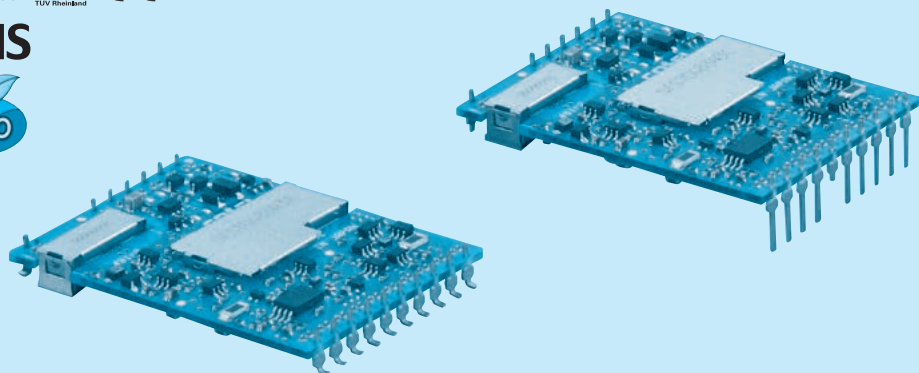




- ① Series name
 ② Single output
 ③ Output wattage
 ④ Input voltage
 48:DC36 - 76V
 ⑤ Output voltage
 ⑥ Mounting type
 (Soldering process)
 B :SMD(Pb-free solder)
 C :DIP(Pb-free solder)

MODEL	SFS10481R2	SFS10481R5	SFS10481R8	SFS10482R5	SFS10483R3	SFS104805	SFS104812	SFS104815
MAX OUTPUT WATTAGE[W]	4.2	5.25	5.4	7.5	9.9	10.0	10.8	10.5
DC OUTPUT	1.2V 3.5A	1.5V 3.5A	1.8V 3A	2.5V 3A	3.3V 3A	5V 2A	12V 0.9A	15V 0.7A

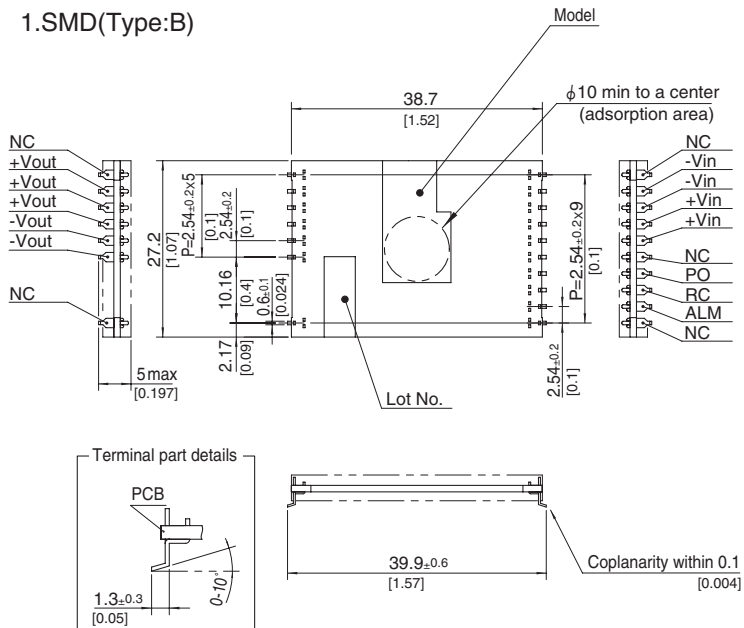
SPECIFICATIONS

	MODEL	SFS10481R2	SFS10481R5	SFS10481R8	SFS10482R5	SFS10483R3	SFS104805	SFS104812	SFS104815
INPUT	VOLTAGE[V]	DC36 - 76							
	CURRENT[A]	*1 0.11typ	0.13typ	0.13typ	0.18typ	0.23typ	0.23typ	0.26typ	0.25typ
	EFFICIENCY[%]	*1 80typ	82typ	84typ	86typ	88typ	89typ	88typ	88typ
	START-UP VOLTAGE[V]	DC32 - 36							
	HYSTERESIS VOLTAGE[V]	DC2 min							
OUTPUT	VOLTAGE[V]	1.2	1.5	1.8	2.5	3.3	5	12	15
	CURRENT[A]	3.5	3.5	3	3	3	2	0.9	0.7
	VOLTAGE ACCURACY[%]	+5, -3							
	RIPPLE[mVp-p]	25max						120max	
	RIPPLE NOISE[mVp-p]	50max						150max	
	START-UP TIME[ms]	20 - 200max (DCIN 48V, Io=100%)							
PROTECTION CIRCUIT AND OTHERS	OUTPUT VOLTAGE SETTING *1	±1% of rated output voltage							
	OVERCURRENT PROTECTION	Works over 103% of rating							
	OVERVOLTAGE PROTECTION	Works at 120 - 140% of rating							
	LOWVOLTAGE PROTECTION	Works at 90% max of rating							
	REMOTE ON/OFF	Provided(RC open : ON, short between RC and +Vin : OFF)							
ISOLATION	INPUT-OUTPUT	DC1,500V 1minute, DC500V 50MΩ min (20±15℃)							
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE	-40 to +85℃, 20 - 95%RH (Non condensing), 3,000m (10,000feet) max							
	STORAGE TEMP.,HUMID.AND ALTITUDE	-40 to +100℃, 20 - 95%RH (Non condensing), 9,000m (30,000feet) max (SMD:Refer to the Instruction Manual)							
	VIBRATION	10 - 55Hz, 49.0m/s ² (5G), 3minutes period, 60minutes each along X, Y and Z axis							
	IMPACT	196.1m/s ² (20G), 11ms, once each X, Y and Z axis							
SAFETY	AGENCY APPROVALS	UL60950-1, C-UL (CSA60950-1), EN60950-1							
OTHERS	CASE SIZE/WEIGHT	38.7×5.0×27.2mm [1.52×0.197×1.07 inches] (W×H×D) /12g max							
	COOLING METHOD	Convection							

