

45 WATT AC-DC CONVERTER VTB-FWA

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.

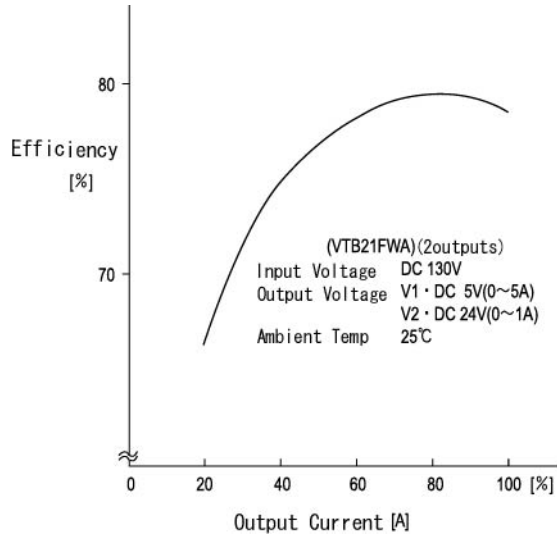


Features

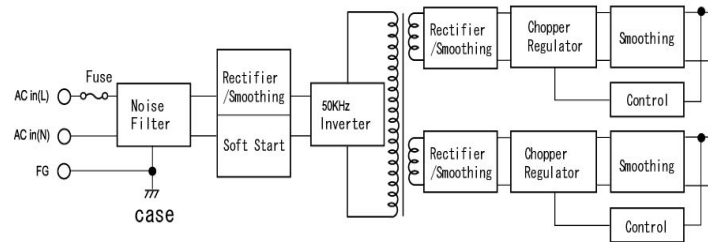
- Compact
- Isolated outputs
- High Performance and Reliability
- Excellent for equipment/din rail applications

| Specifications<AC/DC> | Model | | | | | |
|-----------------------------------|------------------------------------|------------|----------|------------|----------|----------|
| VTB**FWA 45,50WATTS /2 OUTPUTS | VTB21FWA | VTB21FWA-B | VTB22FWA | VTB22FWA-B | VTB23FWA | VTB24FWA |
| Input Characteristic | | | | | | |
| Input Voltage | AC100V(DC130V) | | | | | |
| Input Range | AC90-132V(DC110-175V) | | | | | |
| Input Frequency | 50/60Hz | | | | | |
| Input Frequency Range | 47 -440Hz | | | | | |
| Phase | Single | | | | | |
| Inrush Current *1 | 25A(maximum) at rated input/output | | | | | |
| Efficiency [%] (typical) *2 | 78 | 80 | 81 | 80 | 82 | 78 |

