Series 1CN/CS

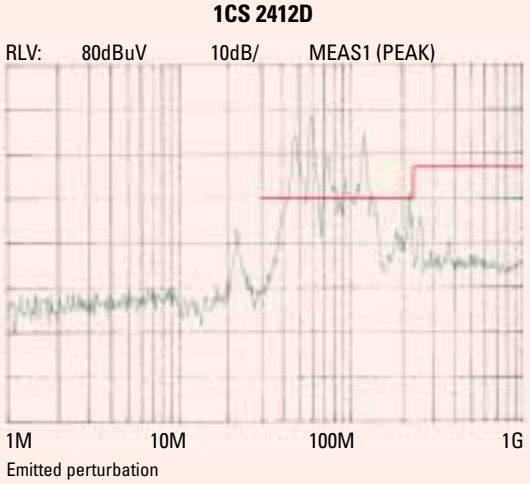
0.3 to 0.75 W, unregulated
DIL 16 case

- Single and dual output

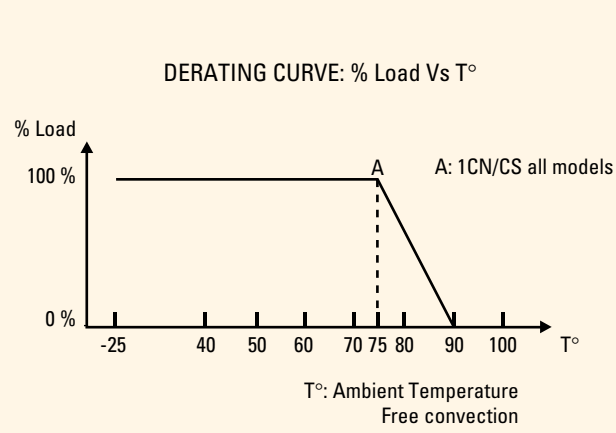
Models

Models	Input Specifications			Output Specifications				
	Minimum	Maximum	Nominal	+ Output		- Output		Power
	(VDC)	(VDC)	(VDC)	Vout (VDC)	Iout (mA)	Vout (VDC)	Iout (mA)	(W)
1CN 0505S	4.5	5.5	5	5	60			0.3
1CN 0512S	4.5	5.5	5	12	33			0.4
1CN 0515S	4.5	5.5	5	15	26			0.4
1CN 1205S	10.8	13.2	12	5	80			0.4
1CN 1212S	10.8	13.2	12	12	41			0.5
1CN 1215S	10.8	13.2	12	15	33			0.5
1CN 2405S	21.6	26.4	24	5	80			0.4
1CN 2412S	21.6	26.4	24	12	41			0.5
1CN 2415S	21.6	26.4	24	15	33			0.5
1CS 0505D	4.5	5.5	5	5	50	5	50	0.5
1CS 0512D	4.5	5.5	5	12	30	12	30	0.72
1CS 0515D	4.5	5.5	5	15	25	15	25	0.75
1CS 1205D	10.8	13.2	12	5	50	5	50	0.5
1CS 1212D	10.8	13.2	12	12	30	12	30	0.72
1CS 1215D	10.8	13.2	12	15	25	15	25	0.75
1CS 2405D	21.6	26.4	24	5	50	5	50	0.5
1CS 2412D	21.6	26.4	24	12	30	12	30	0.72
1CS 2415D	21.6	26.4	24	15	25	15	25	0.75

