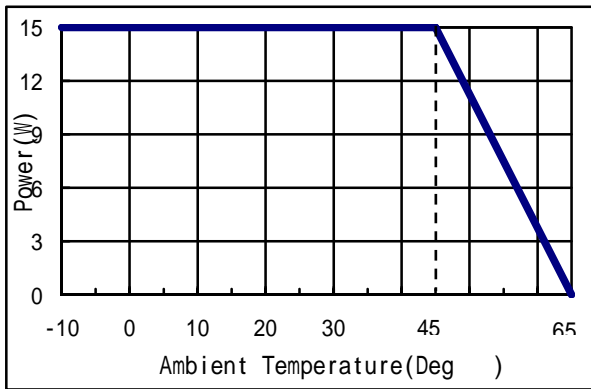


YAS15-12-W

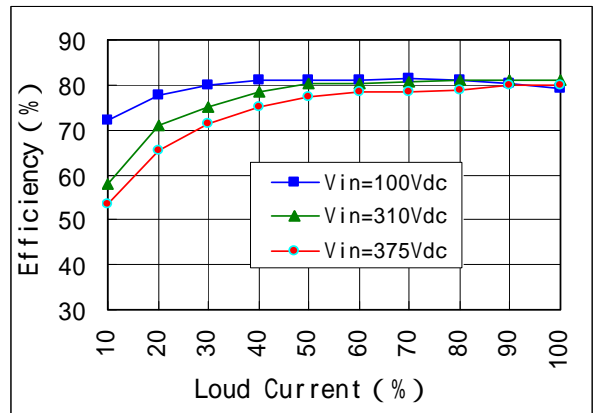
**Efficiency**



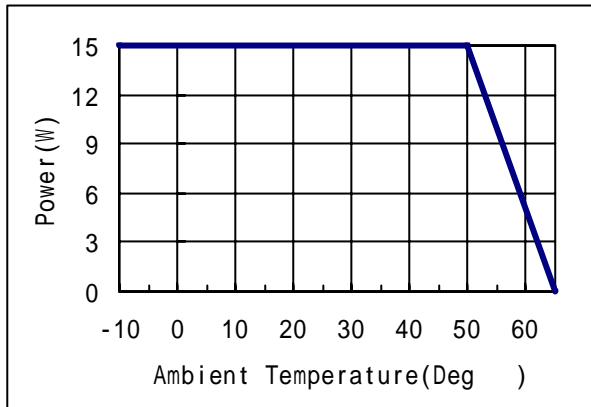
YAS15-12-W



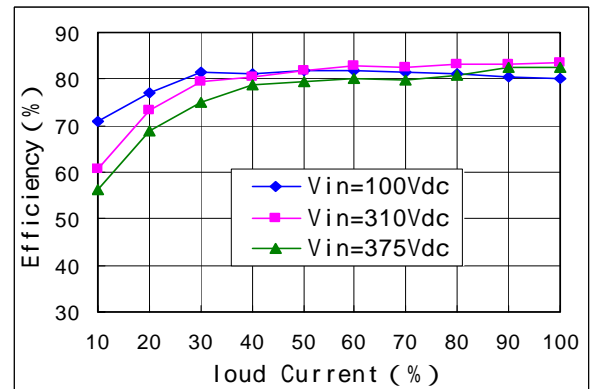
YAS15-15-W



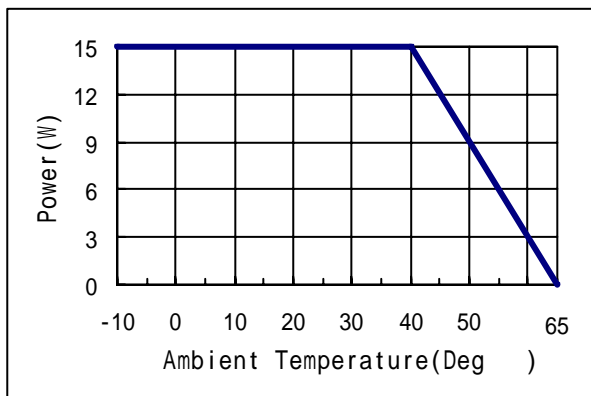
YAS15-15-W



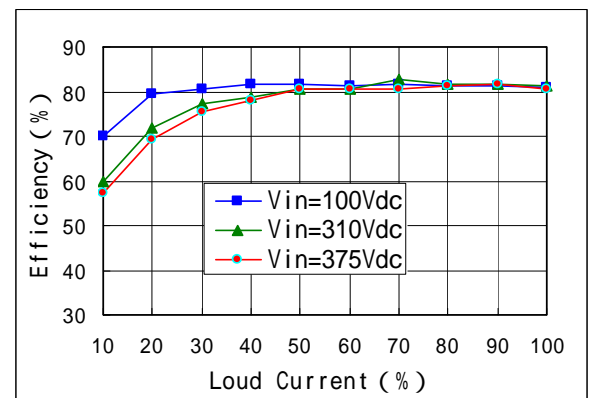
YAS15-24-W



YAS15-24-W

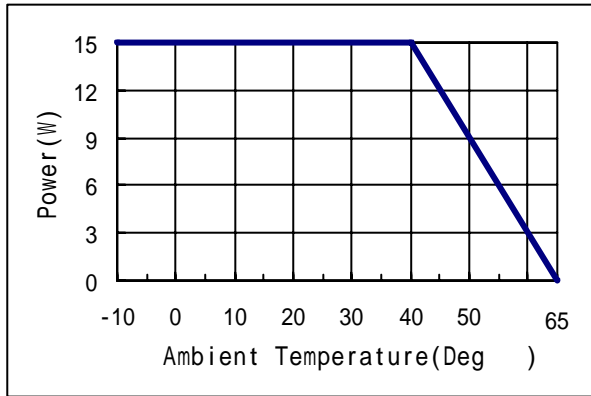


YAS15-48-W



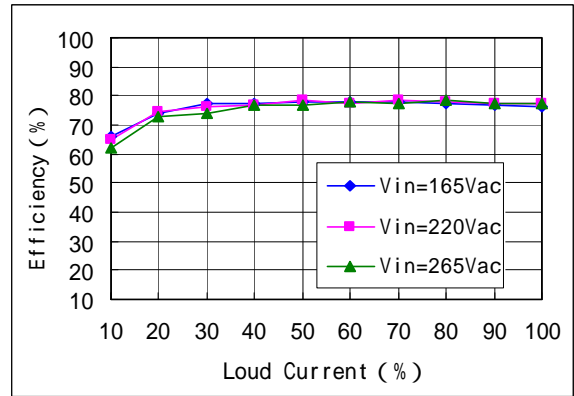
YAS15-48-W

**Derating**

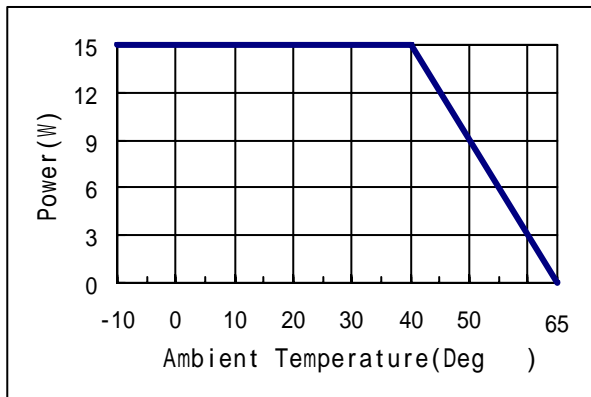


YAD15-05V05-NI

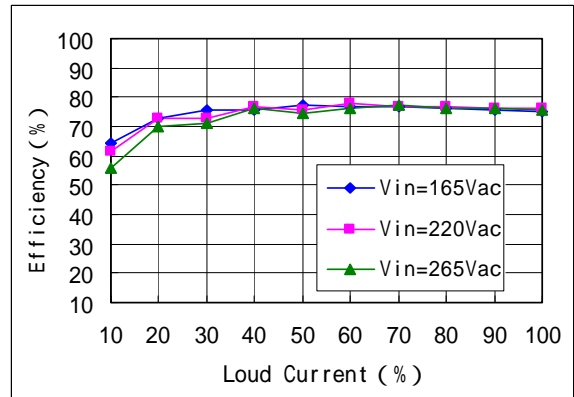
**Efficiency**



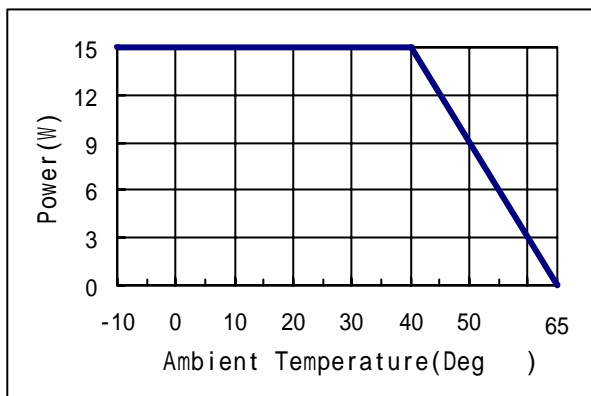
YAD15-05V05-NI



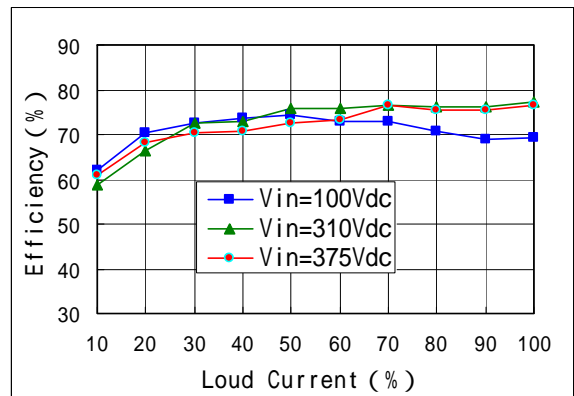
YAD15-05V12-NI



