

# 50 WATT AC-DC CONVERTER

## VTB-SA Series

### General Description

VT is the basic series of switching power supplies manufactured by ETA Electric Industry. 188 different models are available. Output power ranges from 10W to 600W. 50 models have dual outputs; 33 models are designed with triple outputs. Input selectable ("SZ") models conform to local power conditions.



### Features

- Compact
- Isolated outputs
- High Performance and Reliability
- Excellent for equipment/din rail applications

Specifications<AC/DC>	Model				
<b>VTB**SA</b> <b>50WATTS/SINGLE OUTPUT</b>	VTB05SA	VTB12SA	VTB15SA	VTB24SA	VTB48SA
<b>Input Characteristic</b>					
Input Voltage	AC100V(DC130V)				
Input Range	AC90-132V(DC110-175V)				
Input Frequency	50/60Hz				
Input Frequency Range	47 -440Hz				
Phase	Single				
Inrush Current *1	20A(maximum) at rated input/output				
Efficiency [%] (typical) *2	78	81	82	85	85

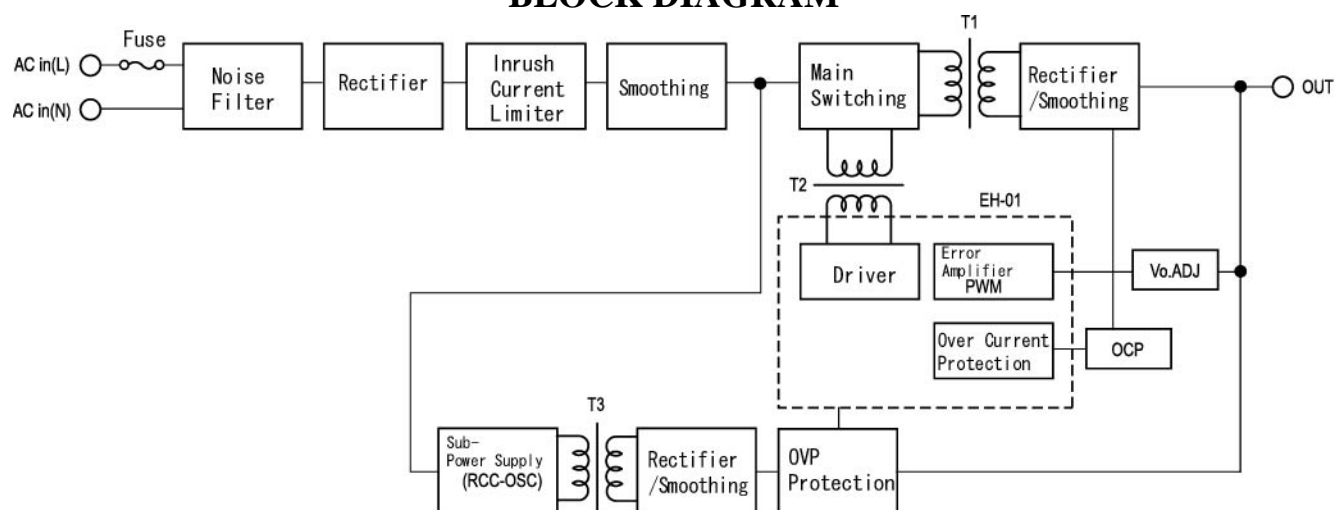


**ETA-USA**

HIGH QUALITY SWITCHING POWER SUPPLIES

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## BLOCK DIAGRAM



Specifications<AC/DC>	Model				
VTB**SA 50WATTS/SINGLE OUTPUT	VTB05SA	VTB12SA	VTB15SA	VTB24SA	VTB48SA
Output Characteristic					
Output Voltage [V]	5	12	15	24	48
Output Current [A]	10	4.2	3.4	2.5	1.0
Voltage Adjust Range	+/-10% of Rated Output Voltage(at no load within input range)				
Ripple and Noise [mVp-p](maximum) *3	100	170	200	290	530
Regulation					
a.Statistic Line Regulation [mV](maximum)	40	96	120	192	384
b.Statistic Load Regulation [mV](maximum)	45	108	135	216	432
c.Temperature Coefficient *4	0.03%/°C				
d.Drift[mV](maximum) *5	40	75	90	135	255
e.Dynamic Load Regulation [mV](typical) *6	150	360	450	720	1440
