

# 45 WATT AC-DC CONVERTER VTB-FWB SERIES

Specifications<AC/DC>	Model													
	VTB**FWB 45,50WATTS /2 OUTPUTS		VTB21FWB	VTB21FWB-B	VTB22FWB	VTB22FWB-B	VTB23FWB	VTB24FWB	VTB24FWB-B					
<b>Input Characteristic</b>														
Input Voltage	AC200V(DC260V)													
Input Range	AC180-264V(DC220-350V)													
Input Frequency	50/60Hz													
Input Frequency Range	47 -440Hz													
Phase	Single													
Inrush Current *1	25A(maximum) at rated input/output													
Efficiency [%] (typical) *2	79		81		82		81		83		79		81	
<b>Output Characteristic</b>														
Output Voltage [V]	5	24	24	5	12	12	12	12	15	15	5	12	12	5
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	3.0	1.5
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	3.5	1.5
Peak Current	-	1.7	2.5	-	3.5	-	4.8	-	-	-	-	3.5	4.8	-
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	170	100
<b>Regulation</b>														
a.Statistic Line Regulation [mV](maximum)	35	168	168	35	84	84	84	84	105	105	35	84	84	35
b.Statistic Load Regulation [mV](maximum)	50	240	240	50	120	120	120	120	150	150	50	120	120	50
c.Temperature Coefficient *4	0.03%/°C													
d.Drift[mV](maximum) *5	40	135	135	40	75	75	75	75	90	90	40	75	75	40
e.Dynamic Load Regulation [mV](typical) *6	150	720	720	150	360	360	360	360	450	450	150	360	360	150
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													
<b>Functions</b>														
Overcurrent Protection	Current Limiting with automatic recovery													
Overvoltage Protection	Zener diode clamping													
Remote Sense	not available													
Remote On/Off	not available													
<b>Environmental</b>														
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 AC2,500V for 1minute Primary-Frame Ground AC2,500V 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)	470g													
? MTBF [H]	520,000													
? Switching Frequency[kHz](typical)	43													

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°C and rated input/output
- \*6 when output current changed from 25% to 75% of rated output current rapidly at AC100V input