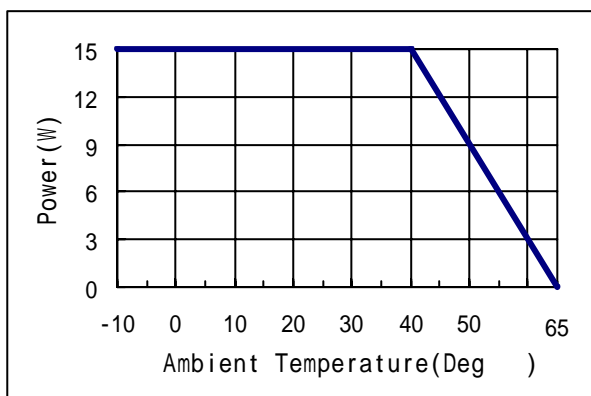
YAD15-05V12-NI



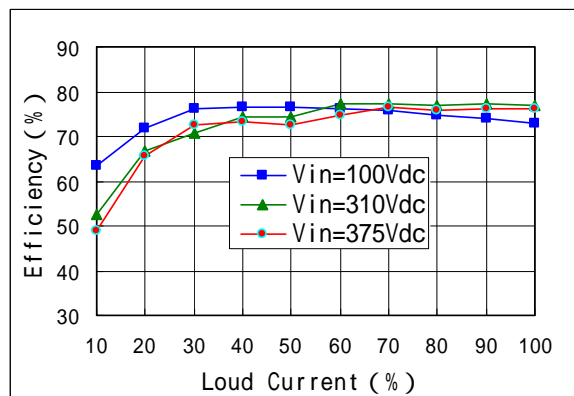
YAD15-0512-WI



YAD15-0512-WI

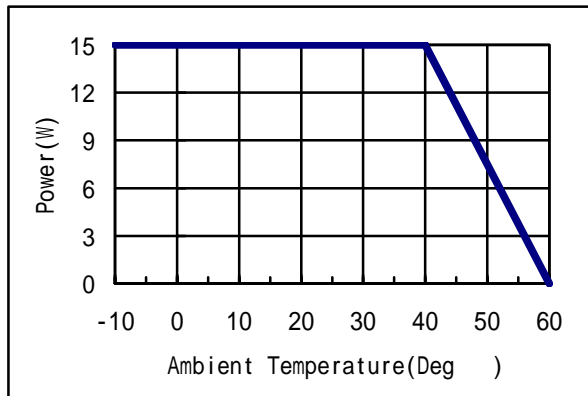


YAD15-05H15-WI



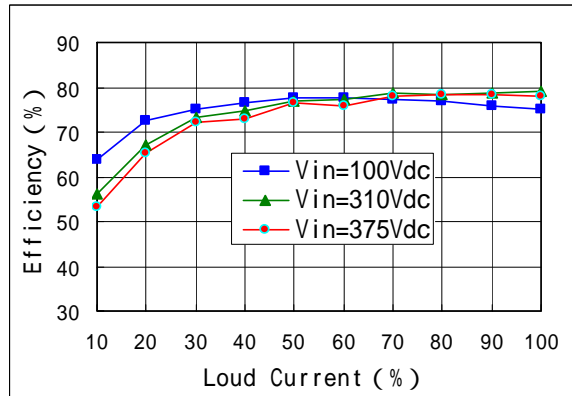
YAD15-05H15-WI

Derating

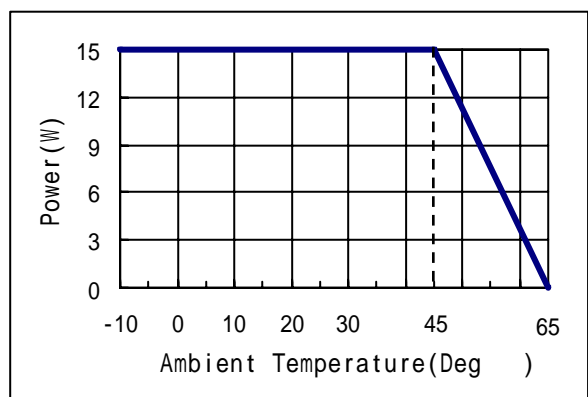


YAD15-05V12-WI

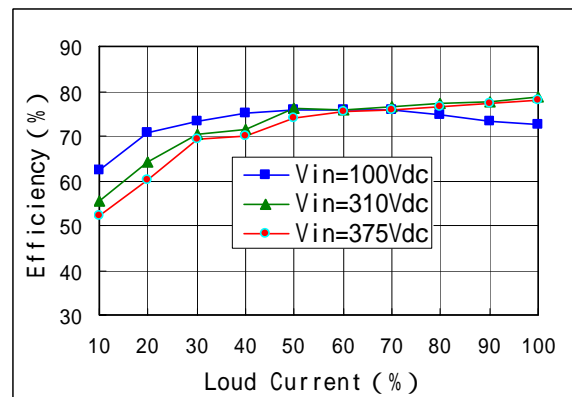
Efficiency



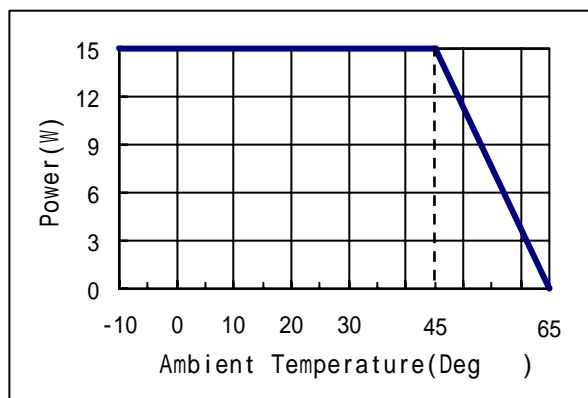
YAD15-05V12-WI



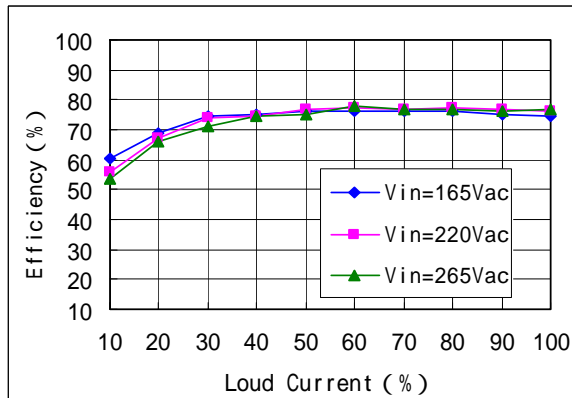
YAD15-05V24-WI



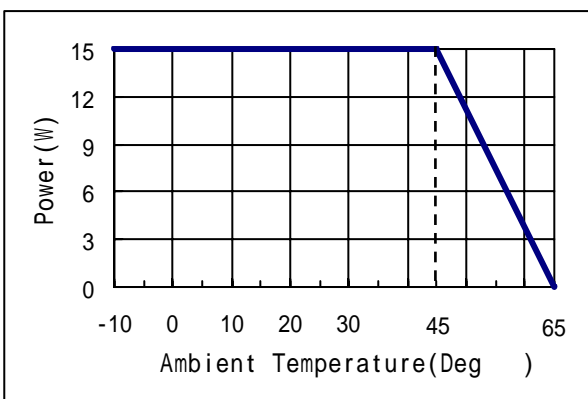
YAD15-05V24-WI



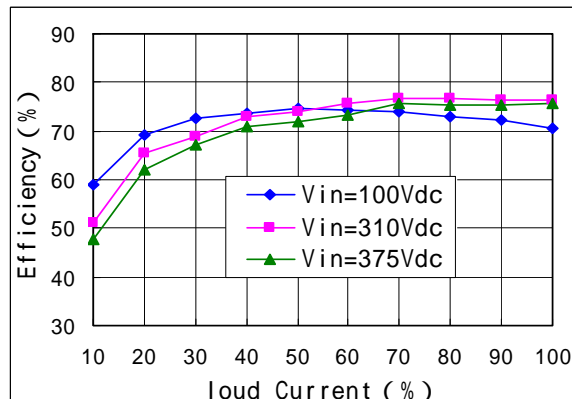
YAT15-05V12-NI



YAT15-05V12-NI

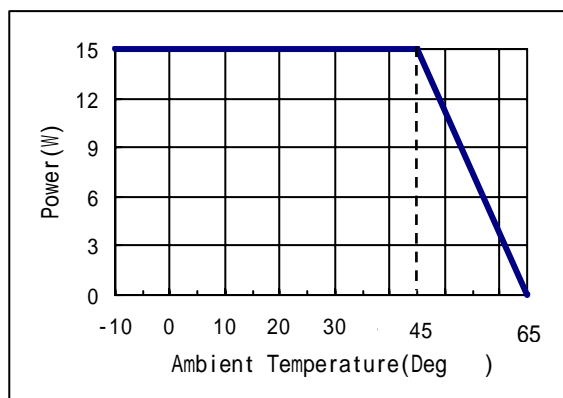


YAT15-05H12-WI



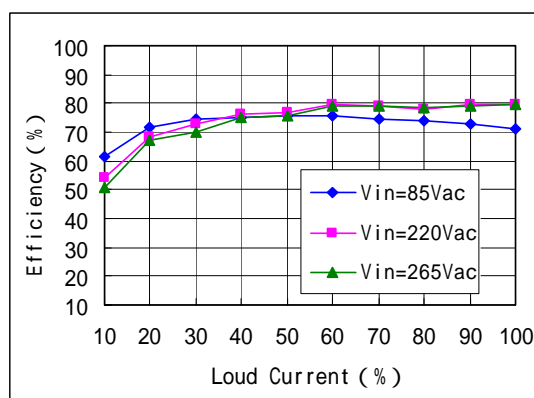
