



Standard type

with Cover
(option : -N)

Example recommended EMI/EMC filter
EAM-03-000



High voltage pulse noise type : EAP series
150KHz-1MHz (To safely ground the secondary side) : EAC series

*A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.

- ① Series name
- ② Single output
- ③ Output wattage
- ④ Universal input
- ⑤ Output voltage
- ⑥ Optional *1
E2: Low leakage current
Y : with Potentiometer
H : with output peak current (12V,24V)
N: with cover
For option details, refer to Instruction Manual 6.

□ Class II

This power supply is manufactured by SMD technology. The stress to PCB like twisting or bending causes the defect of the unit, so handle the unit with care.

*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

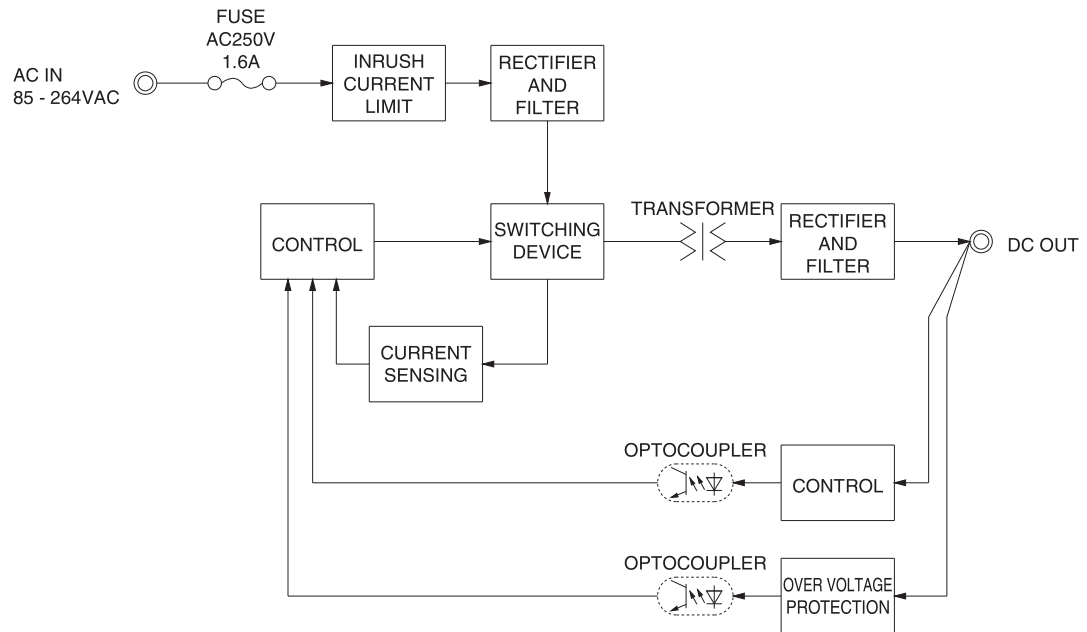
MODEL	TECS20F-5	TECS20F-12	TECS20F-12-H	TECS20F-15	TECS20F-24	TECS20F-24-H
MAX OUTPUT WATTAGE[W]	20.0	20.4	20.4 (30.0)	20.25	20.4	20.4 (30.0)
DC OUTPUT	5V 4.0A	12V 1.7A	12V 1.7 (2.5)A	15V 1.35A	24V 0.85A	24V 0.85 (1.25)A

