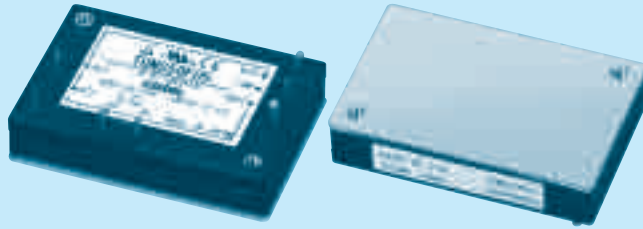


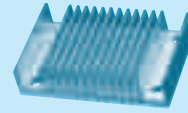
# TUNS50

TUN S 50 F 05 -□

① ② ③ ④ ⑤ ⑥



\* Providing heat sink as option



- ① Series name
- ② Single output
- ③ Output wattage
- ④ Universal Input
- ⑤ Output voltage
- ⑥ Optional
- T : with Mounting hole (φ 3.4 thru)

\* Avoid short circuit between +BC and -BC. It may cause the failure of inside components.  
 \* Keep TRM open, if output voltage adjustment is not necessary.

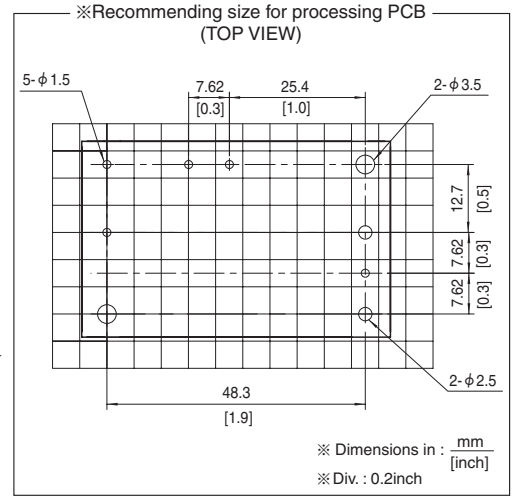
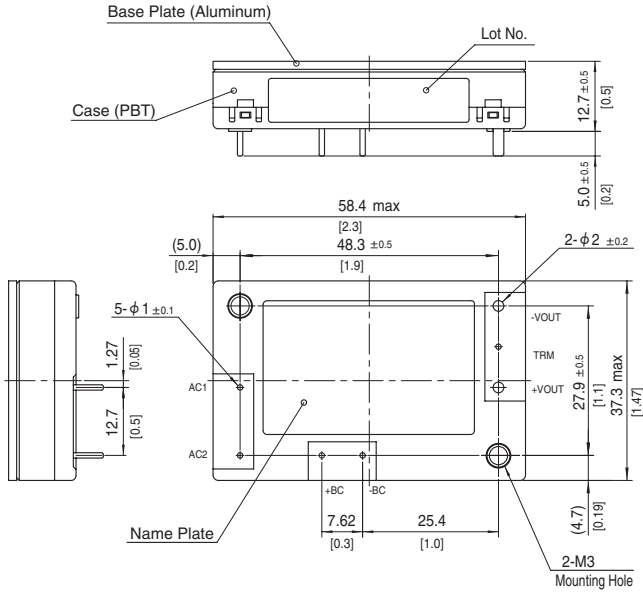
MODEL	TUNS50F05	TUNS50F12	TUNS50F24
MAX OUTPUT WATTAGE[W]	50.0	50.4	50.4
DC OUTPUT	5V 10A	12V 4.2A	24V 2.1A