Efficiency Curve



Block Diagram



| VTB**FWA Specification | | | | | | | | | | | | |
|--|--|------------|----------|------------|----------|----------|----------|------------|----------|------------|----------|----------|
| Specifications<AC/DC> | Model | | | | | | | | | | | |
| VTB**FWA 45,50WATTS /2 OUTPUTS | VTB21FWA | VTB21FWA-B | VTB22FWA | VTB22FWA-B | VTB23FWA | VTB24FWA | VTB21FWA | VTB21FWA-B | VTB22FWA | VTB22FWA-B | VTB23FWA | VTB24FWA |
| Output Characteristic | | | | | | | | | | | | |
| Output Voltage [V] | 5 | 24 | 24 | 5 | 12 | 12 | 15 | 15 | 5 | 12 | 5 | 12 |
| Output Current [A] | | | | | | | | | | | | |
| at horizontal mount 25W | 5.0 | 0.85 | 1.5 | 1.5 | 2.0 | 1.7 | 3.0 | 0.8 | 1.7 | 1.3 | 5.0 | 1.7 |
| at vertical mount 30W | 5.0 | 1.0 | 1.8 | 1.5 | 2.0 | 2.0 | 3.3 | 0.8 | 1.7 | 1.7 | 5.0 | 2.0 |
| Peak Current | - | 1.7 | 2.5 | - | 3.5 | - | 4.8 | - | - | - | - | 3.5 |
| Voltage Adjust Range | +/-5% of Rated Output Voltage(at no load within input range) | | | | | | | | | | | |
| Ripple and Noise [mVp-p](maximum) *3 | 100 | 290 | 290 | 100 | 170 | 170 | 170 | 170 | 200 | 200 | 100 | 170 |
| Regulation | | | | | | | | | | | | |
| a.Statistic Line Regulation [mV](maximum) | 35 | 168 | 168 | 35 | 84 | 84 | 84 | 84 | 105 | 105 | 35 | 84 |
| b.Statistic Load Regulation [mV](maximum) | 50 | 240 | 240 | 50 | 120 | 120 | 120 | 120 | 150 | 150 | 50 | 120 |
| c.Temperature Coefficient *4 | 0.03%/°C | | | | | | | | | | | |
| d.Drift[mV](maximum) *5 | 40 | 135 | 135 | 40 | 75 | 75 | 75 | 75 | 90 | 90 | 40 | 75 |
| e.Dynamic Load Regulation [mV](typical) *6 | 150 | 720 | 720 | 150 | 360 | 360 | 360 | 360 | 450 | 450 | 150 | 360 |
| f.Recovery Time *6 | 0.5mS(typical) | | | | | | | | | | | |
| Rise up time | 200mS(maximum) at 25°C and rated input/output | | | | | | | | | | | |
| Hold up time | 18mS(minimum) at 45W at 25°C and rated input/output | | | | | | | | | | | |
| Functions | | | | | | | | | | | | |
| Overcurrent Protection | Current Limiting with automatic recovery | | | | | | | | | | | |
| Overvoltage Protection | Zener diode clamping | | | | | | | | | | | |
| 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 ² ,20minutes' period for 60minutes each along X,Y,Z axes(non-o | | | | | | | | | | | |
| Shock | 294m/s ² | | | | | | | | | | | |
| Cooling | Convection | | | | | | | | | | | |
| ? Leakage Current | 1.0mA(maximum) | | | | | | | | | | | |
| ? Line Conduction Noise | Not specified | | | | | | | | | | | |
| ? Safety | - | | | | | | | | | | | |
| ? Weight (typical) | 380g | | | | | | | | | | | |
| ? MTBF [H] | 510,000 | | | | | | | | | | | |
| ? Switching Frequency[kHz](typical) | 43 | | | | | | | | | | | |

Conditions:

*1 at cold start

*2 at DC130V 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°C and rated input/output

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

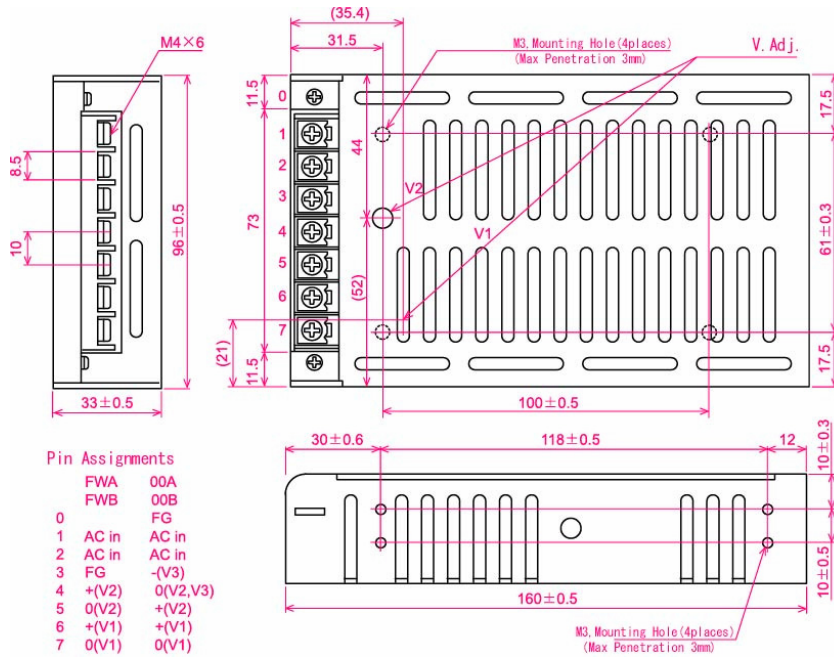


ETA-USA

HIGH QUALITY SWITCHING POWER SUPPLIES

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Dimension



OCP Curve

