

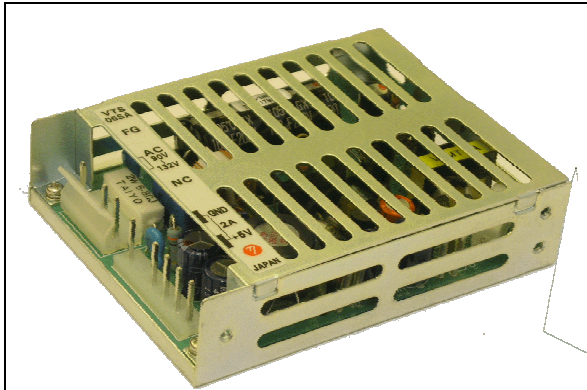


# ETA-USA

## HIGH QUALITY SWITCHING POWER SUPPLIES

AC/DC SWITCHING POWER SUPPLY  
 INPUT: 85~132VAC  
 SINGLE OUTPUT  
 10 WATTS

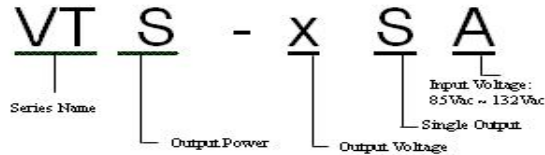
# VTS-SA SERIES



Dimension: 75Wx98Lx24H [mm]

### General Description

VT-Series are the basic series of switching power supplies manufactured by ETA Electric Industry Co., Ltd. 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.



### Options:

\* Terminal Cover (Ordered Separately)

### Features

1. Input: 100/200Vac
2. High Reliability
3. High Efficiency
4. Inrush Current protection built-in
5. Input: VT...SA=85-132VAC  
 VT...SB=170-264VAC  
 VT...SZ=100/200VAC Selectable Jumper
6. Power Range : 10-600W
7. Output: Single, Dual and Triple

Input Characteristics	Unit	Models			
		VTS05SA	VTS12SA	VTS15SA	VTS24SA
Input Voltage	Vac	AC100V (DC130V)			
Input Voltage Range	Vdc	AC90-132V (DC110-175V)			
Input Frequency	Hz	50/60Hz			
Input Frequency Range	Hz	47-440Hz			
Inrush Current	A	20A (maximum) at AC100V			
Phase		Single			
Efficiency (typical) *1	%	73	76	77	78

Output Characteristics	Unit	Models			
		VTS05SA	VTS12SA	VTS15SA	VTS24SA
Output Voltage	Vdc	5	12	15	24
Output Current	A	2.0	1.0	0.8	0.5
Voltage Tolerance	V	±5% of Rated Output Voltage (at no load within the input range)			
Ripple and Noise (max.) *2	mV	100	170	200	290
<b>Regulation</b>					
a. Static Line Regulation max.	mV	40	96	120	192
b. Static Load Regulation max.	mV	45	108	135	216
c. Temperature Coefficient *3	%/°C	0.03%/°C			
d. Drift max. *4	mV	40	75	90	135
e. Dynamic Load Reg. typ.*5	mV	150	360	450	720
f. Recovery Time *5	mS	0.5mS (typical)			
g. Rise Time	mS	200mS (maximum) at rated input/output			
h. Hold Up Time	mS	33mS (typical)	22mS (typical) at 25°C and rated input/output		