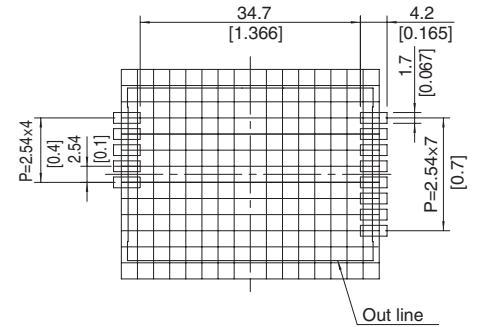
*1 At rated input(DC48V), rated load and 25°C

External view

1.SMD(Type:B)



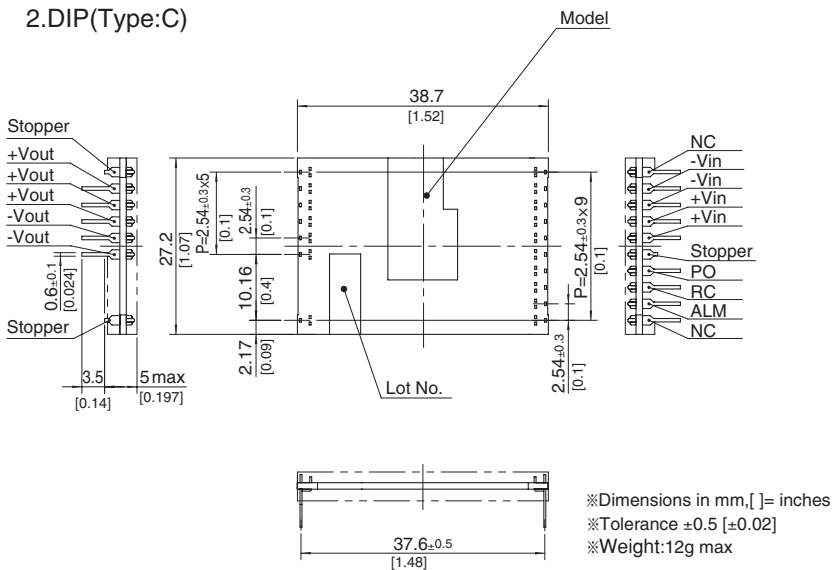
Recommended size for processing PCB (TOP VIEW)



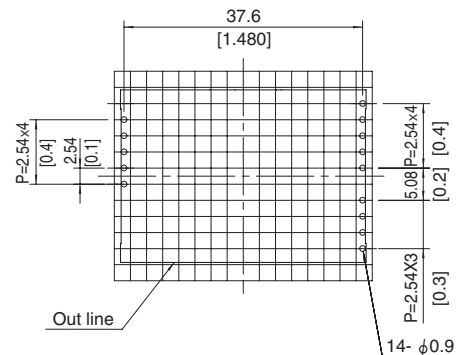
※Dimensions in: $\frac{\text{mm}}{[\text{inch}]}$

※Div.: 0.1inch

2.DIP(Type:C)



Recommended size for processing PCB (TOP VIEW)



※Dimensions in: $\frac{\text{mm}}{[\text{inch}]}$

※Div.: 0.1inch

SFS15

SF

S

15

48

3R3

B

①

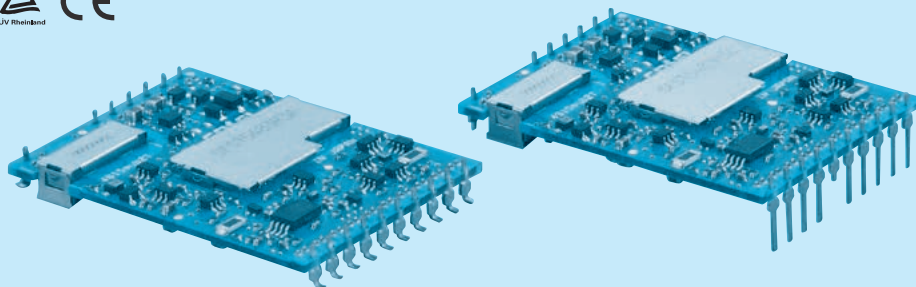
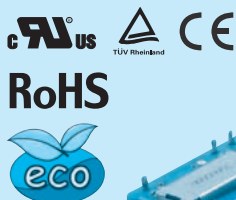
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- ① Series name
 ② Single output
 ③ Output wattage
 ④ Input voltage
 24:DC18 - 36V
 48:DC36 - 76V
 ⑤ Output voltage
 ⑥ Mounting type
 (Soldering process)
 B : SMD (Pb-free solder)
 C : DIP (Pb-free solder)

