

DC-DC POWER MODULE
5~6W SINGLE & DUAL OUTPUTS
4:1 Input Range
I/O Isolation
Input Pi Filter
Short Circuit Protection



SINGLE OUTPUT MODELS

Part Number	Input Voltage	Input Current		Output Wattage	Output Voltage	Output Current	Efficiency		Capacitor Load (max)
		(typ)	(Max)				(min)	(typ.)	
CD05IDD03S4U	9~36 VDC	0.28A	0.72A	5 Watts	3.3 VDC	1500mA	72%	74%	2200uF
CD05IDD05S4U	9~36 VDC	0.28A	0.72A	5 Watts	5VDC	1000mA	74%	76%	2200uF
CD05IDD12S4U	9~36 VDC	0.31A	0.84A	6 Watts	12VDC	500mA	80%	82%	1000uF
CD05IDD15S4U	9~36 VDC	0.31A	0.84A	6 Watts	15VDC	400mA	80%	82%	1000uF
CD05IDD03S5U	18~75 VDC	0.14A	0.37A	5 Watts	3.3 VDC	1500mA	72%	74%	2200uF
CD05IDD05S5U	18~75 VDC	0.14A	0.37A	5 Watts	5VDC	1000mA	74%	76%	2200uF
CD05IDD12S5U	18~75 VDC	0.15A	0.44A	6 Watts	12VDC	500mA	80%	82%	1000uF
CD05IDD15S5U	18~75 VDC	0.15A	0.44A	6 Watts	15VDC	400mA	80%	82%	1000uF

DUAL OUTPUT MODELS

Part Number	Input Voltage	Input Current		Output Wattage	Output Voltage	Output Current	Efficiency		Capacitor Load (max)
		(typ)	(Max)				(min)	(typ.)	
CD05IDD05D4U	9~36 VDC	0.28A	0.73A	5 Watts	+/-5VDC	+/-500mA	74%	76%	+/-2200uF
CD05IDD12D4U	9~36 VDC	0.32A	0.86A	6 Watts	+/-12VDC	+/-250mA	78%	80%	+/-1000uF
CD05IDD15D4U	9~36 VDC	0.31A	0.86A	6 Watts	+/-15VDC	+/-200mA	78%	80%	+/-1000uF
CD05IDD05D5U	18~75 VDC	0.13A	0.37A	5 Watts	+/-5VDC	+/-500mA	76%	78%	+/-2200uF
CD05IDD12D5U	18~75 VDC	0.16A	0.44A	6 Watts	+/-12VDC	+/-250mA	78%	80%	+/-1000uF
CD05IDD15D5U	18~75 VDC	0.16A	0.44A	6 Watts	+/-15VDC	+/-200mA	78%	80%	+/-1000uF

All Specifications Typical at Nominal Line, Full Load, 25 C Unless Noted Otherwise

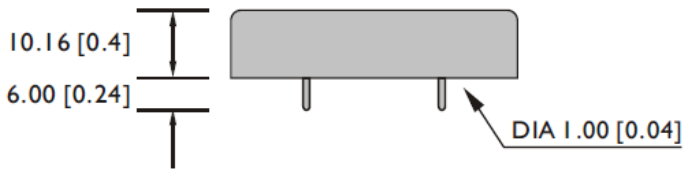
GENERAL					
Characteristics	Conditions	Min	Typ	Max	Unit
Switching frequency	Vi nom, Io nom		200		KHz
Isolation Voltage	Input/Output	1,500			VDC
Isolation Resistance	Input/Output, @500VDC	100			MΩ
Isolation capacitance	100KHz/IV			1000	P F
Ambient Temp	Operating @ Vi nom, Io nom	-40		+71	C
Case Temperature	Operating at Vi nom, Io nom			+100	C
Derating	Vi nom	See derating curve			%/C
Storage Temp.	Non Operational	-40		+100	C
Relative humidity	Vi nom, Io nom	20		95	%RH
MTBF	Bellcore issue 6@40C, GB		1446000		Hours
Cooling	Free air convection				

