

Series 4DCR

1.7 to 3 W, regulated DIL 24 case

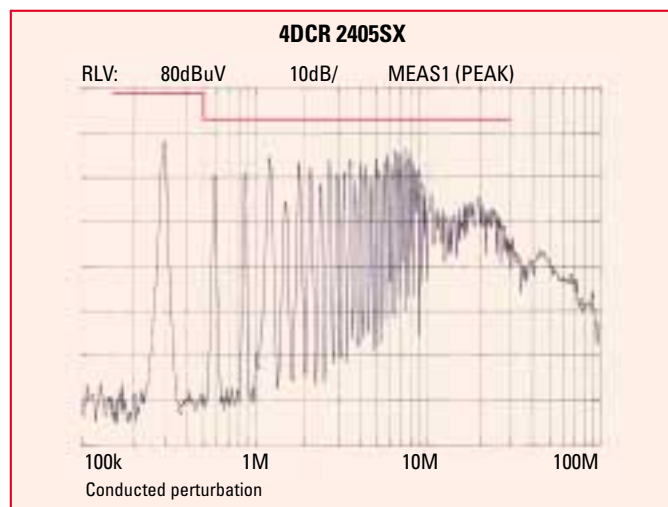
- Single and dual output
- EN 60950



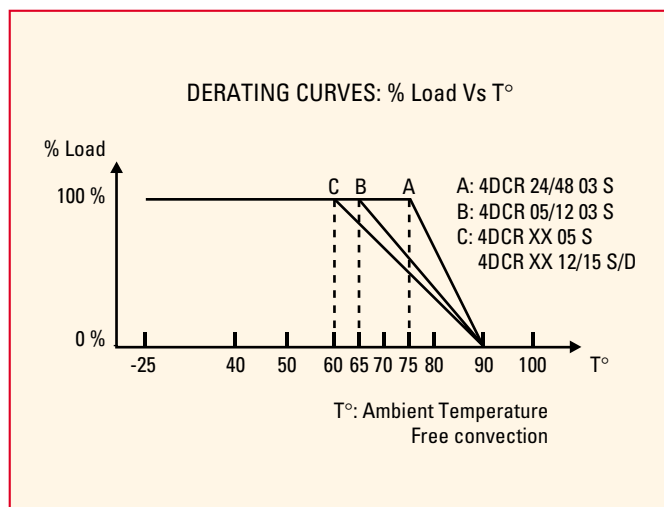
Models

Models	Input Specifications			Output Specifications				Power
	Minimum	Maximum	Nominal	+ Output		- Output		
	(VDC)	(VDC)	(VDC)	Vout (VDC)	Iout (mA)	Vout (VDC)	Iout (mA)	(W)
4DCR 0503SX	4.5	6	5	3.3	500			1.7
4DCR 0505SX	4.5	6	5	5	500			2.5
4DCR 0512SX	4.5	6	5	12	210			2.5
4DCR 0515SX	4.5	6	5	15	170			2.5
4DCR 1203SX	9	18	12	3.3	500			1.7
4DCR 1205SX	9	18	12	5	500			2.5
4DCR 1212SX	9	18	12	12	250			3
4DCR 1215SX	9	18	12	15	200			3
4DCR 2403SX	18	36	24	3.3	500			1.7
4DCR 2405SX	18	36	24	5	500			2.5
4DCR 2412SX	18	36	24	12	250			3
4DCR 2415SX	18	36	24	15	200			3
4DCR 4803SX	36	63	48	3.3	500			1.7
4DCR 4805SX	36	63	48	5	500			2.5
4DCR 4812SX	36	63	48	12	250			3
4DCR 4815SX	36	63	48	15	200			3
4DCR 0512DX	4.5	6	5	12	105	12	105	2.5
4DCR 0515DX	4.5	6	5	15	85	15	85	2.5
4DCR 1212DX	9	18	12	12	125	12	125	3
4DCR 1215DX	9	18	12	15	100	15	100	3
4DCR 2412DX	18	36	24	12	125	12	125	3
4DCR 2415DX	18	36	24	15	100	15	100	3
4DCR 4812DX	36	63	48	12	125	12	125	3
4DCR 4815DX	36	63	48	15	100	15	100	3

