

1) Series name 2) Single output 3) Output wattage 4) Universal Input ⑤Output voltage

- *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.

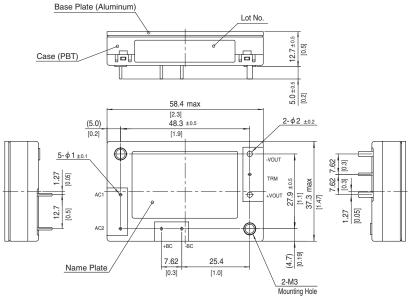
MODEL	TUNS50F05	TUNS50F12	TUNS50F24
MAX OUTPUT WATTAGE[W]	50.0	50.4	50.4
DC OUTPUT	5V 10A	12V 4.2A	24V 2.1A

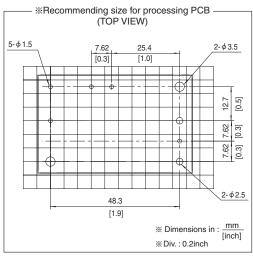
	MODEL		TUNS50F05	TUNS50F12	TUNS50F24	
	VOLTAGE[V]		AC85 - 264 1 φ (Please refer to the in	nstruction manual, 6.5 Derating)		
	OUDDENTIAL	ACIN 100V	0.67typ (Io=100%)			
	CURRENT[A]	ACIN 200V	0.35typ (lo=100%)			
	FREQUENCY[Hz]		50/60 (47 - 63)			
NOUT	EEEIOJENOVIO/ 1	ACIN 100V	79typ 81typ 84typ			
NPUT	EFFICIENCY[%]	ACIN 200V	81typ	83typ	86typ	
	DOMED FACTOR (L. 4000()	ACIN 100V	0.95typ			
	POWER FACTOR (Io=100%)	ACIN 200V	0.90typ			
	INRUSH CURRENT		Limited by external components (The	rmistor)		
	LEAKAGE CURREN	T[mA]	0.75 max (60Hz, According to IEC609	950-1)		
	VOLTAGE[V]		5	12	24	
	CURRENT[A]		10	4.2	2.1	
	LINE REGULATION[mV]	10max	24max	48max	
	LOAD REGULATION	[mV]	10max	24max	48max	
		0 to +100°C *1	80max	120max	120max	
	RIPPLE[mVp-p]	-40 to 0°C *1	120max	150max	150max	
		0 to 15% Load*1	200max	280max	380max	
		0 to +100℃ *1	120max	150max	150max	
DUTPUT	RIPPLE NOISE[mVp-p]	-40 to 0°C *1	200max	200max	250max	
		0 to 15% Load * 1	280max	360max	460max	
		0 to +65°C	50max	120max	240max	
	TEMPERATURE REGULATION[mV]	-40 to +100℃	100max	240max	480max	
	DRIFT[mV]	*2	20max	40max	90max	
	START-UP TIME[ms]		500max (ACIN 100V, Io=100%)			
			Fixed (TRM pin open), adjustable by external resistor or external signal			
	OUTPUT VOLTAGE ADJUSTMEN	II RANGE[V]	4.50 - 6.00	10.80 - 13.20	21.60 - 26.40	
	OUTPUT VOLTAGE SET	TING[V]	4.97 - 5.13	11.91 - 12.29	23.62 - 24.38	
	OVERCURRENT PROT	ECTION	Works over 105% of rating and recov	ers automatically		
PROTECTION	OVERVOLTAGE PROTEC	CTION[V]	6.30 - 7.00	13.90 - 16.35	27.60 - 32.40	
CIRCUIT AND	REMOTE SENSING		Not provided			
JIIIENS	REMOTE ON/OFF		Not provided			
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)			
SOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)			
	OUTPUT-FG		AC500V 1minute, Cutoff current = 100mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)			
	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			
NVIRONMENT	VIBRATION		10 - 55Hz, 49.0m/s² (5G), 3minutes p	eriod, 60minutes each along X, Y and	Z axis	
	IMPACT		196.1m/s² (20G), 11ms, once each along X, Y and Z axis			
AFETY AND	AGENCY APPROVAL	_S	UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178			
IOISE REGULATIONS	HARMONIC ATTENU	IATOR	Comply with IEC61000-3-2			
	CASE SIZE/WEIGHT		58.4×12.7×37.3mm [2.3×0.5×1.4	7 inches] (W×H×D) / 80g max		
OTHERS	COOLING METHOD		-	on from the aluminum base plate to the	attached heat sink)	
			and of electric characteristics			