YAT15-05H12-WI

**Derating**



YAT15-05V15-WI

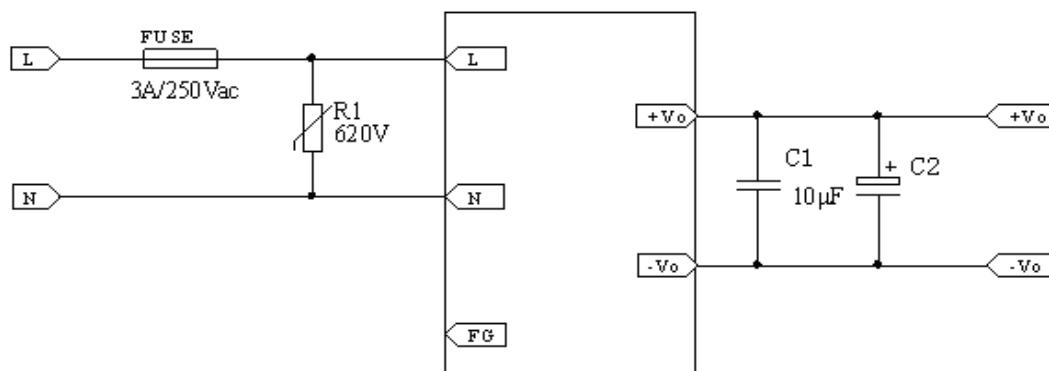
**Efficiency**



YAT15-05V15-WI

**Design Considerations**

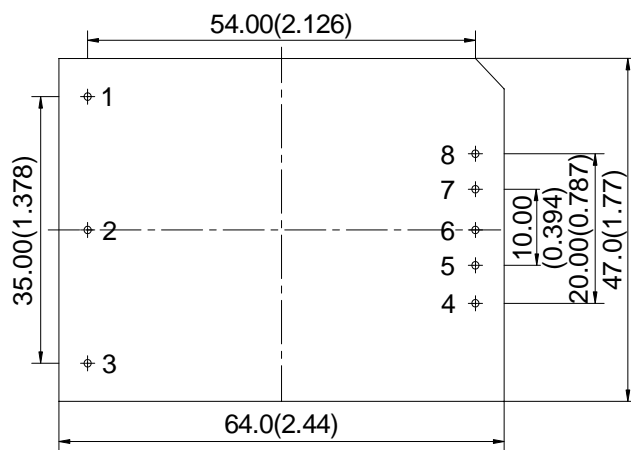
**Basic Connection**



**Notes :**

1. The pins of L、N lines should be connected to the AC power outlet.
2. Please refer the instruction followed for further information.
3. F1: fuse , R1:VDR , C1:MLCC , C2: Electrolytic capacitor:22µF ~220µF low esr capacitor.

**Recommended Layout**



No.	Recommendation & Notes
Pad Design	Pad hole: 1.2mm, pad diameter including hole: 2.5 mm.
Airflow Direction	The plastic case also is considered heat sink. Advised not to put flat surface down after mounted.