INPUT SPECIFICATIONS					
Characteristics	Conditions	Min	Typ	Max	Unit
Input Voltage Range	Ta min...Ta Max, Io nom	9	24	36	VDC
		18	48	75	VDC
No load input current	Vi nom, Io = 0	24V models		20	mA
		48V models		15	mA
Input voltage w/o damage	Io Nom	24V models		40	VDC
		48V models		80	VDC
Startup voltage	Io Nom	24V models	8.5		VDC
		48V models	16		VDC
Input filter	PI type				

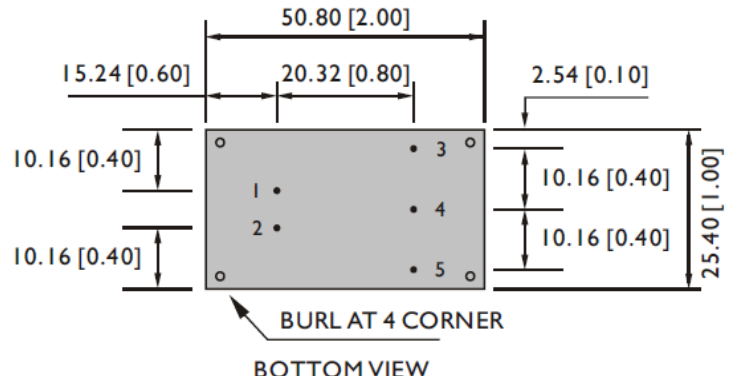
OUTPUT SPECIFICATIONS					
Characteristics	Conditions	Min	Typ	Max	Unit
Output voltage accuracy	Vi nom, Io nom			+/-2	%
Minimum load	Vi nom single output model	0			%
	Vi nom dual output (each output)	10			%
Line regulation	Io nom, Vi min ... Vi max			+/-1	%
Load regulation Vi nom, Io 0 ... Io nom	Single output models			+/-2	%
	Dual output models			+/-5	%
Cross regulation (Dual)	Aymmetrical load 10%-100% FL			+/-5	%
Startup time	Vi nom, Io nom			30	ms
Transient recovery time	25% load, step change			500	uS
Temperature coefficient	Vi nom, Io nom			+/-0.02	%/C
Ripple & Noise*	Vi nom, Io nom, BW =20MHz	3.3V & 5V output		100	mV
		12V, 15V& dual output		150	mV
Efficiency	Vi nom, Io nom, Po/Pi	Up to 82% See model list			

*Note: Output must be added 0.1 uF/35V capacitor when application

Control & Protection	
Input Reversed	Shunt diode built in, external fuse recommended
Output short circuit	Current limited (Auto Recovery)
Rated over load protection	110% min... 160% max



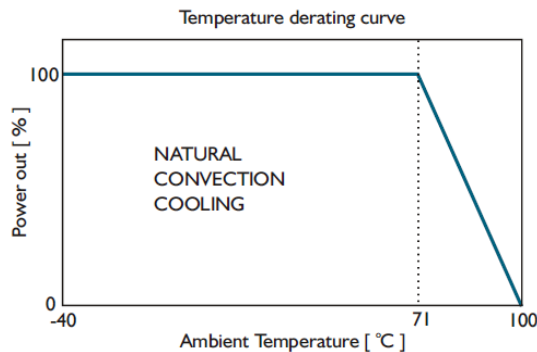
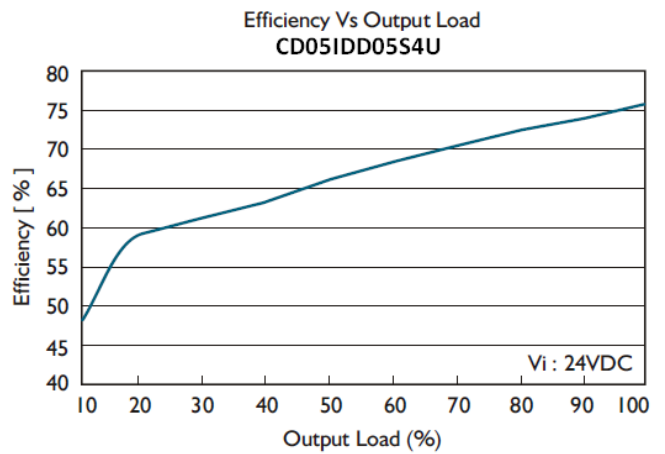
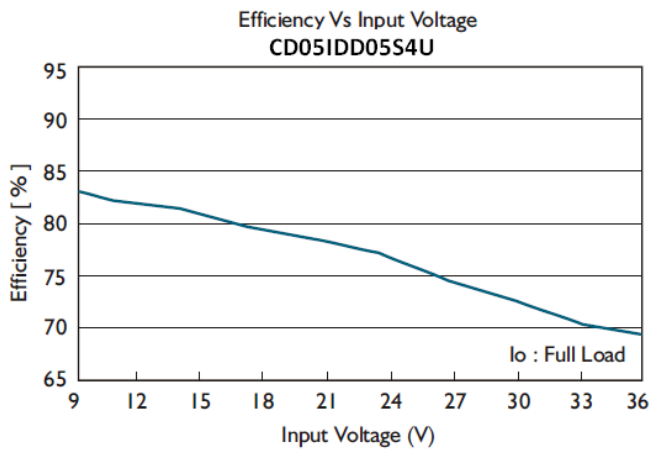
GENERAL TOLERANCE	
0.00[0.00] - 30.00[1.18]	±0.30[0.01]
30.00[1.18] - 120.00[4.72]	±0.50[0.02]