- Refer to instruction manual for measuring method of electric characteristics.

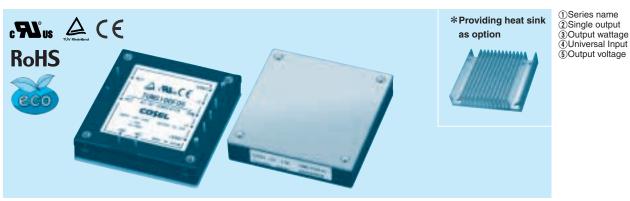
 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.







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



- *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.

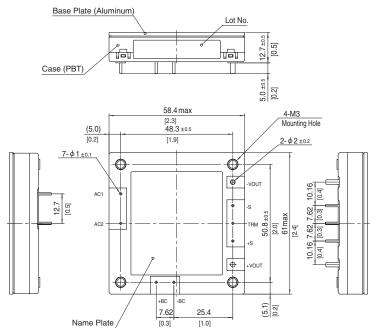
MODEL	TUNS100F05	TUNS100F12	TUNS100F24
MAX OUTPUT WATTAGE[W]	100.0	100.8	100.8
DC OUTPUT	5V 20A	12V 8.4A	24V 4.2A

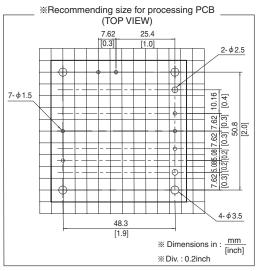
	MODEL		TUNS100F05	TUNS100F12	TUNS100F24	
	VOLTAGE[V]		AC85 - 264 1 φ (Please refer to the in	struction manual, 6.5 Derating)		
	OUDDENTIAL	ACIN 100V	1.3typ (Io=100%)			
	CURRENT[A]	ACIN 200V	0.7typ (lo=100%)			
	FREQUENCY[Hz]		50/60 (47 - 63)			
INPUT	EFFICIENCY[%]	ACIN 100V	82typ	83typ	85typ	
INFOI	EFFICIENCI[%]	ACIN 200V	85typ	85typ	88typ	
	POWER FACTOR (Io=100%)	ACIN 100V	0.95typ			
	POWEN FACTOR (IO=100%)	ACIN 200V	0.90typ			
	INRUSH CURRENT		Limited by external components (The	rmistor)		
	LEAKAGE CURREN	T[mA]	0.75 max (60Hz, According to IEC609	950-1)		
	VOLTAGE[V]		5	12	24	
	CURRENT[A]		20	8.4	4.2	
	LINE REGULATION[mV]	10max	24max	48max	
	LOAD REGULATION		10max	24max	48max	
		0 to +100°C * 1	80max	120max	120max	
	RIPPLE[mVp-p]	-40 to 0°C *1	120max	150max	150max	
		0 to 15% Load * 1	160max	240max	240max	
		0 to +100°C * 1	120max	150max	150max	
OUTPUT	RIPPLE NOISE[mVp-p]	-40 to 0°C *1	200max	200max	250max	
		0 to 15% Load * 1	240max	300max	300max	
	TEMPERATURE REGULATION(mV)	0 to +65℃	50max	120max	240max	
	TEMP ENATONE NEGOEATION(IIIV)	-40 to +100℃	100max	240max	480max	
	DRIFT[mV]	*2	20max	40max	90max	
	START-UP TIME[ms]		500max (ACIN 100V, Io=100%)			
	OUTPUT VOLTAGE ADJUSTMEN	IT RANGE[V]		Fixed (TRM pin open), adjustable by external resistor or external signal		
	OUT OF VOLINGE ADDOORMEN	II IIAIIQE[1]	4.50 - 6.00	10.80 - 13.20	21.60 - 26.40	
	OUTPUT VOLTAGE SET	TING[V]	4.97 - 5.13	11.91 - 12.29	23.62 - 24.38	
PROTECTION	OVERCURRENT PROT	ECTION	Works over 105% of rating and recover	ers automatically		
CIRCUIT AND	OVERVOLTAGE PROTEC	CTION[V]	6.30 - 7.00	13.90 - 16.35	27.60 - 32.40	
OTHERS	REMOTE SENSING		Provided			
	REMOTE ON/OFF		Not provided			
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)			
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)			
	OUTPUT-FG		AC500V 1minute, Cutoff current = 100mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)			
	OPERATING TEMP., HUMID.AND		-40 to +100°C (On aluminum base plate), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max			
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	-40 to +100°C, 20 - 95%RH (Non cond			
	VIBRATION		, , , , ,	eriod, 60minutes each along X, Y and 2	∠ axis	
	IMPACT			196.1m/s ² (20G), 11ms, once each along X, Y and Z axis		
SAFETY AND	AGENCY APPROVALS UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178					
NUISE REGULATIONS	HARMONIC ATTENU		Comply with IEC61000-3-2			
OTHERS	CASE SIZE/WEIGHT		58.4×12.7×61.0mm [2.3×0.5×2.4	3 ()		
-	COOLING METHOD		Conduction cooling (e.g. heat radiation	n from the aluminum base plate to the	attached heat sink)	