MODEL	SFS15242R5	SFS15243R3	SFS152405	SFS152412	SFS152415
MAX OUTPUT WATTAGE[W]	11.25	14.85	15.0	15.0	15.0
DC OUTPUT	2.5V 4.5A	3.3V 4.5A	5V 3A	12V 1.25A	15V 1A

SPECIFICATIONS

	MODEL	SFS15242R5	SFS15243R3	SFS152405	SFS152412	SFS152415
INPUT	VOLTAGE[V]	DC18 - 36				
	CURRENT[A]	0.54typ	0.7typ	0.69typ	0.7typ	0.7typ
	EFFICIENCY[%]	87typ	89typ	90typ	89typ	89typ
	START-UP VOLTAGE[V]	DC16 - 18				
	HYSTERESIS VOLTAGE[V]	DC1 min				
OUTPUT	VOLTAGE[V]	2.5	3.3	5	12	15
	CURRENT[A]	4.5	4.5	3	1.25	1
	VOLTAGE ACCURACY[%]	+5, -3				
	RIPPLE[mVp-p]	25max			120max	
	RIPPLE NOISE[mVp-p]	50max			150max	
	START-UP TIME[ms]	20 - 200max (DCIN 24V, Io=100%)				
	OUTPUT VOLTAGE SETTING	±1% of rated output voltage				
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 103% of rating				
	OVERVOLTAGE PROTECTION	Works at 120 - 140% of rating				
	LOWVOLTAGE PROTECTION	Works at 90% max of rating				
	REMOTE ON/OFF	Provided(RC open : ON, short between RC and +Vin : OFF)				

MODEL	SFS15481R2	SFS15481R5	SFS15481R8	SFS15482R5	SFS15483R3	SFS154805	SFS154812	SFS154815
MAX OUTPUT WATTAGE[W]	6.24	7.8	8.1	11.25	14.85	15.0	15.0	15.0
DC OUTPUT	1.2V 5.2A	1.5V 5.2A	1.8V 4.5A	2.5V 4.5A	3.3V 4.5A	5V 3A	12V 1.25A	15V 1A

SPECIFICATIONS

	MODEL	SFS15481R2	SFS15481R5	SFS15481R8	SFS15482R5	SFS15483R3	SFS154805	SFS154812	SFS154815
INPUT	VOLTAGE[V]	DC36 - 76							
	CURRENT[A]	*1 0.16typ	0.2typ	0.2typ	0.27typ	0.35typ	0.35typ	0.35typ	0.35typ
	EFFICIENCY[%]	*1 82typ	83typ	85typ	87typ	89typ	90typ	89typ	89typ
	START-UP VOLTAGE[V]	DC32 - 36							
	HYSTERESIS VOLTAGE[V]	DC2 min							
OUTPUT	VOLTAGE[V]	1.2	1.5	1.8	2.5	3.3	5	12	15
	CURRENT[A]	5.2	5.2	4.5	4.5	4.5	3	1.25	1
	VOLTAGE ACCURACY[%]	+5, -3							
	RIPPLE[mVp-p]	25max						120max	
	RIPPLE NOISE[mVp-p]	50max						150max	
	START-UP TIME[ms]	20 - 200max (DCIN 48V, Io=100%)							
	OUTPUT VOLTAGE SETTING *1	±1% of rated output voltage							
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 103% of rating							
	OVERVOLTAGE PROTECTION	Works at 120 - 140% of rating							
	LOWVOLTAGE PROTECTION	Works at 90% max of rating							
	REMOTE ON/OFF	Provided(RC open : ON, short between RC and +Vin : OFF)							