f.Recovery Time *6	0.5mS(typical)				
Rise up time	100mS(maximum) at 25°Cand rated input/output				300mS(maximum)
Hold up time	20mS(minimum) at 25°Cand rated input/output				
Functions					
Overcurrent Protection	Current Limiting with automatic recovery				
Overvoltage Protection	output shutdown				
Remote Sense	not available				
Remote On/Off	not available				
Environmental					
Operating Temperature	0 to +50°C				
Operating Humidity	85%RH(non-condensing)				
Storage Temperature	-20 to +85°C				
Storage Humidity	30 to 85%RH(non-condensing)				
Withstanding Voltage	Primary-Secondary AC1,500Vfor 1minute				
	Primary-Frame Ground AC1,500V for 1minute				
	Secondary-Frame Ground AC500V for 1minute				
Isolation Resistance	Primary-Secondary-Frame Ground 50MΩ(minimum) by DC500V insulation tester				
Vibration	5-10Hz:10mm double amplitude,10-55Hz:19.6m/s <sup>2</sup> ,20minutes' period for 60minutes each along X,Y,Z axes(non-operating)				
Shock	294m/s <sup>2</sup>				
Cooling	Convection				
Leakage Current	1.0mA(maximum)				
Line Conduction Noise	Not specified				
Safety	-				
Weight (typical)	410g				
MTBF [H]	750,000				
Switching Frequency[kHz](typical)	71				

Conditions:

\*1 at cold start

\*2 at DC260V and rated output

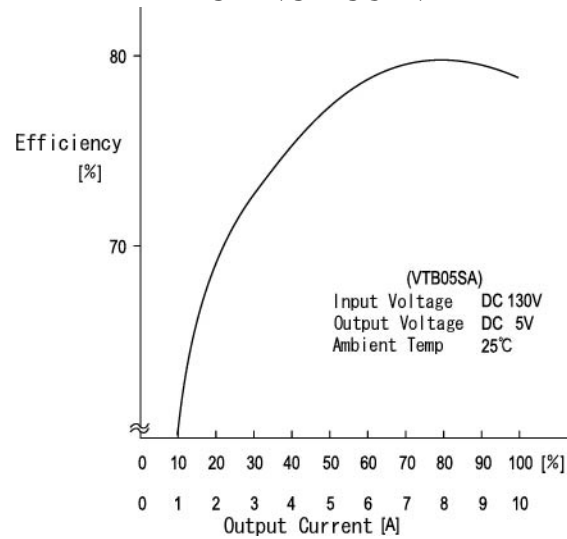
\*3 measured by a bayonet probe at the output connector at a 0 to 100MHz bandwidth

\*4 at 0 to +50°C

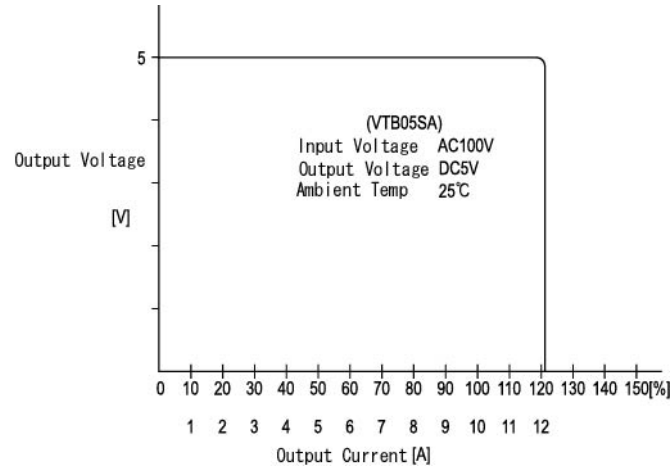
\*5 for 7hour period after 1hour warm-up at 25°Cand rated input/output

\*6 when output current changed from 25% to 75% of rated output current rapidly at AC100V input

### EFFICIENCY CURVE



### OCP CURVE



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