## SPECIFICATIONS

	MODEL	TUNS50F05	TUNS50F12	TUNS50F24	
INPUT	VOLTAGE[V]	AC85 - 264 1 φ (Please refer to the instruction manual, 6.5 Derating)			
	CURRENT[A]	ACIN 100V	0.67typ (Io=100%)		
		ACIN 200V	0.35typ (Io=100%)		
	FREQUENCY[Hz]	50/60 (47 - 63)			
	EFFICIENCY[%]	ACIN 100V	79typ	83typ	84typ
		ACIN 200V	81typ	84typ	86typ
	POWER FACTOR (Io=100%)	ACIN 100V	0.95typ		
		ACIN 200V	0.90typ		
INRUSH CURRENT	Limited by external components (Thermistor)				
LEAKAGE CURRENT[mA]	0.75 max (60Hz, According to IEC60950-1)				
OUTPUT	VOLTAGE[V]	5	12	24	
	CURRENT[A]	10	4.2	2.1	
	LINE REGULATION[mV]	10max	24max	48max	
	LOAD REGULATION[mV]	10max	24max	48max	
	RIPPLE[mVp-p]	0 to +100°C *1	80max	120max	120max
		-40 to 0°C *1	120max	150max	150max
		0 to 15% Load *1	200max	280max	380max
	RIPPLE NOISE[mVp-p]	0 to +100°C *1	120max	150max	150max
		-40 to 0°C *1	200max	200max	250max
		0 to 15% Load *1	280max	360max	460max
	TEMPERATURE REGULATION[mV]	0 to +65°C	50max	120max	240max
		-40 to +100°C	100max	240max	480max
	DRIFT[mV]	*2	20max	40max	90max
OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	Fixed (TRM pin open), adjustable by external resistor or external signal				
	4.50 - 6.00	10.80 - 13.20	21.60 - 26.40		
OUTPUT VOLTAGE SETTING[V]	4.97 - 5.13	11.91 - 12.29	23.62 - 24.38		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically			
	OVERVOLTAGE PROTECTION[V]	6.30 - 7.00	13.90 - 16.35	27.60 - 32.40	
	REMOTE SENSING	Not provided			
	REMOTE ON/OFF	Not provided			
ISOLATION	INPUT-OUTPUT	AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)			
	INPUT-FG	AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)			
	OUTPUT-FG	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C)			
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-40 to +100°C (On aluminum base plate), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max			
	STORAGE TEMP., HUMID. AND ALTITUDE	-40 to +100°C, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max			
	VIBRATION	10 - 55Hz, 49.0m/s <sup>2</sup> (5G), 3minutes period, 60minutes each along X, Y and Z axis			
	IMPACT	196.1m/s <sup>2</sup> (20G), 11ms, once each along X, Y and Z axis			
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS	UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178			
	HARMONIC ATTENUATOR	Complies with IEC61000-3-2 (Class A) *3			
OTHERS	CASE SIZE/WEIGHT	58.4 X 12.7 X 37.3mm [2.3 X 0.5 X 1.47 inches] (W X H X D) / 80g max			
	COOLING METHOD	Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)			

\*1 Refer to instruction manual for measuring method of electric characteristics.  
 \*2 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.  
 \*3 Please contact us about another class.

External view

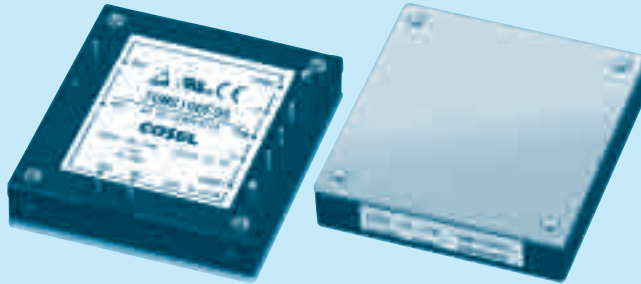
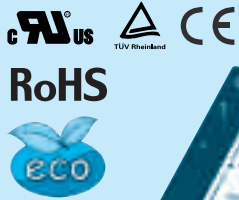


- ※ Tolerance :  $\pm 0.3$  [ $\pm 0.012$ ]
- ※ Weight : 80g max
- ※ Dimensions in mm, [ ]=inches
- ※ Mounting hole screwing torque : 0.49N · m (5.0kgf · cm) max

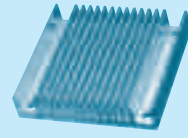
# TUNS100

TUN S 100 F 05 -□

① ② ③ ④ ⑤ ⑥



\*Providing heat sink as option



- ① Series name
- ② Single output
- ③ Output wattage
- ④ Universal Input
- ⑤ Output voltage
- ⑥ Optional
- T : with Mounting hole (φ 3.4 thru)

- \* Avoid short circuit between +BC and -BC. It may cause the failure of inside components.
- \* Keep TRM open, if output voltage adjustment is not necessary.
- \* If remote sensing is not necessary, connect between +Vout & +S and between -Vout & -S.