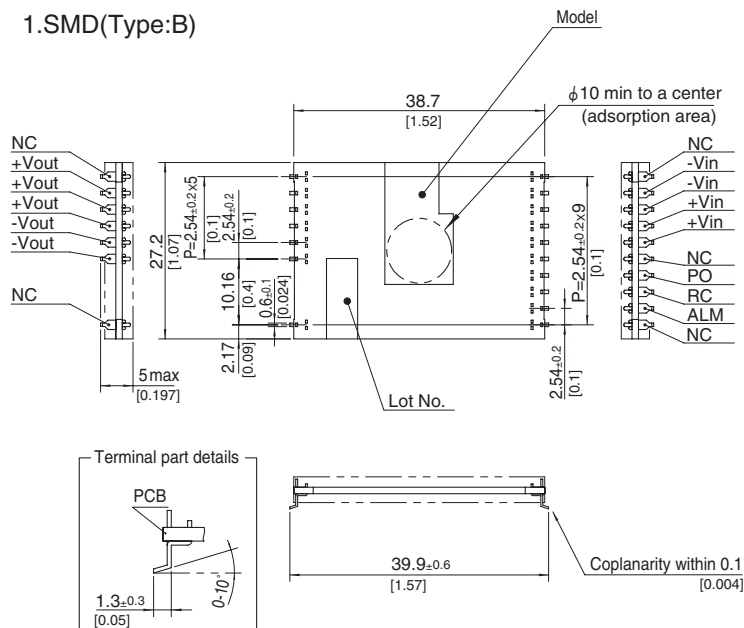
GENERAL SPECIFICATIONS

ISOLATION	INPUT-OUTPUT	DC1,500V 1minute, DC500V 50MΩ min (20±15℃)
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE	-40 to +85℃, 20 - 95%RH (Non condensing), 3,000m (10,000feet) max
	STORAGE TEMP.,HUMID.AND ALTITUDE	-40 to +100℃, 20 - 95%RH (Non condensing), 9,000m (30,000feet) max (SMD:Refer to the Instruction Manual)
	VIBRATION	10 - 55Hz, 49.0m/s ² (5G), 3minutes period, 60minutes each along X, Y and Z axis
	IMPACT	196.1m/s ² (20G), 11ms, once each X, Y and Z axis
SAFETY	AGENCY APPROVALS	UL60950-1, C-UL (CSA60950-1), EN60950-1
OTHERS	CASE SIZE/WEIGHT	38.7×5.0×27.2mm [1.52×0.197×1.07 inches] (W×H×D) /12g max
	COOLING METHOD	Convection

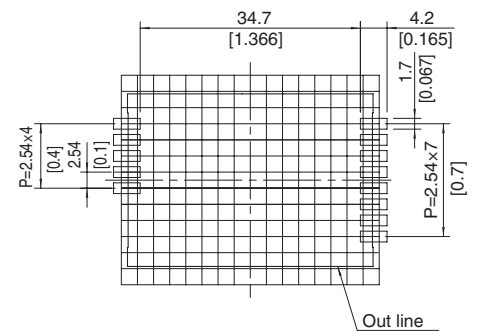
*1 At rated input(DC24V, DC48V), rated load and 25°C

External view

1.SMD(Type:B)



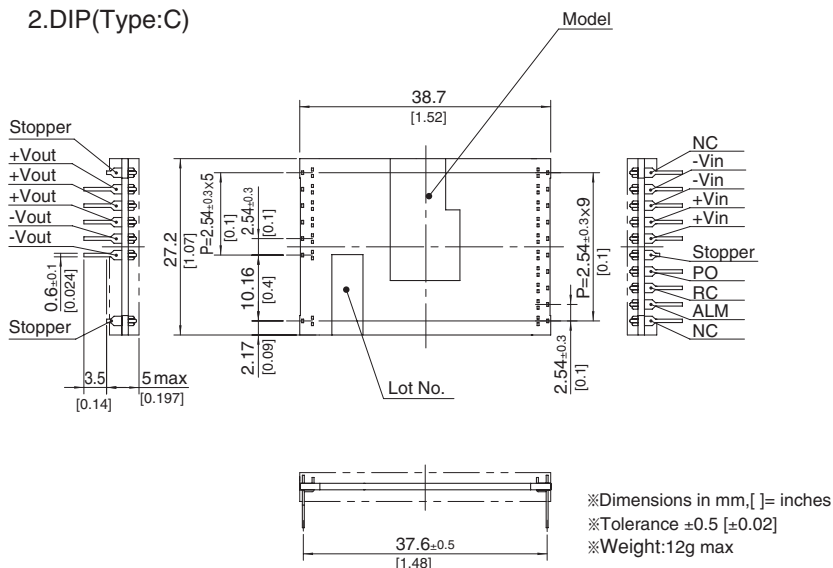
Recommended size for processing PCB -
(TOP VIEW)



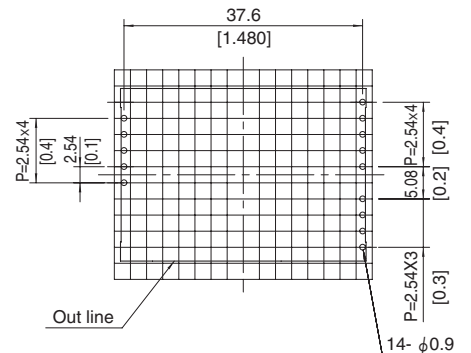
※Dimensions in: $\frac{\text{mm}}{[\text{inch}]}$

※Div.: 0.1inch

2.DIP(Type:C)