SPECIFICATIONS

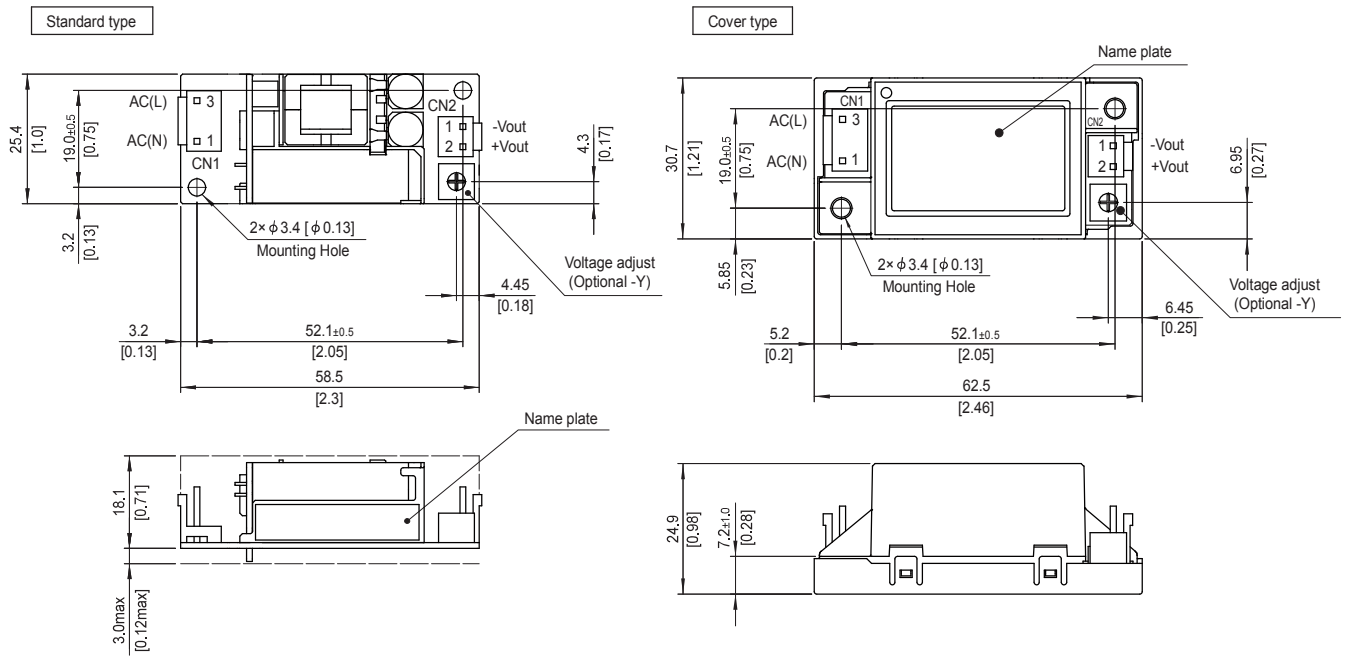
	MODEL	TECS20F-5	TECS20F-12	TECS20F-12-H	TECS20F-15	TECS20F-24	TECS20F-24-H
INPUT	VOLTAGE[VAC]	*2 85 - 264 1 φ (Refer to "Derating" and Instruction Manual 1.1)					
	CURRENT[A]	ACIN 100V	0.40typ				
		ACIN 230V	0.23typ				
	FREQUENCY[Hz]	50 / 60 (45 - 440)					
	EFFICIENCY[%]	ACIN 100V	88.0typ	91.0typ	91.0typ	91.0typ	91.0typ
		ACIN 230V	90.0typ	92.0typ	92.0typ	92.0typ	92.0typ
OUTPUT	INRUSH CURRENT[A]	ACIN 100V	15typ (Io=100%) Ta=25°C at cold start				
		ACIN 230V	35typ (Io=100%) Ta=25°C at cold start				
	LEAKAGE CURRENT[ma]	0.1max (ACIN 264V, 60Hz, Io=100%, According to IEC62368-1, and DEN-AN)					
	VOLTAGE[V]	5	12	12	15	24	24
	CURRENT[A]	*2 4.0	1.7	1.7 (Peak 2.5)	1.35	0.85	0.85 (Peak 1.25)
	LINE REGULATION[mV]	*3 20max	48max	48max	60max	96max	96max
PROTECTION CIRCUIT AND OTHERS	LOAD REGULATION[mV]	*3 40max	100max	100max	120max	150max	150max
	RIPPLE[mVp-p]	*4 -20 to +50°C	200max	200max	200max	200max	200max
	RIPPLE NOISE[mVp-p]	*4 -20 to +50°C	240max	240max	240max	240max	240max
	TEMPERATURE REGULATION[mV]	0 to +50°C	50max	120max	120max	150max	240max
		-20 to +50°C	60max	160max	160max	200max	320max
	DRIFT[mV]	*5 20max	48max	48max	60max	96max	96max
ISOLATION	START-UP TIME[ms]	80typ (ACIN 100/230V, Io=100%)					
	HOLD-UP TIME[ms]	10typ (ACIN 100V, Io=100%) / 70typ (ACIN 230V, Io=100%)					
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	Fixed ("Y" option is available for adjusting output voltage between ±10%)					
	OUTPUT VOLTAGE SETTING[V]	4.90 to 5.30	11.50 to 12.50	11.50 to 12.50	14.50 to 15.50	23.00 to 25.00	23.00 to 25.00
	OVERCURRENT PROTECTION	Works over 105% of rating (works over 101% of peak current at option -H) and recovers automatically					
	OVERVOLTAGE PROTECTION[V]	5.75 to 7.00	13.80 to 16.80	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	27.60 to 33.60
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	*2 -20 to +85°C, 20 - 90%RH (Non condensing), (Refer to "Derating"), 5,000m (16,500feet) max					
	STORAGE TEMP., HUMID. AND ALTITUDE	-40 to +85°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max					
SAFETY AND NOISE REGULATIONS	VIBRATION	10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axis					
	IMPACT	196.1m/s ² (20G), 11ms, once each X, Y and Z axis					
OTHERS	AGENCY APPROVALS	UL62368-1, C-UL (equivalent to CAN/CSA-C22.2No.62368-1), EN62368-1, Complies with DEN-AN					
	CONDUCTED NOISE	*6 Complies with CISPR11-B, CISPR32-B, EN55011-B, EN55032-B, FCC Part 15-B, FCC Part 18-B, VCCI-B					
	HARMONIC ATTENUATOR	*7 Complies with IEC61000-3-2 (Class A) (No built-in power factor correction)					
CASE SIZE/WEIGHT	CASE SIZE/WEIGHT	25.4 X 21.1 X 58.5mm [1.00 X 0.83 X 2.30 inches] (W X H X D) / 35g max (with cover : 50g max)					
	COOLING METHOD	*2 Convection/Forced air (Requires external fan) (Refer to "Derating")					

