## Ultra Compact, 1.5W to 25W Single and Dual DC-DC Converters

## **Features**

- ◆ Compact Footprint / Low Profile
- ◆ Through Hole or SMT Versions
- ♦ 5V, 12V, 24V & 48V Inputs
- ◆ 3.3 to 30V1 Single, ±12 to 15V Dual Outputs
- Output Voltage Adjustment
- ◆ Input Output Isolation
- ◆ RoHS Compliant
- ♦ 5 Year Warranty
- ◆ Self contained
- ◆ Multiple Input Voltage configurations
- ◆ Open frame (no potting)



## **Key Market Segments & Applications**







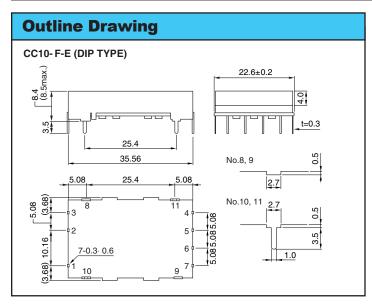


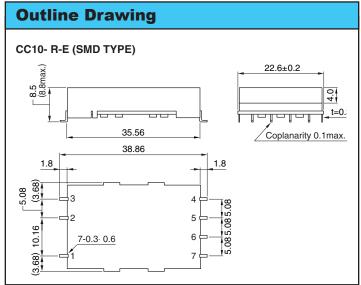


Specifications						
Model						
Nominal Output Voltage	V	3.3V	5V	12/15V	±12/15 (24/30) <sup>1</sup>	
DC Input	V	5V: 4	.5-9.0V, 12V: 9-18V,	24V: 18-36V, 48V:	36-76V	
Efficiency	%	71 to 90% model dependant				
Output Voltage Tolerance	%	1.5	-10W: ±3%, 15-25W	': ±5%	±5%	
Output Adjustment (via trim pin)	V	3.15-3.6V (5)	4.75-6.0V (5)	11.4-15V	22.8 - 30V	
Line Regulation	mV	20 (40 CC15;	30 CC25)	40	80	
Load Regulation	mV	40 (120 CC15;	200 CC25)	100	600 <sup>2</sup>	
Temperature Coefficient	%		<± 0.0	2%/°C		
Preload	-	No preload required				
Output Ripple (typ./max.BW 50MHz)	mV	40/120		30/	30/120	
Overcurrent Protection	-	Output current limiting with automatic recovery, shutdown CC15, 25 type		wn CC15, 25 type		
Overvoltage Protection	-		N	lo		
Remote On/ Off	-	CC1R5, 3, 6, & 10: RC terminal open, output is OFF; RC terminal to -Vin (0-0.4V), output is ON CC15 & CC25: RC terminal open, output is ON; RC terminal to +Vin, output is OFF				
Operating Temp Convection	°C	-40 to 85°C, derates linearly to 40% load from 50°C to 85°C				
Operating Temp Forced Air	°C	-40°C to 85°C with 1m/s air full load				
Storage Temperature	°C	-40°C to 85°C				
Humidity (non Condensing)	-	95% F	RH max.(maximum w	et-bulb temperatui	re: 38°C)	
Isolation Voltage	-	500VAC	1 min. Input to outpu	t, input to case, ou	tput to case	
Isolation Resistance	-	Input to output	, input to case, outpu	ut to case: 50M ohi	m min. (500VDC)	
Shock	m/s <sup>2</sup>	980m/s <sup>2</sup> (100G) 6ms (6 directions, each 3 times)				
Vibration (non Operating)	-	10 to 55Hz (sweep for 15min) 1.52mm constant, 3 directions X, Y, Z each 2 hours				
Safety Agency Approvals	-	UL60950-1, CSA60950-1, EN60950-1, CE Mark				
Weight	g	CC1R5: 3.2, CC3: 4.5, CC6: 5.8, CC10:10.0, CC15: 12.5, CC25: 20.0				
Size (L x W x H)	in	CC1R5: 0.650 x 0.654 x 0.335; CC3: 0.900 x 0.654 x 0.335; CC6: 0.900 x 0.831 x 0.335				
(DIP Through Hole and SMD package)		CC10: 1.400 x 0.890 x 0.335; CC15: 1.500 x 1.264 x 0.295; CC25: 1.701 x 1.768 x 0.295				
(SIP Through Hole only)		CC3 (SIP): 1.09 x 0.362 x 0.705				
Warranty	-	5 years				