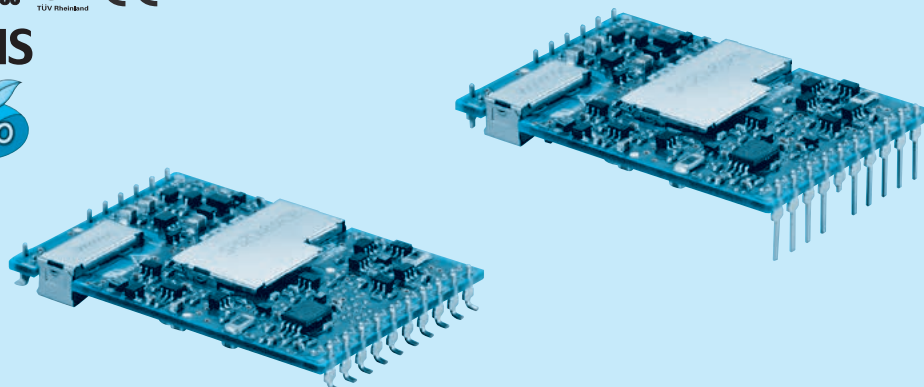


Recommended size for processing PCB -
(TOP VIEW)



※Dimensions in: $\frac{\text{mm}}{[\text{inch}]}$

※Div.: 0.1inch



- ① Series name
 ② Single output
 ③ Output wattage
 ④ Input voltage
 48:DC36 - 76V
 ⑤ Output voltage
 ⑥ Mounting type
 (Soldering process)
 B : SMD (Pb-free solder)
 C : DIP (Pb-free solder)

MODEL	SFS20481R5	SFS20481R8	SFS20482R5	SFS20483R3	SFS204805
MAX OUTPUT WATTAGE[W]	13.5	14.4	17.5	19.8	20.0
DC OUTPUT	1.5V 9A	1.8V 8A	2.5V 7A	3.3V 6A	5V 4A

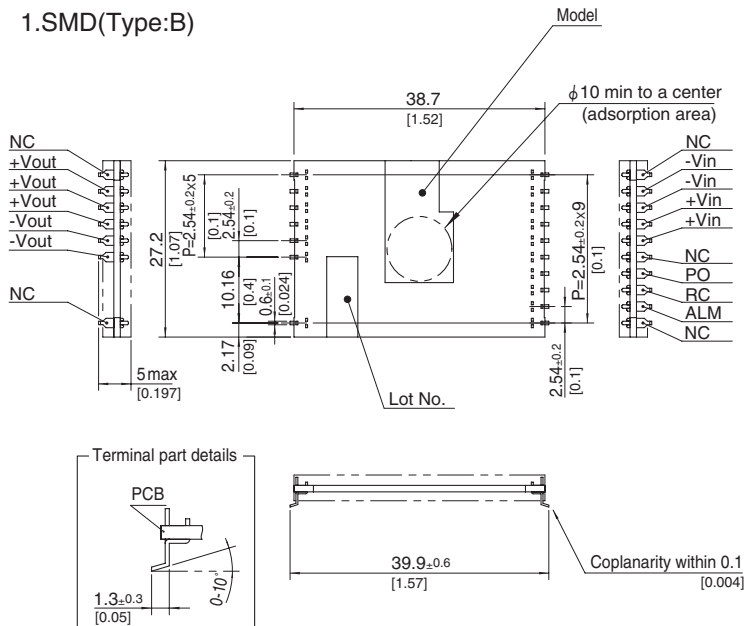
SPECIFICATIONS

	MODEL	SFS20481R5	SFS20481R8	SFS20482R5	SFS20483R3	SFS204805
INPUT	VOLTAGE[V]	DC36 - 76				
	CURRENT[A]	*1 0.33typ	0.35typ	0.41typ	0.46typ	0.46typ
	EFFICIENCY[%]	*1 86typ	85typ	88typ	90typ	90typ
	START-UP VOLTAGE[V]	DC32 - 36				
	HYSTERESIS VOLTAGE[V]	DC2 min				
OUTPUT	VOLTAGE[V]	1.5	1.8	2.5	3.3	5
	CURRENT[A]	9	8	7	6	4
	VOLTAGE ACCURACY[%]	+5, -3				
	RIPPLE[mVp-p]	50max				
	RIPPLE NOISE[mVp-p]	50max				
	START-UP TIME[ms]	20 - 200max (DCIN 48V, Io=100%)				
PROTECTION CIRCUIT AND OTHERS	OUTPUT VOLTAGE SETTING *1	+2, -1% of rated output voltage				
	OVERCURRENT PROTECTION	Works over 103% of rating				
	OVERVOLTAGE PROTECTION	Works at 115 - 145% of rating				
	LOWVOLTAGE PROTECTION	Works at 95% max of rating				
ISOLATION	REMOTE ON/OFF	Provided(RC open : ON, short between RC and +Vin : OFF)				
ENVIRONMENT	INPUT-OUTPUT	DC1,500V 1minute, DC500V 50MΩ min (20±15℃)				
	OPERATING TEMP., HUMID. AND ALTITUDE	-40 to +85℃, 20 - 95%RH (Non condensing), 3,000m (10,000feet) max				
	STORAGE TEMP., HUMID. AND ALTITUDE	-40 to +100℃, 20 - 95%RH (Non condensing), 9,000m (30,000feet) max (SMD: Refer to the Instruction Manual)				
	VIBRATION	10 - 55Hz, 49.0m/s ² (5G), 3minutes period, 60minutes each along X, Y and Z axis				
SAFETY	IMPACT	196.1m/s ² (20G), 11ms, once each X, Y and Z axis				
	AGENCY APPROVALS	UL60950-1, C-UL(CSA60950-1), EN60950-1				
OTHERS	CASE SIZE/WEIGHT	38.7×5.0×27.2mm [1.52×0.197×1.07 inches] (W×H×D) /12g max				
	COOLING METHOD	Convection/Forced air				