- *1 The listed options may affect the published standard specifications. Please contact us for detailed product specifications.
- *2 Derating is required. () means peak current. There is a possibility that an internal device is damaged when the specification is exceeded. Please contact us about the detail.
- *3 At low load conditions, the burst mode operation will start. To check load regulation, you will need to measure the characteristics at average mode with instruments.
- *4 This is the value that measured on measuring board with capacitor of 22 μF and 0.1 μF at 150mm from output terminal. (Refer to Instruction Manual)
- *5 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.
- *6 When secondary circuit will be connected to earth, the spec will be changed. (Refer to Instruction Manual 2)
- *7 Please contact us about another class. When two or more units are operating it may not comply with the IEC61000-3-2. Please contact us for details.
- *8 5V output product, with an adjustable output voltage range of -5% - +10%.
- * To meet the specification, do not operate overload condition.
- * Parallel operation is not possible.
- * Sound noise may be emitted from the power supply depending on operating conditions.

Block diagram



External view



Mating connector and terminal of CN1, CN2

I/O Connector	Mating connector	Terminal	Mfr.
CN1 B2P3-VH	VHR-3N	Chain : SVH-21T-P1.1 Loose : BVH-21T-P1.1	J.S.T.
CN2 B2P-VH	VHR-2N	Chain : SVH-21T-P1.1 Loose : BVH-21T-P1.1	J.S.T.

- ※ Dimensions in mm, []=inches
- ※ Tolerance : ± 1.5 [± 0.06]
- ※ Weight : 35g max (with cover : 50g max)
- ※ PCB Material / thickness : FR-4 / 1.1mm [0.04]
- ※ Optional Case Material: PBT
- ※ There are two mounting holes.

Specifications are subject to change without notice, E&OE. ALL PSU Terms & Conditions apply.

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