

2 to 3 W, regulated DIL 24 case

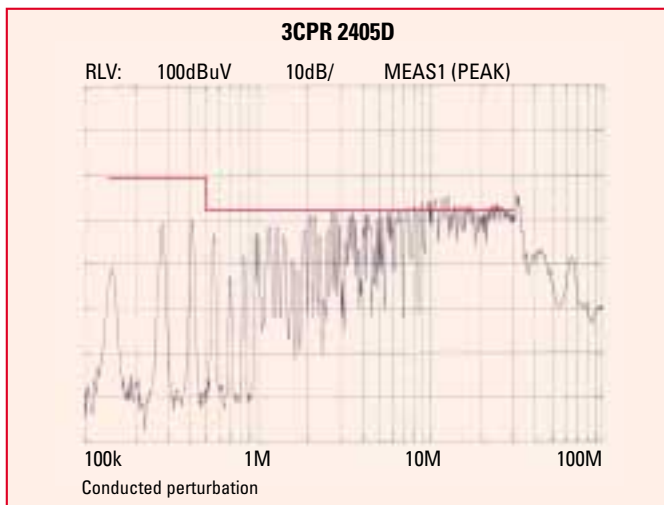
- Single and dual output
- High efficiency up to 86 %
- Ultra wide input range: 9 - 36; 18 - 72 V
- Extended temperature range: - 40 to + 85°C
- EN 60950



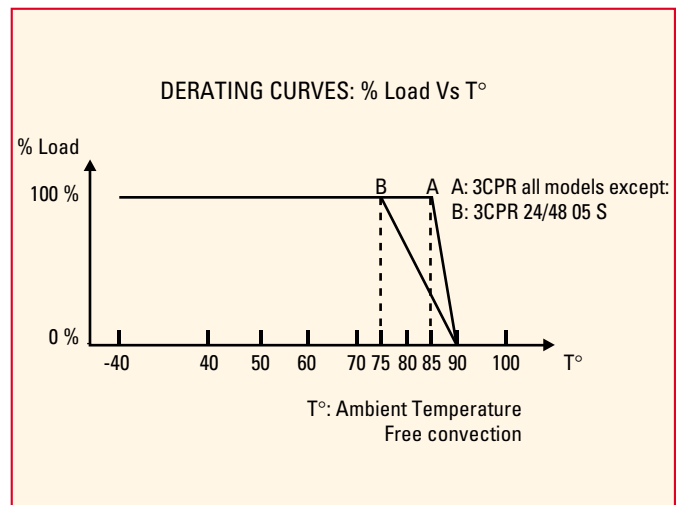
Models

Models	Input Specifications			Output Specifications				
	Minimum	Maximum	Nominal	+ Output		- Output		Power
	(VDC)	(VDC)	(VDC)	Vout (VDC)	Iout (mA)	Vout (VDC)	Iout (mA)	
3CPR 2403S	9.5	36	24	3.3	600			2
3CPR 2405S	9.5	36	24	5	500			2.5
3CPR 2412S	9.5	36	24	12	250			3
3CPR 2415S	9.5	36	24	15	200			3
3CPR 4803S	18	72	48	3.3	600			2
3CPR 4805S	18	72	48	5	500			2.5
3CPR 4812S	18	72	48	12	250			3
3CPR 4815S	18	72	48	15	200			3
3CPR 2405D	9.5	36	24	5	250	5	250	2.5
3CPR 2412D	9.5	36	24	12	125	12	125	3
3CPR 2415D	9.5	36	24	15	100	15	100	3
3CPR 4805D	18	72	48	5	250	5	250	2.5
3CPR 4812D	18	72	48	12	125	12	125	3
3CPR 4815D	18	72	48	15	100	15	100	3