Safety	Isolated module, care to the spacing between input and output.
Electrical	The Vin(-) and Vo(-) planes should be placed under of the module separately. Avoid routing sensitive signal or high disturbance AC signal under the module.



## Safety Consideration

The module, as one component for the end user, should be installed into the equipment. It is required to meet safety requirements in the system design.

To avoid fire and be protected when short circuit occurred, it is recommended that a fast blow fuse with rating no less than 0.5A(Inrush current suppression circuit is required for greater filter capacitance at input terminal, or it will result in the disoperation of the fuse. ) .

## Series and Parallel Operation

The modules should not be paralleled directly to increase power, but they can be paralleled each other through o-ring switches or diodes. Make sure that every module's maximum load current should not exceed the rated current at anytime.

The modules can operate in series. To prevent against start-up failure due to start up time difference, SBD with low voltage difference can be paralleled at the

output pins(SBD negative terminal connect to the positive pin of the output) for each module.

## Delivery Package Information

Package material is multiple wall corrugated with less than  $10^9 \Omega$  surface resistance; internal material is anti-static foam with less than  $10^5 \Omega$  surface resistance. Tray capacity: 3×4=12 PCS/box , Tray weight: 1.15kg~1.35kg; Carton capacity:8×12=96 PCS, Carton weight: 10kg~11kg.

## Quality Statement

The modules are manufactured in accordance with ISO 9001 system requirements, in compliant with YD/T1376-2005, and are monitored 100% by auto-testing system, 100% burn in.

The warranty for the modules is 2-year.

## Contact Information

---

Anhui Hesion Trading Co.,Ltd.

Add: Room1001,Zheshang Business Mansion,  
No.103 Kexue Road, Hefei Anhui,China 230088

TEL: +86-551-5369069,5369067

FAX:+86-551-5369070

Email: [alecz@ahhesion.com](mailto:alecz@ahhesion.com)

Backup:alecz@126.com

Web: [www.yihongtai.com](http://www.yihongtai.com)