

DC to DC Converters

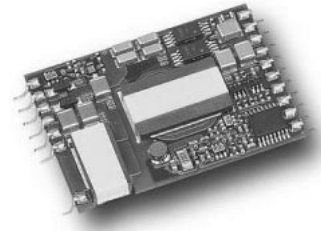
Conformity to RoHS Directive

Distributed Power Supplies for Systems, Insulation Type

CF Series CFP10W/CFR15W/CFT30W Types

FEATURES

- This is an insulated onboard type product delivering among the best efficiency in the industry.
This product delivers an efficiency of 91% (30W products) owing to our unique synchronous rectification circuitry.
- This is an SMD onboard type, offering the lowest height profiles in the industry. By optimizing mounting methods, we have been able to achieve a thickness of only 4.0mm (10W).
- Wide operating temperature range from -40 to $+85^{\circ}\text{C}$ with natural air cooling (No derating).
- Wide input voltage range (DC.36 to 75V)
- Parallel operation is possible.
- Remote ON-OFF function.
- Various protective functions(output overvoltage protection, output overcurrent protection and output undervoltage protection)
- Alarm signal output function.
- It is lead-free compatible.
- It is a product conforming to RoHS directive.



PRODUCT IDENTIFICATION

CFP	033	-	3R0
(1)	(2)		(3)

(1) Series name (CFP: 10W, CFR: 15W, CFT: 30W type)

(2) Rated output voltage

(3) Rated output current

PART NUMBERS AND RATINGS

Output voltage (V)	10W Type		15W Type		30W Type	
	Current(A)	Part No.	Current(A)	Part No.	Current(A)	Part No.
5	2	CFP050-2R0	3	CFR050-3R0		
3.3	3	CFP033-3R0	4.5	CFR033-4R5	9	CFT033-09R0
2.5	3	CFP025-3R0	4.5	CFR025-4R5		
1.8	3	CFP018-3R0	4.5	CFR018-4R5		
1.5			5.2	CFR015-5R2		

SPECIFICATIONS AND STANDARDS

Type		CFP10W	CFR15W	CFT30W
Input voltage Edc	V	36 to 60[Continuation]/ 75[Transient 10ms]	36 to 60[Continuation]/ 75[Transient 10ms]	36 to 60[Continuation]/ 75[Transient 10ms]
Output voltage Edc	V	1.5, 1.8, 2.5, 3.3, 5, 5.2	1.5, 1.8, 2.5, 3.3, 5	3.3
Maximum output power ^{*1}	W	10	15	30
Efficiency	%	88typ.[3.3V output]	89typ.[3.3V output]	91typ.[3.3V output]
Ripple noise Ep-p	mV	50max.	50max.	50max.
Start up time	ms	50typ.	50typ.	50typ.
Overvoltage protection ^{*2}		Yes(Output voltage shut-down type)		
Overcurrent protection ^{*2}		Yes(Output voltage shut-down type)		
Alarm output		Yes		
Overheat protection		No		
Remote ON-OFF		Yes		
Remote sensing		No		
Parallel operation		Possible		
Output voltage external variable function		No		
Safety standards		UL60950, CSA C22.2 No.60950(C-UL)		
External dimensions	mm	4.3×27.2×37.3[H×W×L]	4.3×31.2×37.3[H×W×L]	4.5×42.4×45[H×W×L]
Weight	g	8typ.	8typ.	17typ.
Mounting method		Mounted from the terminal side (soldered).		

^{*1} Please note that the maximum output voltage will vary depending on the output voltage. Provisions for derating due to the ambient temperature are not required(100% at $+85^{\circ}\text{C}$).

^{*2} Recovery can be achieved by re-applying input or by operating the on/off control on the remote (after an interval of about 1 sec.).

- Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

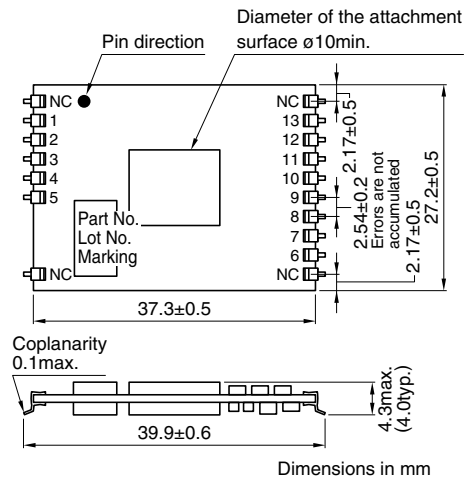
• All specifications are subject to change without notice.