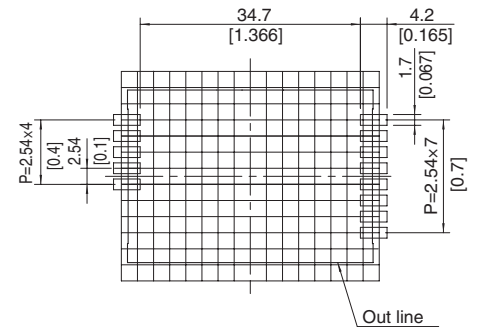
*1 At rated input(DC48V), rated load and 25℃

External view

1.SMD(Type:B)



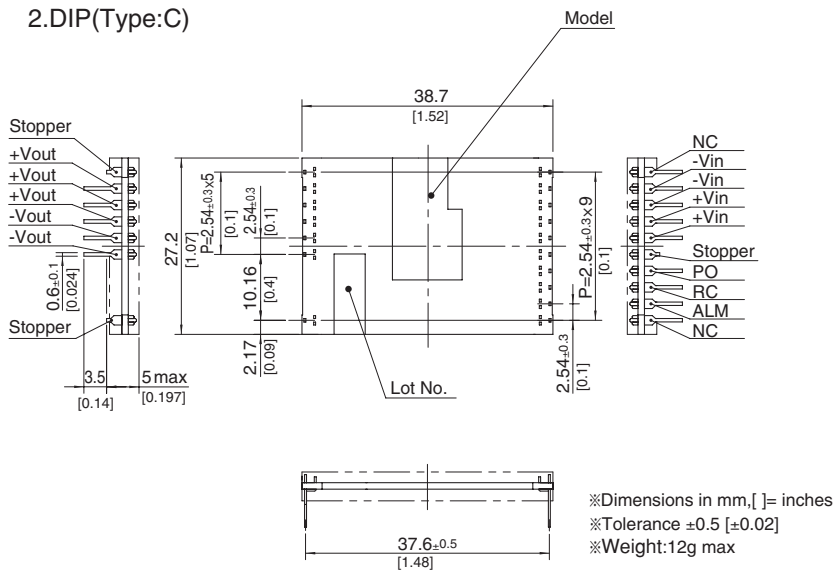
Recommended size for processing PCB -
(TOP VIEW)



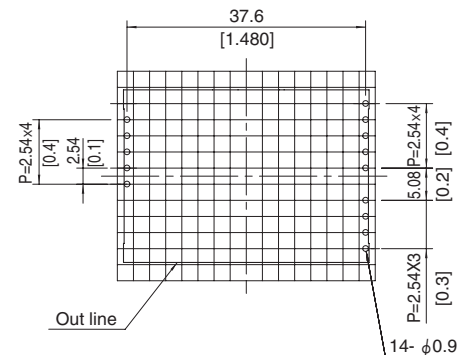
※Dimensions in: $\frac{\text{mm}}{[\text{inch}]}$

※Div.: 0.1inch

2.DIP(Type:C)



Recommended size for processing PCB -
(TOP VIEW)



※Dimensions in: $\frac{\text{mm}}{[\text{inch}]}$

※Div.: 0.1inch

SFS30

SF

S

30

48

3R3

B

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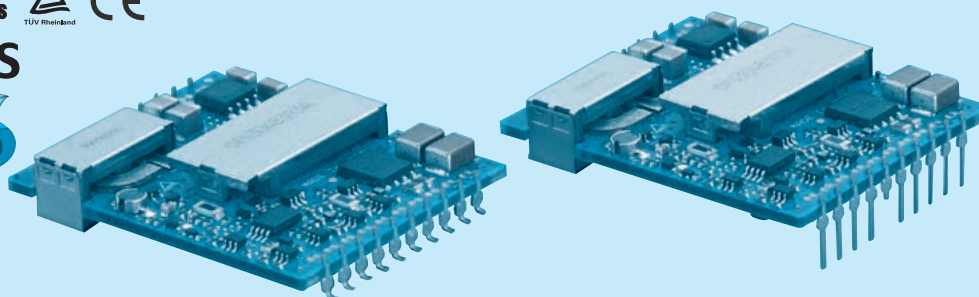
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- ① Series name
 ② Single output
 ③ Output wattage
 ④ Input voltage
 24:DC18 - 36V
 48:DC36 - 76V
 ⑤ Output voltage
 ⑥ Mounting type
 (Soldering process)
 B : SMD (Pb-free solder)
 C : DIP (Pb-free solder)

MODEL	SFS30242R5	SFS30243R3	SFS302405	SFS302412	SFS302415
MAX OUTPUT WATTAGE[W]	22.5	29.7	30.0	30.0	30.0
DC OUTPUT	2.5V 9A	3.3V 9A	5V 6A	12V 2.5A	15V 2A