- Refer to instruction manual for measuring method of electric characteristics.

 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.







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

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1) Series name 2) Single output 3) Output wattage 4) Universal Input

- ⑤Output voltage

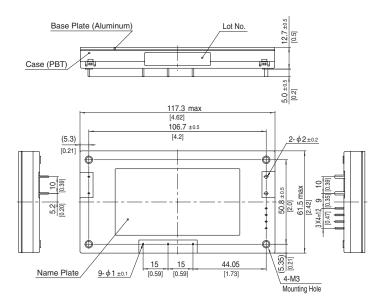
- *Avoid short circuit between +BC and -BC. It may cause the failure of inside components.
- *Keep TRM open, if output voltage adjustment is not necessary.
- *If remote sensing is not necessary, connect between +Vout & +S and between -Vout & -S.

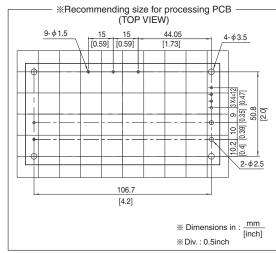
MODEL	TUNS300F12	TUNS300F28	TUNS300F48
MAX OUTPUT WATTAGE[W]	300	308	312
DC OUTPUT	12V 25A	28V 11A	48V 6.5A

	MODEL		TUNS300F12	TUNS300F28	TUNS300F48		
	VOLTAGE[V]		AC85 - 264 1 φ (Please refer to the ir	nstruction manual, 6.5 Derating)			
	CUDDENTIAL	ACIN 100V	3.8typ (lo=100%)				
	CURRENT[A]	ACIN 200V	2.0typ (lo=100%)				
FRE	FREQUENCY[Hz]	•	50/60 (47 - 63)				
INDUT	EEEIOIENOVIO/1	ACIN 100V	83typ	85typ	84typ		
INPUT	EFFICIENCY[%]	ACIN 200V	85typ	88typ	87typ		
	DOWED FACTOR (In 1000/)	ACIN 100V	0.96typ				
	POWER FACTOR (Io=100%)	ACIN 200V	0.93typ				
	INRUSH CURRENT		Limited by external resistance				
	LEAKAGE CURREN	T[mA]	0.75 max (60Hz, According to IEC609	950-1)			
	VOLTAGE[V]		12	28	48		
	CURRENT[A]		25	11	6.5		
	LINE REGULATION[mV]	24max	56max	96max		
	LOAD REGULATION	[mV]	24max	56max	96max		
		0 to +100°C * 1	120max	180max	250max		
	RIPPLE[mVp-p]	-40 to 0°C *1	150max	200max	300max		
		0 to 15% Load*1	240max	240max	400max		
		0 to +100°C *1	150max	200max	300max		
OUTPUT	RIPPLE NOISE[mVp-p]	-40 to 0°C *1	200max	300max	450max		
		0 to 15% Load*1	300max	300max	500max		
	TEMPERATURE REGULATION[mV]	0 to +65℃	120max	280max	480max		
	TEMPERATURE REGULATION[IIIV]	-40 to +100℃	240max	560max	960max		
	DRIFT[mV]	*2	40max	90max	180max		
	START-UP TIME[ms]		500max (ACIN 100V, Io=100%)				
	OUTPUT VOLTAGE ADJUSTMEN	IT DANCEIVI	Fixed (TRM pin open), adjustable by external resistor or external signal				
	OUTPUT VOLIAGE ADJUSTMEN	II HANGE[V]	9.60 - 14.40	22.40 - 33.60	38.40 - 52.80		
	OUTPUT VOLTAGE SET	TING[V]	11.91 - 12.29	27.56 - 28.44	47.24 - 48.76		
	OVERCURRENT PROT	ECTION	Works over 105% of rating and recover	ers automatically			
PROTECTION CIRCUIT AND	OVERVOLTAGE PROTEC	CTION[V]	15.00 - 16.80	35.00 - 39.20	55.20 - 64.80		
OTHERS	REMOTE SENSING		Provided				
• • • • • • • • • • • • • • • • • • • •	REMOTE ON/OFF		Not provided				
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)				
ISOLATION	INPUT-FG			10mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)			
	OUTPUT-FG		AC500V 1minute, Cutoff current = 100mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)				
	OPERATING TEMP., HUMID.AND	ALTITUDE	-40 to +100°C (On aluminum base plate), 2	0 - 95%RH (Non condensing) (Refer to DEF	RATING CURVE), 3,000m (10,000 feet) max		
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-40 to +100°C, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max				
	VIBRATION		3 7	eriod, 60minutes each along X, Y and	Z axis		
	IMPACT		196.1m/s² (20G), 11ms, once each al	<u> </u>			
SAFETY AND	AGENCY APPROVAL		UL60950-1, C-UL (CSA60950-1), EN	60950-1, EN50178			
NOISE REGULATIONS	HARMONIC ATTENU	JATOR	Comply with IEC61000-3-2				
OTHERS	CASE SIZE/WEIGHT		117.3×12.7×61.5mm [4.62×0.5×2				
JIHENS	COOLING METHOD		Conduction cooling (e.g. heat radiatio	n from the aluminum base plate to the	attached heat sink)		
*1 Refer to	instruction manual for mass	uring meth	od of electric characteristics.				

- Refer to instruction manual for measuring method of electric characteristics.
- 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.