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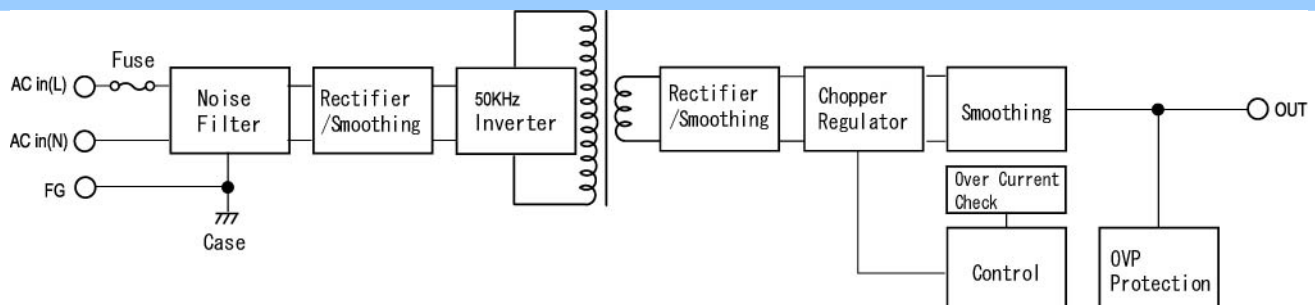
## HIGH QUALITY SWITCHING POWER SUPPLIES

Environmental Specification	
Operating Temperature	0~+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 AC1500V for 1minute Primary-Frame Ground AC1500V for 1minute Secondary-Frame Ground AC500V for 1minute
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
Isolation Resistance	Primary-Secondary-Frame Ground 50MΩ(minimum) by DC500V insulation tester
Function/Protection	
Over current Protection	Current Limiting with automatic recovery
Over voltage Protection	Zener diode clamping
Remote Sense	not available
Remote On/Off	not available
Other Specifications	
Leakage Current (typ.)	1.0mA (maximum)
Line Conducted Noise	Not specified
MTBF [H]	1,000,000
Switching Frequency [kHz] (typical)	42      42      42      42      42
Mechanical Specification	
Dimension [mm]	75Wx98Lx24H [mm]
Weight (typical)	180g/enclosed type:160g

### Conditions:

- \*1 at DC130V input, rated output
- \*2 measured by a bayonet probe at the output connector at a 0 to 100MHz bandwidth
- \*3 at 0 to +50°C
- \*4 only for 7hours from 1hour after switch-on at 25°C and rated input/output
- \*5 when output current changed from 25% to 75% of rated output current rapidly at AC200V input