SPECIFICATIONS

	MODEL	SFS30242R5	SFS30243R3	SFS302405	SFS302412	SFS302415
INPUT	VOLTAGE[V]	DC18 - 36				
	CURRENT[A]	1.04typ	1.36typ	1.36typ	1.36typ	1.39typ
	EFFICIENCY[%]	90typ	91typ	92typ	92typ	90typ
	START-UP VOLTAGE[V]	DC16 - 18				
	HYSTERESIS VOLTAGE[V]	DC1 min				
OUTPUT	VOLTAGE[V]	2.5	3.3	5	12	15
	CURRENT[A]	9	9	6	2.5	2
	VOLTAGE ACCURACY[%]	+5, -3				
	RIPPLE[mVp-p]	25max			120max	
	RIPPLE NOISE[mVp-p]	50max			150max	
	START-UP TIME[ms]	20 - 200max (DCIN 24V, Io=100%)				
PROTECTION CIRCUIT AND OTHERS	OUTPUT VOLTAGE SETTING	±1% of rated output voltage				
	OVERCURRENT PROTECTION	Works over 103% of rating				
	OVERVOLTAGE PROTECTION	Works at 120 - 140% of rating				
	LOWVOLTAGE PROTECTION	Works at 90% max of rating				
	REMOTE ON/OFF	Provided(RC open : ON, short between RC and +Vin : OFF)				

MODEL	SFS30481R2	SFS30481R5	SFS30481R8	SFS30482R5	SFS30483R3	SFS304805	SFS304810	SFS304812	SFS304815
MAX OUTPUT WATTAGE[W]	12.48	15.6	16.2	22.5	29.7	30.0	30.0	30.0	30.0
DC OUTPUT	1.2V 10.4A	1.5V 10.4A	1.8V 9A	2.5V 9A	3.3V 9A	5V 6A	10V 3A	12V 2.5A	15V 2A

SPECIFICATIONS

	MODEL	SFS30481R2	SFS30481R5	SFS30481R8	SFS30482R5	SFS30483R3	SFS304805	SFS304810	SFS304812	SFS304815
INPUT	VOLTAGE[V]	DC36 - 76								
	CURRENT[A]	*1 0.30typ	0.37typ	0.38typ	0.52typ	0.67typ	0.68typ	0.69typ	0.68typ	0.68typ
	EFFICIENCY[%]	*1 86typ	87.5typ	89typ	91typ	92typ	92.5typ	91typ	92typ	92typ
	START-UP VOLTAGE[V]	DC32 - 36								
	HYSTERESIS VOLTAGE[V]	DC2 min								
OUTPUT	VOLTAGE[V]	1.2	1.5	1.8	2.5	3.3	5	10	12	15
	CURRENT[A]	10.4	10.4	9	9	9	6	3	2.5	2
	VOLTAGE ACCURACY[%]	+5, -3								
	RIPPLE[mVp-p]	25max						120max		
	RIPPLE NOISE[mVp-p]	50max						150max		
	START-UP TIME[ms]	20 - 200max (DCIN 48V, Io=100%)								
	OUTPUT VOLTAGE SETTING *1	±1% of rated output voltage								
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 103% of rating								
	OVERVOLTAGE PROTECTION	Works at 120 - 140% of rating								
	LOWVOLTAGE PROTECTION	Works at 90% max of rating								
	REMOTE ON/OFF	Provided(RC open : ON, short between RC and +Vin : OFF)								