- % Tolerance : ±0.3 [±0.012]
- % Weight : 240g max
- ※ Dimensions in mm, []=inches
- Mounting hole screwing torque: 0.49N · m (5.0kgf · cm) max

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1) Series name 2) Single output 3) Output wattage 4) Universal Input

⑤Output voltage

*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	TUNS500F12	TUNS500F28	TUNS500F48
MAX OUTPUT WATTAGE[W]	504	504	504
DC OUTPUT	12V 42A	28V 18A	48V 10.5A

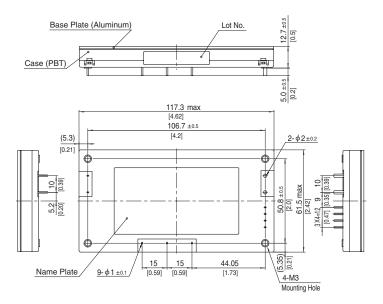
	MODEL		TUNS500F12	TUNS500F28	TUNS500F48	
	VOLTAGE[V]		AC85 - 264 1 ϕ (Please refer to the in	nstruction manual, 6.5 Derating)		
	CURRENT[A]	ACIN 100V	6.3typ (lo=100%)			
	CONNENT[A]	ACIN 200V	3.2typ (lo=100%)			
	FREQUENCY[Hz]		50/60 (47 - 63)			
INPUT	EFFICIENCY[%]	ACIN 100V	84typ	86typ	85typ	
NPUI	EFFICIENCI[%]	ACIN 200V	86typ	89typ	88typ	
	DOWED FACTOR (In 1000/)	ACIN 100V	0.96typ			
	POWER FACTOR (Io=100%)	ACIN 200V	0.93typ			
	INRUSH CURRENT		Limited by external resistance			
	LEAKAGE CURREN	Γ[mA]	0.75 max (60Hz, According to IEC60	950-1)		
	VOLTAGE[V]		12	28	48	
	CURRENT[A]	*3	42 (Peak 55)	18 (Peak 24)	10.5 (Peak 14)	
	LINE REGULATION[I	nV]	24max	56max	96max	
	LOAD REGULATION	[mV]	24max	56max	96max	
	RIPPLE[mVp-p]	0 to +100°C *1	120max	180max	250max	
		-40 to 0°C * 1	150max	200max	300max	
		0 to 15% Load * 1	240max	240max	400max	
		0 to +100°C * 1	150max	200max	300max	
DUTPUT	RIPPLE NOISE[mVp-p]	-40 to 0°C *1	200max	300max	450max	
		0 to 15% Load * 1	300max	300max	500max	
	TEMPEDATURE RECULATIONS—VI	0 to +65°C	120max	280max	480max	
	TEMPERATURE REGULATION[mV]	-40 to +100°C	240max	560max	960max	
	DRIFT[mV]	*2	40max	90max	180max	
	START-UP TIME[ms]		500max (ACIN 100V, Io=100%)			
	OUTDUT VOLTAGE AD HIGHMEN	T DANOERO	Fixed (TRM pin open), adjustable by external resistor or external signal			
	OUTPUT VOLTAGE ADJUSTMEN	I KANGE[V]	9.60 - 14.40	22.40 - 33.60	38.40 - 52.80	
	OUTPUT VOLTAGE SET	TING[V]	11.91 - 12.29	27.56 - 28.44	47.24 - 48.76	
	OVERCURRENT PROT	ECTION	Works over 105% of rating and recov	ers automatically	•	
ROTECTION	OVERVOLTAGE PROTEC	CTION[V]	15.00 - 16.80	35.00 - 39.20	55.20 - 64.80	
CIRCUIT AND THERS	REMOTE SENSING		Provided	-	•	
JIIILIIG	REMOTE ON/OFF		Not provided			
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)			
SOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current =	10mA, DC500V 50MΩ min (20±15℃)		
	OUTPUT-FG		AC500V 1minute, Cutoff current = 100mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)			
	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			
NVIRONMENT	VIBRATION		10 - 55Hz, 49.0m/s² (5G), 3minutes p	period, 60minutes each along X, Y and	Z axis	
	IMPACT		196.1m/s² (20G), 11ms, once each a	long X, Y and Z axis		
	AGENCY APPROVAL	.s	UL60950-1, C-UL (CSA60950-1), EN			
	HARMONIC ATTENU		Comply with IEC61000-3-2	•		
NOISE REGULATIONS			1.7			
	CASE SIZE/WEIGHT		117.3×12.7×61.5mm [4.62×0.5×	2.42 inches] (W×H×D) / 240g max		

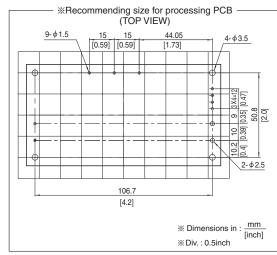
- Refer to instruction manual for measuring method of electric characteristics.

