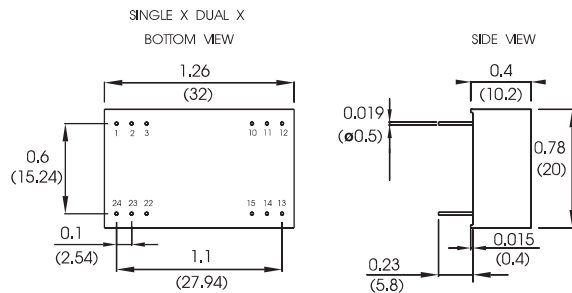
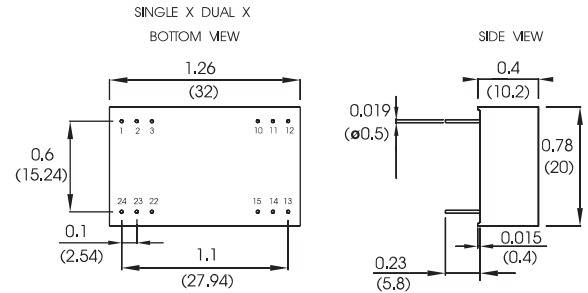


ISOLATED DC/DC CONVERTERS Regulated

2CCR 0.5/2 WATT



Tolerances : $\pm 0,004$ Inches (Tolerances : $\pm 0,1$ mm)
All dimensions in inches (millimeters)



Tolerances : $\pm 0,004$ Inches (Tolerances : $\pm 0,1$ mm)
All dimensions in inches (millimeters)

SINGLE X	
Pin	Single 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

DUAL X	
Pin	Dual 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

DUAL Y	
Pin	Dual 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 output are available in dual Y pinout, add the suffix Y, example : 2CCR0512DY.

MODEL	INPUT SPECIFICATIONS			OUTPUT SPECIFICATIONS				
	minimum	maximum	nominal	Vout +	Iout +	Vout -	Iout -	power
	(Vdc)	(Vdc)	(Vdc)	(Vdc)	(mA)	(Vdc)	(mA)	(W)
2 CCR 0505 SX	4,75	5,5	5	5	100			0,50
2 CCR 0512 SX	4,75	5,5	5	12	100			1,20
2 CCR 0515 SX	4,75	5,5	5	15	100			1,50
2 CCR 1205 SX	10,8	13,2	12	5	100			0,50
2 CCR 1212 SX	10,8	13,2	12	12	100			1,20
2 CCR 1215 SX	10,8	13,2	12	15	100			1,50
2 CCR 2405 SX	21,6	26,4	24	5	100			0,50
2 CCR 2412 SX	21,6	26,4	24	12	100			1,20
2 CCR 2415 SX	21,6	26,4	24	15	100			1,50
2 CCR 0505 DX	4,75	5,5	5	5	90	5	90	0,90
2 CCR 0512 DX	4,75	5,5	5	12	80	12	80	1,92
2 CCR 0515 DX	4,75	5,5	5	15	65	15	65	1,95
2 CCR 1205 DX	10,8	13,2	12	5	90	5	90	0,90
2 CCR 1212 DX	10,8	13,2	12	12	80	12	80	1,92
2 CCR 1215 DX	10,8	13,2	12	15	65	15	65	1,95
2 CCR 2405 DX	21,6	26,4	24	5	90	5	90	0,90
2 CCR 2412 DX	21,6	26,4	24	12	80	12	80	1,92
2 CCR 2415 DX	21,6	26,4	24	15	65	15	65	1,95