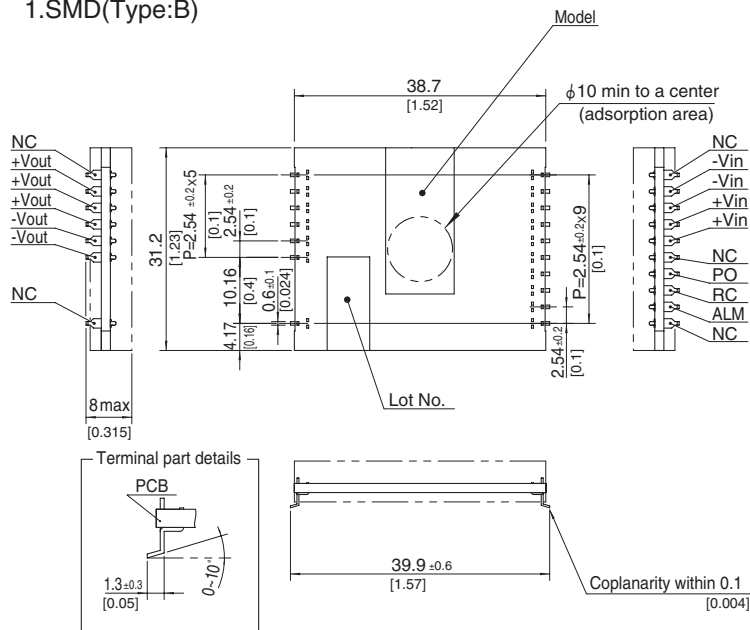
GENERAL SPECIFICATIONS

ISOLATION	INPUT-OUTPUT	DC1,500V 1minute, DC500V 50MΩ min (20±15℃)
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-40 to +85℃, 20 - 95%RH (Non condensing), 3,000m (10,000feet) max
	STORAGE TEMP., HUMID. AND ALTITUDE	-40 to +100℃, 20 - 95%RH (Non condensing), 9,000m (30,000feet) max (SMD: Refer to the Instruction Manual)
	VIBRATION	10 - 55Hz, 49.0m/s ² (5G), 3minutes period, 60minutes each along X, Y and Z axis
	IMPACT	196.1m/s ² (20G), 11ms, once each X, Y and Z axis
SAFETY	AGENCY APPROVALS	UL60950-1, C-UL (CSA60950-1), EN60950-1
OTHERS	CASE SIZE/WEIGHT	38.7×8.0×31.2mm [1.52×0.315×1.23 inches] (W×H×D) /20g max
	COOLING METHOD	Convection/Forced air

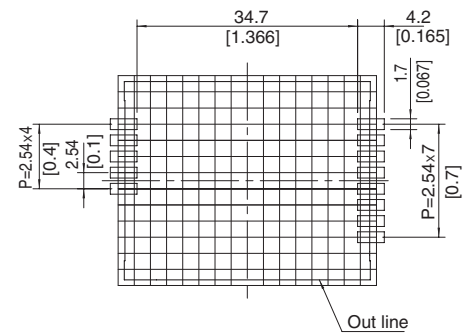
*1 At rated input(DC24V, DC48V), rated load and 25℃

External view

1.SMD(Type:B)



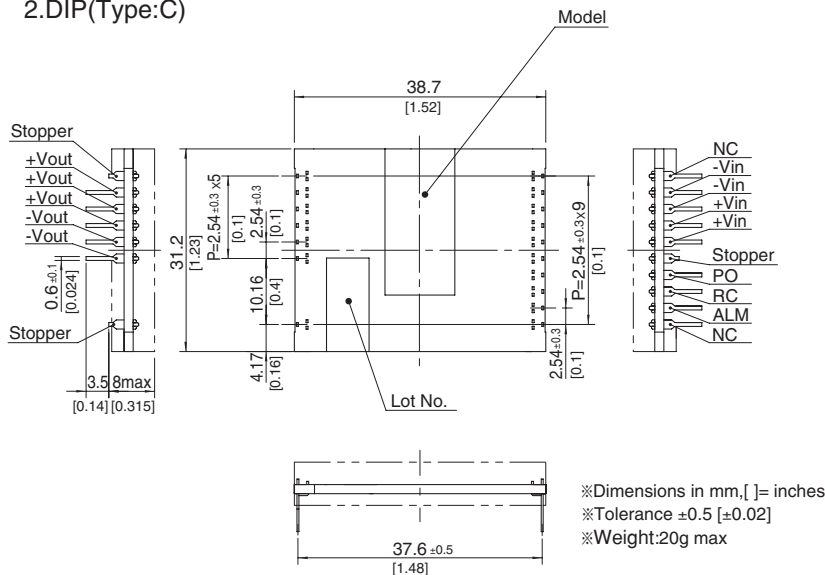
Recommended size for processing PCB (TOP VIEW)



※Dimensions in: $\frac{\text{mm}}{[\text{inch}]}$

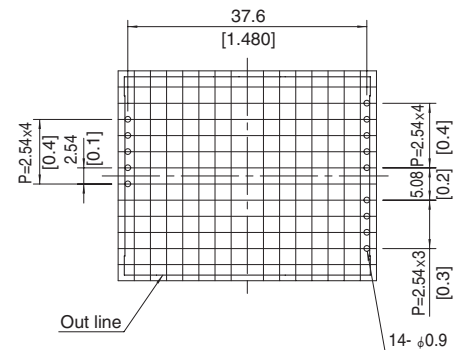
※Div.: 0.1inch

2.DIP(Type:C)



※Dimensions in mm, [] = inches
 ※Tolerance ±0.5 [±0.02]
 ※Weight: 20g max

Recommended size for processing PCB (TOP VIEW)



※Dimensions in: $\frac{\text{mm}}{[\text{inch}]}$

※Div.: 0.1inch



Макро Групп – это:

- дистрибьютор электронных компонентов с 1994 года
- контрактный производитель электроники с 2007 года с собственным производством в Санкт-Петербурге (компания Макро ЕМС, входит в ГК Макро Групп)
- поставщик полупроводниковых материалов
- комплексный поставщик электронных компонентов
- моделирование и производство полупроводниковых эпитаксиальных гетероструктур для задач оптоэлектроники

Головной офис расположен в Санкт-Петербурге. Собственные представительства в крупных промышленных городах России и стран СНГ.

Преимущества для наших заказчиков:

- работа по тендерам с 2012 года
- оформление банковских гарантий
- отсрочки платежей
- поставка электронных компонентов по проектным ценам
- инженерная поддержка проектов заказчиков
- сертификат системы менеджмента качества ISO 9001-2015
- необходимые сертификаты и лицензии

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