 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.
- () means peak current. Avoid operating with peak current continuously. It may cause failure of the components inside the product.

 There are limitation of available condition of the peak current, such as input voltage range, peak time, duty etc. (Refer to the instruction manual in detail.)







- % Tolerance : ±0.3 [±0.012]
- % Weight : 240g max
- ※ Dimensions in mm, []=inches
- Mounting hole screwing torque: 0.49N · m (5.0kgf · cm) max



1) Series name 2) Single output 3) Output wattage 4) Universal Input

⑤Output voltage

*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	TUFS300F12	TUFS300F28	TUFS300F48
MAX OUTPUT WATTAGE[W]	300	308	312
DC OUTPUT	12V 25A	28V 11A	48V 6.5A

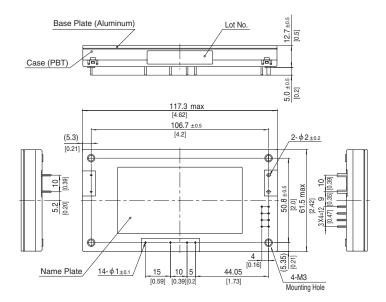
SPECIFICATIONS

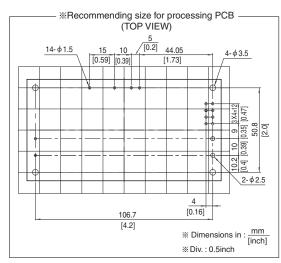
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	MODEL		TUFS300F12	TUFS300F28	TUFS300F48		
	VOLTAGE[V]		AC85 - 264 1 φ (Please refer to the ir	struction manual, 6.5 Derating)	•		
	CURRENTIAL	ACIN 100V	3.8typ (lo=100%)				
	CURRENT[A]	ACIN 200V	2.0typ (lo=100%)				
	FREQUENCY[Hz]		50/60 (47 - 63)				
INDUT	EEEIQIENQVIO/1	ACIN 100V	83typ	85typ	84typ		
INPUT	EFFICIENCY[%]	ACIN 200V	85typ	88typ	87typ		
	DOWER ELONO (L. 1000)	ACIN 100V	0.96typ				
	POWER FACTOR (Io=100%)	ACIN 200V	0.93typ				
	INRUSH CURRENT		Limited by external resistance				
	LEAKAGE CURREN	T[mA]	0.75 max (60Hz, According to IEC609	950-1)			
	VOLTAGE[V]		12	28	48		
	CURRENT[A]		25	11	6.5		
	LINE REGULATION[mV]	24max	56max	96max		
	LOAD REGULATION	[mV]	24max	56max	96max		
		0 to +100℃ *1	120max	180max	250max		
	RIPPLE[mVp-p]	-40 to 0°C *1	150max	200max	300max		
		0 to 15% Load * 1	240max	240max	400max		
		0 to +100°C *1	150max	200max	300max		
OUTPUT	RIPPLE NOISE[mVp-p]	-40 to 0°C *1	200max	300max	450max		
		0 to 15% Load * 1	300max	300max	500max		