Case: Metal base /Plastic cover, silicone potting material, weight 35g

PIN ASSIGNMENT					
Pin No	1	2	3	4	5
SINGLE	Vi+	Vi-	Vo+	No Pin	Vo-
DUAL	Vi+	Vi-	Vo+	com	Vo-

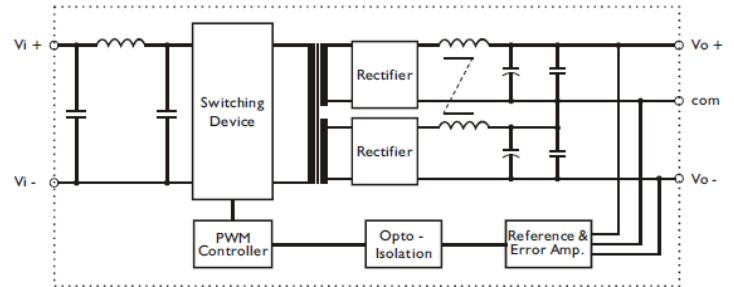
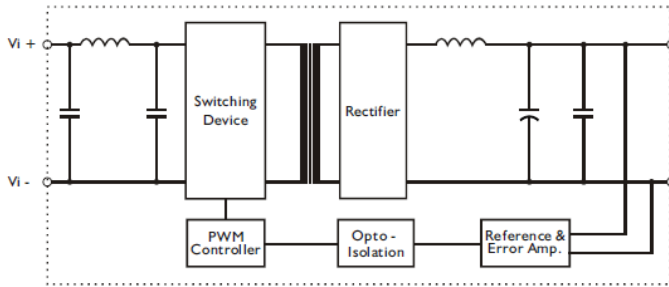
DERATING & EFFICIENCY



CIRCUIT SCHEMATIC

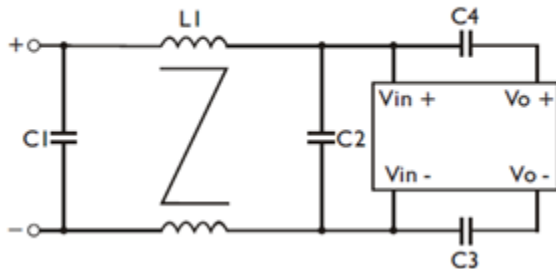
Block diagram for CD05IDDxxxxU series with single output

Block diagram for CD05IDDxxxxU series with dual output



RECOMMENDED CIRCUIT

- Recommended filter for EN55022 Class B compliance



- The components used in the above figure, together with the manufacturer part numbers for these components, are as follows.

	C1	C2	C3	C4	L1
CD05IDDxxx4U	3.3 μ F / 50V MLCC	2.2 μ F / 50V MLCC	1nF / 2KV MLCC	1nF / 2KV MLCC	500 μ H Common choke
CD05IDDxxx5U	3.3 μ F / 100V MLCC	2.2 μ F / 100V MLCC	1nF / 2KV MLCC	1nF / 2KV MLCC	1 mH Common choke

- Recommended filter for EN55022 Class B compliance

- Recommended EN 55022 Class B filter circuit layout.