## BLOCK DIAGRAM

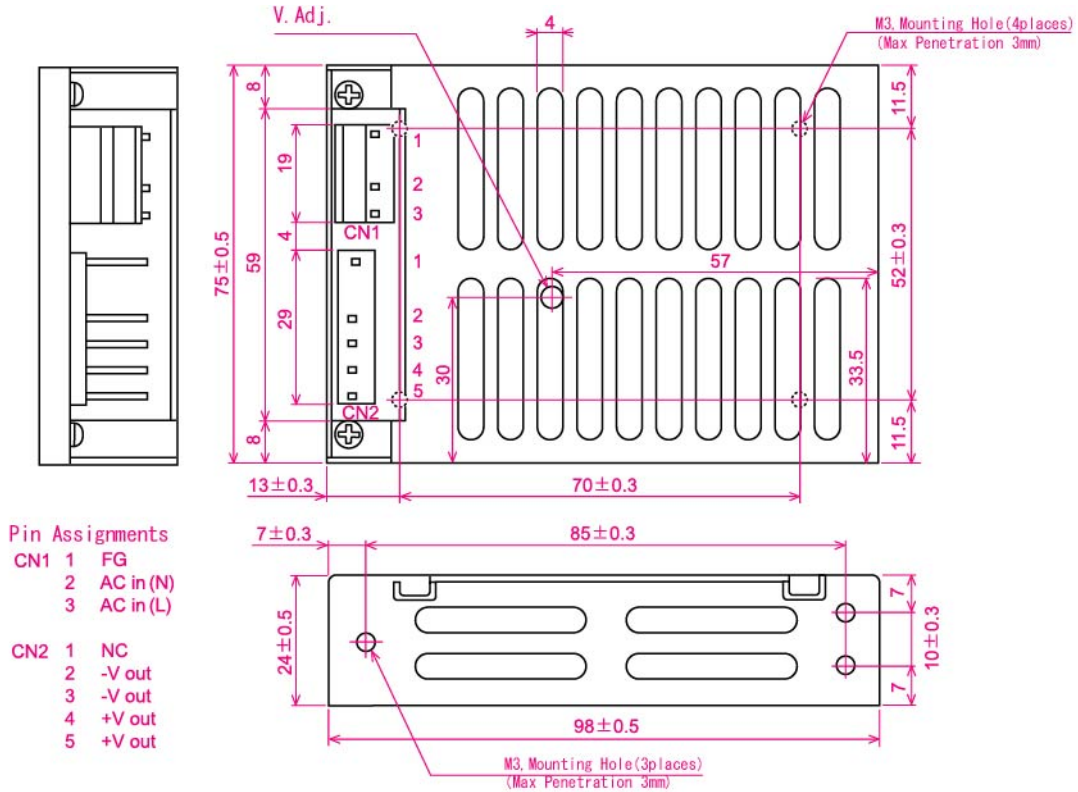




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## HIGH QUALITY SWITCHING POWER SUPPLIES

### DIMENSION DIAGRAM



- Pin Assignments**
- CN1**
- 1 FG
  - 2 AC in (N)
  - 3 AC in (L)
- CN2**
- 1 NC
  - 2 -V out
  - 3 -V out
  - 4 +V out
  - 5 +V out

Connector maker: Molex	Input CN1	Output CN2
Connector	5285-03A	5283-05A
Mating housing	※② 5127-03 or 5227-03	※② 5127-05 or 5227-05
Mating contact	※② 5167TL	

※②option

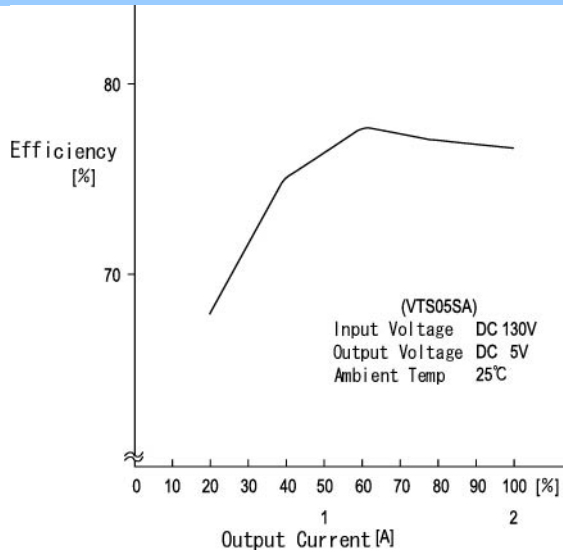




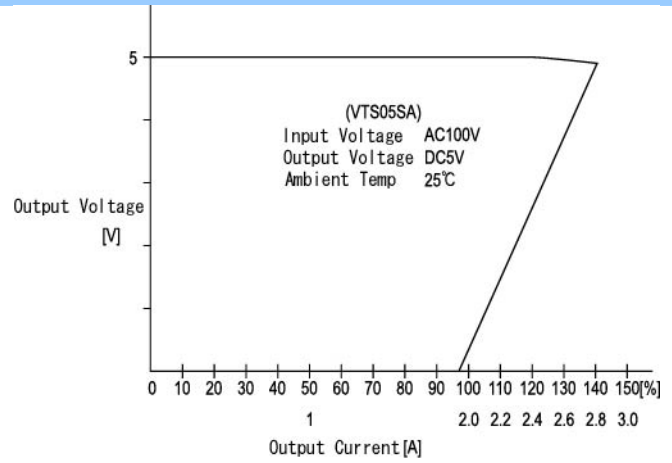
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## HIGH QUALITY SWITCHING POWER SUPPLIES

### EFFICIENCY CURVE



### OCP CURVE



ETA USA

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