	TEMPERATURE REQUILATIONS AND	0 to +65℃	120max	280max	480max		
	TEMPERATURE REGULATION[mV]	-40 to +100℃	240max	560max	960max		
	DRIFT[mV]	*2	40max	90max	180max		
	START-UP TIME[ms]		500max (ACIN 100V, Io=100%)				
	CUITDUT VOLTAGE AD INCTAFA	IT DANGERS	Fixed (TRM pin open), adjustable by external resistor or external signal				
	OUTPUT VOLTAGE ADJUSTMEN	II HANGE[V]	9.60 - 14.40	22.40 - 33.60	38.40 - 52.80		
	OUTPUT VOLTAGE SET	TING[V]	11.91 - 12.29	27.56 - 28.44	47.24 - 48.76		
	OVERCURRENT PROT	ECTION	Works over 105% of rating and recover	ers automatically	•		
PROTECTION	OVERVOLTAGE PROTEC	CTION[V]	15.00 - 16.80	35.00 - 39.20	55.20 - 64.80		
CIRCUIT AND OTHERS	REMOTE SENSING		Provided		•		
OTTLING	REMOTE ON/OFF		Provided on the output side				
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (20±15°C)				
ICOL ATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)				
ISOLATION	OUTPUT-FG		AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C)				
	OUTPUT-RC1, RC2		AC100V 1minute, Cutoff current = 100mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)				
	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				
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-40 to +100℃, 20 - 95%RH (Non con				
LIVVINONNIENI	VIBRATION		10 - 55Hz, 49.0m/s² (5G), 3minutes p	eriod, 60minutes each along X, Y and	Z axis		
	IMPACT		196.1m/s² (20G), 11ms, once each along X, Y and Z axis				
SAFETY AND	AGENCY APPROVAL		UL60950-1, C-UL (CSA60950-1), EN	60950-1, EN50178			
NOISE REGULATIONS	HARMONIC ATTENU	JATOR	Comply with IEC61000-3-2				
OTHERS	CASE SIZE/WEIGHT		117.3×12.7×61.5mm [4.62×0.5×2	2.42 inches] (WXHXD) / 240g max			
OTHERS	COOLING METHOD		Conduction cooling (e.g. heat radiatio	n from the aluminum base plate to the	attached heat sink)		
	Pages to instruction manual far managing method of electric characteristics						