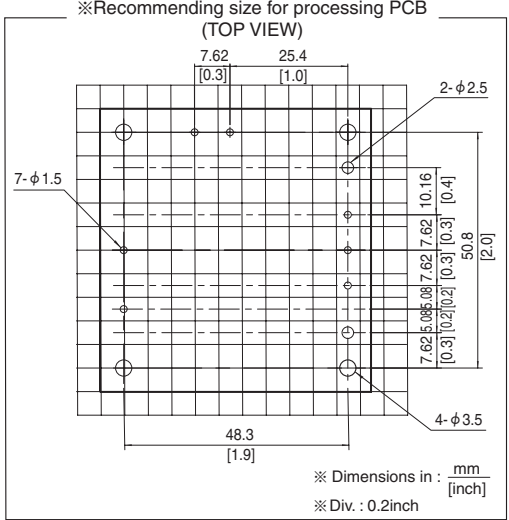
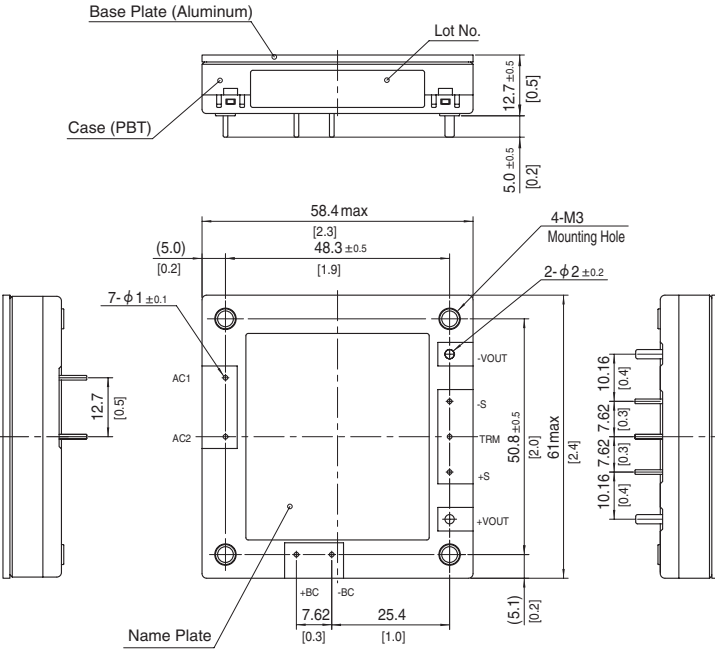
MODEL	TUNS100F05	TUNS100F12	TUNS100F24
MAX OUTPUT WATTAGE[W]	100.0	100.8	100.8
DC OUTPUT	5V 20A	12V 8.4A	24V 4.2A

## SPECIFICATIONS

	MODEL	TUNS100F05	TUNS100F12	TUNS100F24	
INPUT	VOLTAGE[V]	AC85 - 264 1 φ (Please refer to the instruction manual, 6.5 Derating)			
	CURRENT[A]	ACIN 100V	1.3typ (Io=100%)		
		ACIN 200V	0.7typ (Io=100%)		
	FREQUENCY[Hz]	50/60 (47 - 63)			
	EFFICIENCY[%]	ACIN 100V	82typ	83typ	84typ
		ACIN 200V	85typ	85typ	86typ
	POWER FACTOR (Io=100%)	ACIN 100V	0.95typ		
		ACIN 200V	0.90typ		
INRUSH CURRENT	Limited by external components (Thermistor)				
LEAKAGE CURRENT[mA]	0.75 max (60Hz, According to IEC60950-1)				
OUTPUT	VOLTAGE[V]	5	12	24	
	CURRENT[A]	20	8.4	4.2	
	LINE REGULATION[mV]	10max	24max	48max	
	LOAD REGULATION[mV]	10max	24max	48max	
	RIPPLE[mVp-p]	0 to +100°C *1	80max	120max	120max
		-40 to 0°C *1	120max	150max	150max
		0 to 15% Load *1	160max	240max	240max
	RIPPLE NOISE[mVp-p]	0 to +100°C *1	120max	150max	150max
		-40 to 0°C *1	200max	200max	250max
		0 to 15% Load *1	240max	300max	300max
	TEMPERATURE REGULATION[mV]	0 to +65°C	50max	120max	240max
		-40 to +100°C	100max	240max	480max
DRIFT[mV]	*2	20max	40max	90max	
OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	Fixed (TRM pin open), adjustable by external resistor or external signal				
	4.50 - 6.00	10.80 - 13.20	21.60 - 26.40		
OUTPUT VOLTAGE SETTING[V]	4.97 - 5.13	11.91 - 12.29	23.62 - 24.38		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically			
	OVERVOLTAGE PROTECTION[V]	6.30 - 7.00	13.90 - 16.35	27.60 - 32.40	
	REMOTE SENSING	Provided			
	REMOTE ON/OFF	Not provided			
ISOLATION	INPUT-OUTPUT	AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)			
	INPUT-FG	AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)			
	OUTPUT-FG	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C)			
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-40 to +100°C (On aluminum base plate), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max			
	STORAGE TEMP., HUMID. AND ALTITUDE	-40 to +100°C, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max			
	VIBRATION	10 - 55Hz, 49.0m/s <sup>2</sup> (5G), 3minutes period, 60minutes each along X, Y and Z axis			
	IMPACT	196.1m/s <sup>2</sup> (20G), 11ms, once each along X, Y and Z axis			
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS	UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178			
	HARMONIC ATTENUATOR	Complies with IEC61000-3-2 (Class A) *3			
OTHERS	CASE SIZE/WEIGHT	58.4 × 12.7 × 61.0mm [2.3 × 0.5 × 2.4 inches] (W × H × D) / 120g max			
	COOLING METHOD	Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)			

\*1 Refer to instruction manual for measuring method of electric characteristics.  
 \*2 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.  
 \*3 Please contact us about another class.

External view



- ※ Tolerance : ±0.3 [±0.012]
- ※ Weight : 120g max
- ※ Dimensions in mm, [ ]=inches
- ※ Mounting hole screwing torque : 0.49N · m (5.0kgf · cm) max

TU