COMMON SPECIFICATIONS

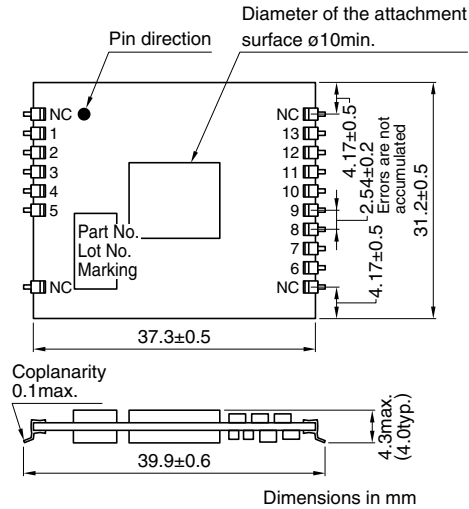
Temperature range	Operating(°C)	-40 to +85[Ambient temperature of the power supply]
	Storage(°C)	-40 to +85[Ambient temperature of the power supply]
Humidity range	Operating(%)RH	20 to 85[Maximum wet-bulb temperature: 38°C, without dewing]
	Storage(%)RH	10 to 95[Maximum wet-bulb temperature: 38°C, without dewing]
Cooling conditions		Natural cooling[0.2m/s]
Vibration		Number of vibration: 10 to 55Hz, Sweep time: 1s, All amplitude 1.52mmp-p, Vibration time: X, Y, Z directions, each 2h
Shock		Acceleration 100G, Half sine wave, Pulse Duration: 6ms, each directions 3 times, total 18 times
Withstand voltage		Input terminal to output terminal: DC.1.5kV[1min, cutout current 2mA]

SHAPES AND DIMENSIONS

10W/CFP TYPE



15W/CFR TYPE

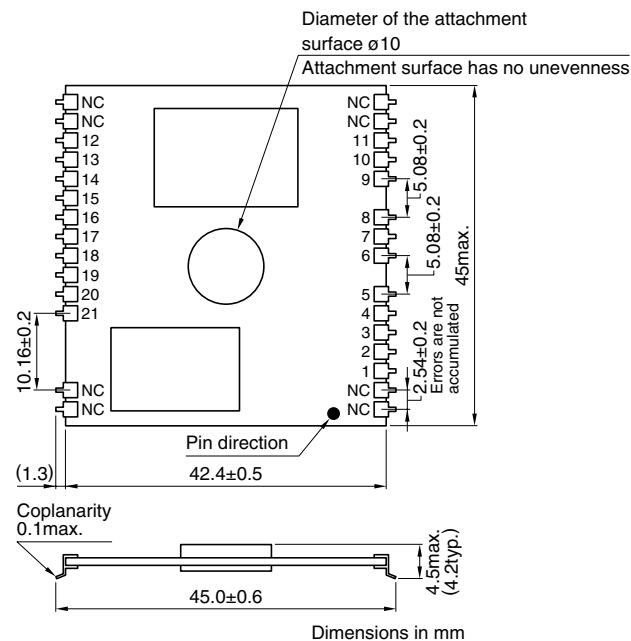


TERMINAL FUNCTIONS

10W/15W TYPES

1	+Vout	DC output terminal(+)
2	+Vout	DC output terminal(+)
3	+Vout	DC output terminal(+)
4	-Vout	DC output terminal(-)
5	-Vout	DC output terminal(-)
6	ALM	Alarm output terminal
7	RC	Remote ON-OFF terminal
8	PO	All startup or all off
9	NC	
10	+Vin	DC input terminal(+)
11	+Vin	DC input terminal(+)
12	-Vin	DC input terminal(-)
13	-Vin	DC input terminal(-)

30W/CFT TYPE



TERMINAL FUNCTIONS

30W TYPE

1	ALM	Alarm output terminal
2	NC	
3	RC	Remote ON-OFF terminal
4	NC	
5	PO	All startup or all off.
6	-Vin	DC input terminal(-)
7	-Vin	DC input terminal(-)
8	-Vin	DC input terminal(-)
9	+Vin	DC input terminal(+)
10	+Vin	DC input terminal(+)
11	+Vin	DC input terminal(+)
12	+Vout	DC output terminal(+)
13	+Vout	DC output terminal(+)
14	+Vout	DC output terminal(+)
15	+Vout	DC output terminal(+)
16	-Vout	DC output terminal(-)
17	-Vout	DC output terminal(-)
18	-Vout	DC output terminal(-)
19	-Vout	DC output terminal(-)
20	-Vout	DC output terminal(-)
21	-Vout	DC output terminal(-)