- Refer to instruction manual for measuring method of electric characteristics.
- 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.







- ** Tolerance: ±0.3 [±0.012]
 ** Weight: 240g max
 ** Dimensions in mm, []=inches
 ** Mounting hole screwing torque: 0.49N · m (5.0kgf · cm) max

TU



- 1) Series name 2) Single output 3) Output wattage 4) Universal Input
- ⑤Output voltage

- *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.

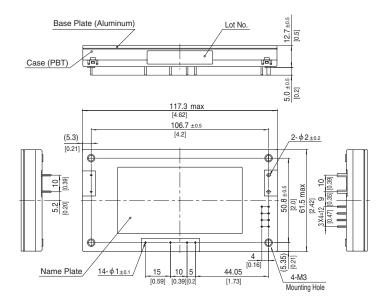
MODEL	TUFS500F12	TUFS500F28	TUFS500F48
MAX OUTPUT WATTAGE[W]	504	504	504
DC OUTPUT	12V 42A	28V 18A	48V 10.5A

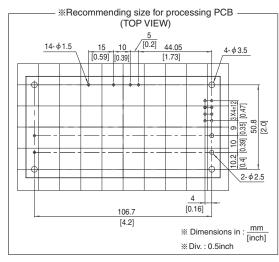
	MODEL		TUFS500F12	TUFS500F28	TUFS500F48		
	VOLTAGE[V]		AC85 - 264 1 φ (Please refer to the ir	struction manual, 6.5 Derating)			
Ī	ACIN 100V		6.3typ (lo=100%)				
	CURRENT[A]	ACIN 200V	3.2typ (lo=100%)				
Ī	FREQUENCY[Hz]		50/60 (47 - 63)				
		ACIN 100V	84typ	86typ	85typ		
INPUT	EFFICIENCY[%]	ACIN 200V	86typ	89typ	88typ		
Ī		ACIN 100V	0.96typ		1 2.		
	POWER FACTOR (Io=100%)	ACIN 200V	0.93typ				
	INRUSH CURRENT		Limited by external resistance				
İ	LEAKAGE CURREN	Γ[mA]	0.75 max (60Hz, According to IEC609	950-1)			
	VOLTAGE[V]	• •	12	28	48		
+	CURRENT[A]	*3	42 (Peak 55)	18 (Peak 24)	10.5 (Peak 14)		
	LINE REGULATION	mV1	24max	56max	96max		
+	LOAD REGULATION		24max	56max	96max		
1		0 to +100°C *1	120max	180max	250max		
	RIPPLE[mVp-p]	-40 to 0°C *1	150max	200max	300max		
		0 to 15% Load * 1	240max	240max	400max		
ļ.		0 to +100°C *1	150max	200max	300max		
OUTPUT	RIPPLE NOISE[mVp-p]	-40 to 0°C *1	200max	300max	450max		
	=[0 to 15% Load * 1	300max	300max	500max		
ŀ		0 to +65°C	120max	280max	480max		
	TEMPERATURE REGULATION[mV]	-40 to +100°C	240max	560max	960max		
ŀ	DRIFT[mV]	*2	40max	90max	180max		
+	START-UP TIME[ms]		500max (ACIN 100V. Io=100%)	Comax	Toomax		
T T			Fixed (TRM pin open), adjustable by external resistor or external signal				
	OUTPUT VOLTAGE ADJUSTMEN	T RANGE[V]	9.60 - 14.40	22.40 - 33.60	38.40 - 52.80		
-	OUTPUT VOLTAGE SET	TING[V]	11.91 - 12.29	27.56 - 28.44	47.24 - 48.76		