EMC curve



Derating curves



Electrical specifications

Parameters	Conditions	Single	Dual	Single	Dual
Nominal input voltage	Tc = - 40 to + 90°C	24 V		48 V	
Input voltage range	Iout = 0 to 100 %	9.5 to 36 V		18 to 72 V	
Input over voltage	Time period = 0.1 s	40 V		90 V	
No load input current	Vin nom.	5 mA		2 mA	
Input current max.	Vin min.;	300 mA		150 mA	
	Iout max.				
	3.3 V				
	5 V	350 mA		190 mA	
	12 V/15 V	400 mA		210 mA	
Input filter		PI filter			
Output voltage accuracy	Vin nom.; Iout nom.	± 2 %			
Load regulation	50 to 100 % of Iout	+ 3 to 0 %			
Line regulation	Vin min. to Vin max.	± 0.5 %			
Limitation range	Vout - 4 %	180 % of Iout			
Output ripple peak to peak	BW = 20 MHz	120 mV			
Output over voltage protection		YES, zener diode across output pins			
Short-circuit protection		YES			
Efficiency	Vin nom.;	75 %		75 %	
	Iout nom.				
	3.3 V				
	5 V	78 %			
	12 V/15 V	82 %			
Switching Frequency	Fixed	170 kHz			
Isolation	1 Min. In/Out	1500 VDC			
Isolation resistance	500 VDC	> 10 GΩ			
I/O coupling capacitor	Tc = + 25°C; RH = 48 %	100 pF at 100 Hz			
Operating temperature range	Ta:	- 40 to + 85°C			
Storage temperature	Ts:	- 40 to + 105°C			
Maximum case temperature	Tc:	+ 90°C			
Temperature coefficient	Tc = - 40 to + 90°C	< 0.02 %/°C			
Case material	UL94V-0	Plastic box			
MTBF (MIL-HDBK-217-F)	Ground bening Ta = + 25°C	> 1 300 000 h			
Weight		15 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 lin 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.

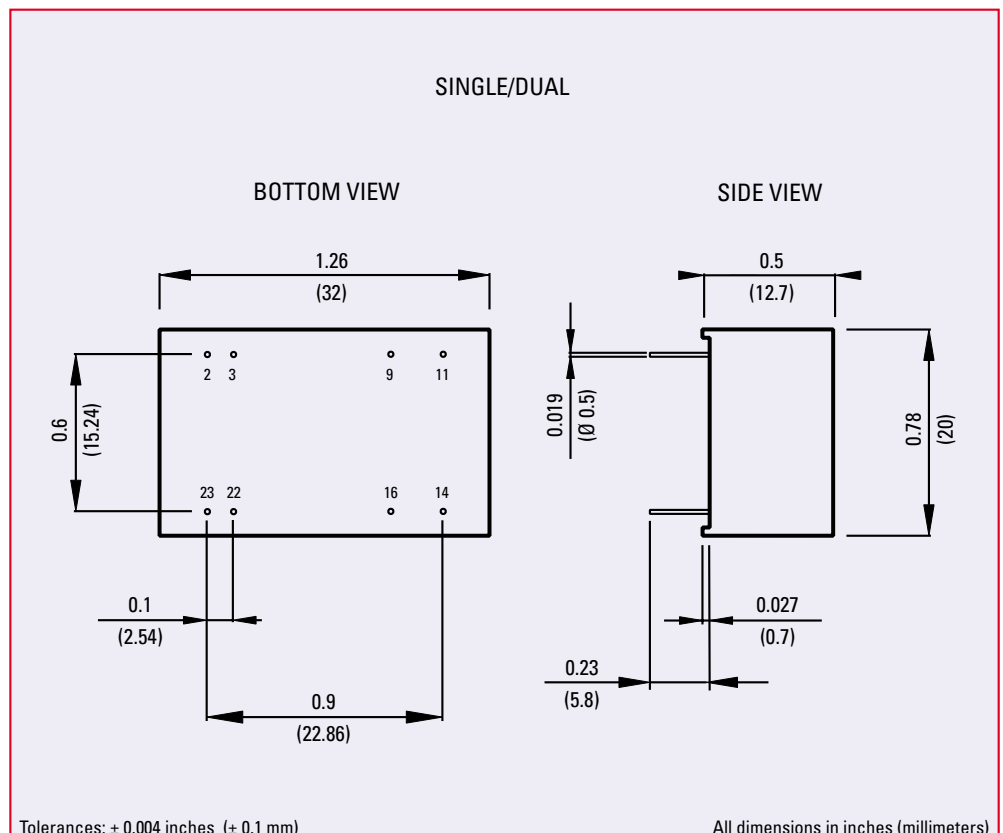
On dual output, the outputs are not isolated from each other and may be connected to provide 10 V, 24 V or 30 V.

Regulated DC/DC Converters

Pin connections

Pin	Single output
2	- Input
3	- Input
9	N/C
10	N/C
11	N/C
14	+ Output
15	N/C
16	- Output
22	+ Input
23	+ Input

Pin	Dual output
2	- Input
3	- Input
9	Common
10	N/C
11	- Output
14	+ Output
15	N/C
16	Common
22	+ Input
23	+ Input



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