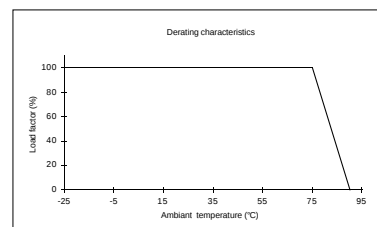
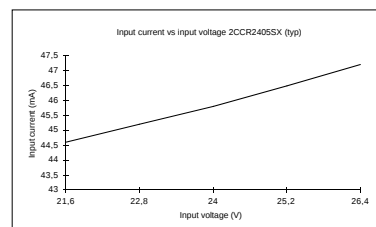
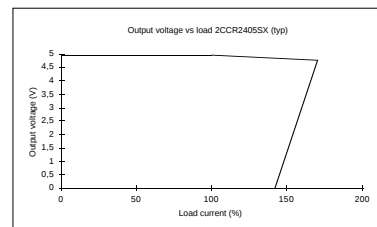
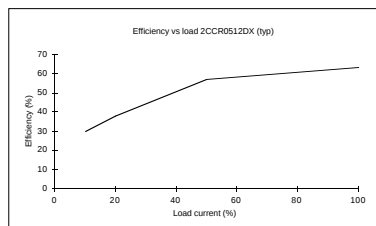
- NOTE 1 : These converters operate without any external components. However, in low noise applications it is commended that a low ESR capacitor be placed across the output or the input pins.
- Conducted noise filtering to EN 55022-B, VDE0871-B may be accomplished by putting an external capacitor. For more information, please contact 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.
- 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 I_{in} max is recommended.

ETRI 2CCR DC/DC Converters

0.5/2W

PARAMETERS	CONDITIONS	3 CCR			3 DCR		
Input voltage	Tc = - 40 °C to + 90 °C	5 V	12 V	24 V	5 V	12 V	24 V
Input voltage range	Iout=0 % to 100 %	4,75 V to 5,5 V	10,8 V to 13,2 V	21,6 V to 26,4 V	4,75 V to 5,5 V	10,8 V to 13,2 V	21,6 V to 26,4 V
Input over voltage	0,1secondMax.	10 V	20 V	32 V	10 V	20 V	32 V
No load input current	Iout=0 mA : Vin = Nom.	70 mA	40 mA	20 mA	70 mA	40 mA	20 mA
Output voltage	Iout=100 % : Vin = Nom.	5 V			5 V		
Output current (Single)	Vin=Min. to Max.	300 mA			500 mA		
Output current (Dual)	Tc = - 40 °C to + 90 °C						
Input current Max.	Vin=Min. : Iout=Max.	600 mA	230 mA	120 mA	900 mA	350 mA	180 mA
Efficiency	Vin=Nom. : Iout=Max.	50 %	55 %		55 %	60 %	
Output voltage accuracy	Vin=Nom. : Iout=Max.	±5 %			±5 %		
Load regulation (Iout=50 % to 100 %)	Vin=Nom.	1 %	0,5 %		1 %	0,5 %	
Line regulation (Vin=Min. to Max.)	Iout=Max.	±0,5 %	± 0,25 %		±0,5 %	± 0,25 %	
Limitation range (Vin=Min. to Max.)	Vout= Vout - 4 %	180 % of Iout Max.					
Output ripple peak to peak	BW= 10 Hz to 20 MHz	50 mV					
Input filter (see note 1)		PI filter					
Temperature coefficient	Tc = - 40 °C to + 90 °C	≤ 0,02 % per °C between - 25 °C to + 70 °C					
Input / Output isolation	1Minute	500 Vdc					
Isolation resistance	Vtest= 500 VDC	>10 Gohm					
Input / Output coupling capacitor	Rh= 48 % : Tc= 25 °C	100 pF at 100 KHz					
Switching frequency	Vin=Nom. : Iout=Max.	30 KHz					
Operating temperature range	Ta:	- 25 °C to + 70 °C					
Storage temperature	Ts:	- 40 °C to + 105 °C					
Maximum package temperature	Tc:	+ 90 °C					
MTBF : MIL-HDBK-217, Rev E	Ground bening, Ta= 25 °C	> 1 000 000 h					
Weight	Gr	15 Gr					

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