	OVERCURRENT PROT		Works over 105% of rating and recover	II.	47.24 40.70		
DDOTEOTION	OVERVOLTAGE PROTEC		15.00 - 16.80	35.00 - 39.20	55.20 - 64.80		
CIRCUIT AND	REMOTE SENSING	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Provided	00.00	00.20 01.00		
OIMERS +	REMOTE ON/OFF		Provided on the output side				
	INPUT-OUTPUT		·	0mA, DC500V 50MΩ min (20±15°C)			
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)				
ISOLATION ⊦	OUTPUT-FG		AC5,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20 \pm 15 °C) AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20 \pm 15 °C)				
F	OUTPUT-RC1, RC2		AC100V 1minute, Cutoff current = 100mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)				
	OPERATING TEMPHUMID.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				
T T	STORAGE TEMP., HUMID.AND		-40 to +100℃ (On adminishing base plate), 2	· 0/ \	1.111.0 0011V L), 0,000111 (10,000 1001) 1110X		
-NVIRONMENT ⊦	VIBRATION			eriod, 60minutes each along X, Y and	7 axis		
	IMPACT		196.1m/s² (20G), 11ms, once each al		<u> </u>		
	AGENCY APPROVAL	S	, , , ,	<u> </u>			
	AGENCY APPROVALS UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178 HARMONIC ATTENUATOR Comply with IEC61000-3-2						
	CASE SIZE/WEIGHT		117.3×12.7×61.5mm [4.62×0.5×2	2 42 inches] (WXHXD) / 240g may			
OTHERS +	COOLING METHOD			n from the aluminum base plate to the	attached heat sink)		
			ed of electric characteristics	in nom the aluminum base plate to the	attached fieat sirikj		

- Refer to instruction manual for measuring method of electric characteristics.
- 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.
- () means peak current. Avoid operating with peak current continuously. It may cause failure of the components inside the product.

 There are limitation of available condition of the peak current, such as input voltage range, peak time, duty etc. (Refer to the instruction manual in detail.)







- ** Tolerance: ±0.3 [±0.012]
 ** Weight: 240g max
 ** Dimensions in mm, []=inches
 ** Mounting hole screwing torque: 0.49N · m (5.0kgf · cm) max