- 1. For 24V/30V output connect across +Vout & -Vout and leave "common out" pin not connected
- 2. Based upon equal load current from both outputs
- 3. For 15V output connect trim to -Vout
- 4. See Installation Manual for full specs, test methods of parameters & application notes
- 5. Not available on CC15 and CC25 models

Model Selector						
Output Voltage (V)	Output Current (A)	Output Power (W)	5V Input	12V Input	24V Input	48V Input
Single Outputs						
3.3	0.4	1.5	CC1R5-0503SF-E	CC1R5-1203SF-E	CC1R5-2403SF-E	CC1R5-4803SF-E
3.3	0.8	3	CC3-0503SF-E	CC3-1203SF-E	CC3-2403SF-E	CC3-4803SF-E
3.3	1.2	6	CC6-0503SF-E	CC6-1203SF-E	CC6-2403SF-E	CC6-4803SF-E
3.3	2.5	10	CC10-0503SF-E	CC10-1203SF-E	CC10-2403SF-E	CC10-4803SF-E
3.3	4.5	15	-	-	CC15-2403SF-E	-
3.3	7.5	25	-	-	CC25-2403SF-E	-
5	0.3	1.5	CC1R5-0505SF-E	CC1R5-1205SF-E	CC1R5-2405SF-E	CC1R5-4805SF-E
5	0.6	3	CC3-0505SF-E	CC3-1205SF-E	CC3-2405SF-E	CC3-4805SF-E
5	1.0	5	CC6-0505SF-E	-	-	-
5	1.2	6	-	CC6-1205SF-E	CC6-2405SF-E	CC6-4805SF-E
5	2.0	10	CC10-0505SF-E	CC10-1205SF-E	CC10-2405SF-E	CC10-4805SF-E
5	3.0	15	-	-	CC15-2405SF-E	-
5	5.0	25	-	-	CC25-2405SF-E	-
12(15)	0.125(0.1)	1.5	CC1R5-0512SF-E	CC1R5-1212SF-E	CC1R5-2412SF-E	CC1R5-4812SF-E
12(15)	0.25(0.2)	3	CC3-0512SF-E	CC3-1212SF-E	CC3-2412SF-E	CC3-4812SF-E
12(15)	0.5(0.4)	6	CC6-0512SF-E	CC6-1212SF-E	CC6-2412SF-E	CC6-4812SF-E
12(15)	0.8(0.64)	10	CC10-0512SF-E	-	-	-
12(15)	1.0(0.8)	10	-	CC10-1212SF-E	CC10-2412SF-E	CC10-4812SF-E
Dual Outputs						
±12 (15)3	0.06(0.05)	1.5	CC1R5-0512DF-E	CC1R5-1212DF-E	CC1R5-2412DF-E	CC1R5-4812DF-E
±12 (15)3	0.125(0.1)	3	CC3-0512DF-E	CC3-1212DF-E	CC3-2412DF-E	CC3-4812DF-E
±12 (15)3	0.25(0.2)	6	CC6-0512DF-E	CC6-1212DF-E	CC6-2412DF-E	CC6-4812DF-E
±12 (15)3	0.4(0.32)	10	CC10-0512DF-E	-	-	-
±12 (15)3	0.45(0.36)	10	-	CC10-1212DF-E	CC10-2412DF-E	CC10-4812DF-E





Options		
Version	Description	
F-E	Through hole mounting (DIP pkg)	
R-E	Surface mount (DIP pkg)	
S-E	Through hole mounting (SIP pkg - CC3)	

Other Industrial Products			
PX	10 - 40W 12, 24, 48V DC-DC converters		
PAQ, PAH, PAF	50 -700W quarter, half & full bricks		

Pinout (CC1R5, 3, 6, and 10)				
Pin	Single	Dual		
1	+Vin	+Vin		
2	RC	RC		
3	-Vin	-Vin		
4	NC	-Vout		
5	-Vout	Common out		
6	TRM	TRM		
7	+Vout	+Vout		
	For CC15 and 25 see Installation Manual online			

For Additional Information, please visit us.tdk-lambda.com/lp/products/cc-series.htm