EMC curve



Derating curves



Electrical specifications

Parameters	Conditions	Single	Dual	Single	Dual	Single	Dual	Single	Dual
Nominal input voltage	Tc = - 25 to + 90°C	5 V		12 V		24 V		48 V	
Input voltage range	Iout = 0 to 100 %	4.5 to 6 V		9 to 18 V		18 to 36 V		36 to 63 V	
Input over voltage	Time period = 0.1 s	7 V		25 V		40 V		70 V	
No load input current	Vin nom.	200 mA		100 mA		30 mA		10 mA	
Input current max.	Vin min.; Iout max.	3.3 V/5 V 12 V/15 V	1000 mA 1100 mA	480 mA 550 mA		230 mA 260 mA		115 mA 130 mA	
Input filter		PI filter							
Output voltage accuracy	Vin nom.; Iout nom.	± 2 %							
Load regulation	10 to 100 % Iout 3.3 V/5 V 12 V/15 V	1 %		1 %		1 %		1 %	
Line regulation	Vin min. to Vin max.	± 0.25 %							
Limitation range	Vout - 4 %	180 % of Iout							
Output ripple peak to peak	BW = 20 MHz	50 mV							
Short-circuit protection		YES							
Efficiency	Vin nom.; Iout nom.	3.3 V/5 V 12 V/15 V	65 % 68 %	68 % 70 %		70 % 72 %		70 % 72 %	
Switching Frequency		250 to 750 kHz							
Isolation	1 Min. In/Out	500 VDC							
Isolation resistance	500 VDC	> 10 GΩ							
I/O coupling capacitor	Tc = + 25°C; RH = 48 %	120 pF at 100 Hz							
Operating temperature range	Ta:	- 25 to + 75°C							
Storage temperature	Ts:	- 40 to + 105°C							
Maximum case temperature	Tc:	+ 90°C							
Temperature coefficient	Tc = - 25 to + 90°C	< 0.02 %/°C							
Case material	UL94V-0	Plastic box							
MTBF (MIL-HDBK-217-F)	Ground bening Ta = + 25°C	> 500 000 h							
Weight		12 g							

It is recommended to protect the input by fuses or other protection devices. Fuses are never supplied internally, and without them, severe damage or even fire can occur in the event of a module failure. A slow fuse with a rating of 2x the Iin max. is recommended.

All specifications are typical, 25°C ambient, with nominal input voltage and under full output load conditions, unless otherwise stated.

These converters operate without any external components. However, in low noise applications, it is recommended to use a low ESR capacitor across the output or the input pins.

Conducted noise filtering to EN 55022-B, VDE0871-B may be accomplished by putting an external filter. For more information, please consult factory.

On dual output, the outputs are not isolated from each other and may be connected to provide 10 V, 24 V or 30 V.

Pin connections

Pin	Single X output
1	+ Input
2	N/C
3	N/C
10	- Output
11	+ Output
12	- Input
13	- Input
14	+ Output
15	- Output
22	N/C
23	N/C
24	+ Input

Pin	Dual X output
1	+ Input
2	- Output
3	Common
10	Common
11	+ Output
12	- Input
13	- Input
14	+ Output
15	Common
22	Common
23	- Output
24	+ Input

Pin	Dual Y* output
1	+ Input
2	+ Input
3	+ Input
10	Common
11	Common
12	N/C
13	- Output
14	N/C
15	+ Output
16	N/C
22	- Input
23	- Input
24	- Input

*All dual outputs are available in Y pinout: add the suffix Y (example: 4DCR 0512DY).