EMC curve



Derating curve



Electrical specifications

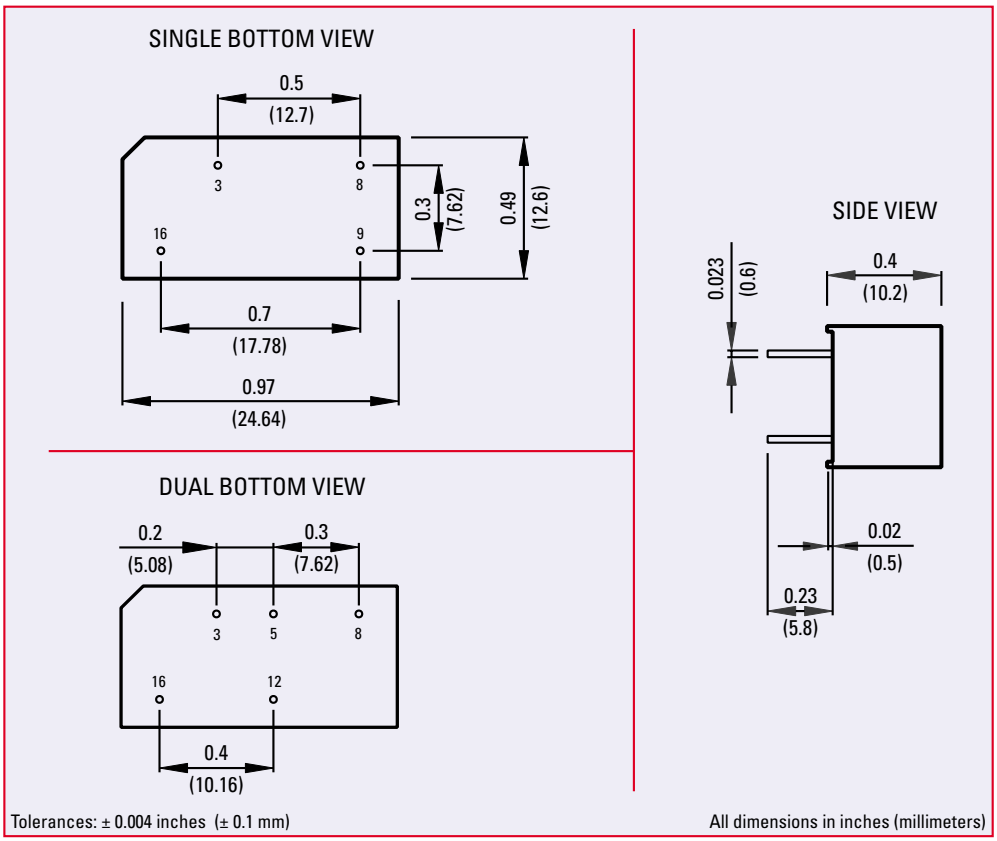
Parameters	Conditions		Single	Dual	Single	Dual	Single	Dual
Nominal input voltage	Tc = - 25 to + 90°C		5 V		12 V		24 V	
Input voltage range	Iout = 0 to 100 %		4.5 to 5.5 V		10.8 to 13.2 V		21.6 to 26.4 V	
Input over voltage	Time period = 0.1 s		10 V		20 V		32 V	
No load input current	Vin nom.		30 mA		15 mA		8 mA	
Input current max.	Vin min.;	5 V	170 mA		70 mA		35 mA	
	Iout max.	12 V/15 V	240 mA		90 mA		45 mA	
Input filter			Capacitor					
Output voltage accuracy	Vin nom.;	5 V	± 10 %					
	Iout nom.	12 V/15 V	± 5 %					
Load regulation	50 to 100 % of Iout	5 V	+ 10 to 0 %					
		12 V	+ 6 to 0 %					
		15 V	+ 4 to 0 %					
Line regulation	Vin min. to Vin max.		1.2 % of Vout/1 % of Vin					
Limitation range	Vout - 4 %		180 % of Iout					
Output ripple peak to peak	BW = 20 MHz	5 V	60 mV					
		12 V	50 mV					
		15 V	40 mV					
Short-circuit protection			YES					
Efficiency	Vin nom.; Iout nom.	5 V	60 %		65 %			
		12 V	62 %		68 %			
		15 V	65 %		68 %			
Switching Frequency	Vin nom.; Iout nom.		60 kHz					
Isolation	1 Min.	In/Out	500 VDC					
Isolation resistance	500 VDC		> 10 GΩ					
I/O coupling capacitor	Tc = + 25°C; RH = 48 %		15 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		> 1 000 000 h					
Weight			5 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 ouput, 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 output
3	- Input
8	- Output
9	+ Output
16	+ Input

Pin	Dual output
3	- Input
5	- Output
8	Common
12	+ Output
16	+ Input



Tolerances: ± 0.004 inches (± 0.1 mm)

All dimensions in inches (millimeters)