

Non-insulation, 8-pin DIP type

TDK DC-DC Converter

# CRX SERIES

## SPECIFICATIONS AND STANDARDS

PART NO.		CRX0505N	CRX0512P	CRX0512N	CRX0515P	CRX0515N
Maximum output power	W	0.25	0.3	0.3	0.3	0.3
<b>INPUT CONDITIONS</b>						
Input voltage E <sub>dc</sub>	V	+4.5 to +5.5(+5typ.)				
Efficiency(typ.) <sup>*1</sup>	%	70	75	70	75	70
<b>OUTPUT CHARACTERISTICS AND OTHERS</b>						
Output voltage E <sub>dc</sub>	V	-5	+12	-12	+15	-15
Maximum output current	mA	50	25	25	20	20
Output voltage setting deviation(max.)	V	±0.4	±0.5	±0.5	±0.6	±0.6
Voltage stability	Input variation	%	2	2	2	3
	Load variation <sup>*2</sup>	%	2	2	2	2
	Temperature variation <sup>*3</sup>	%	5	4	7	4
Ripple E <sub>p-p</sub> (typ.) <sup>*4</sup>	mV	100	100	100	100	100
Output capacitor C <sub>o</sub>	μF	33	10	10	10	10

<sup>\*1</sup> Typical input voltage, maximum output current.

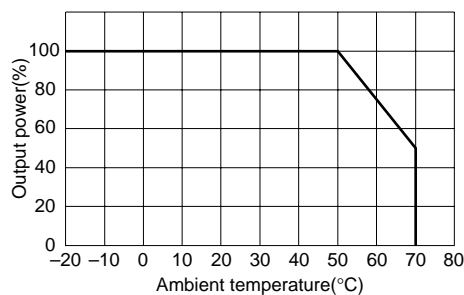
<sup>\*2</sup> The value for the variation of 10 to 100% rated output current.

<sup>\*3</sup> The value when the temperature is changed from 0 to +50°C for the rated input and output.

<sup>\*4</sup> The value when the proper tantalum capacitor is connected to the output side.

## OUTPUT POWER - AMBIENT TEMPERATURE(DERATING)

Derating is necessary when ambient temperature exceeds 50°C.

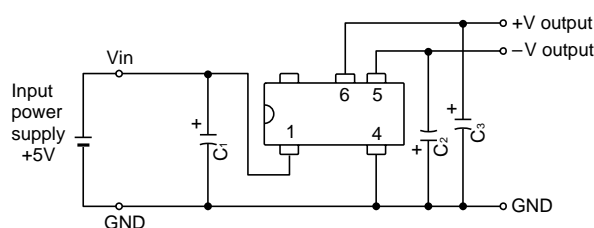


## PACKAGING STYLE AND QUANTITY

- Exclusive magazine for DC to DC converter's packaging (40 pieces/magazine)

## PRECAUTIONS

- Parallel operation to increase output current is not possible.
- Input fuse**  
A 0.15A fuse should be connected to the input.
- Wiring between the input power supply and the converter should be short so as to reduce impedance as much as possible. However, if the input line impedance is high, installation of an input capacitor is recommended.
- Soldering conditions**  
Dipping: 260±5°C, 10s
- Cleaning conditions**  
Solvent: IPA
- Install the components according to the diagram shown below.



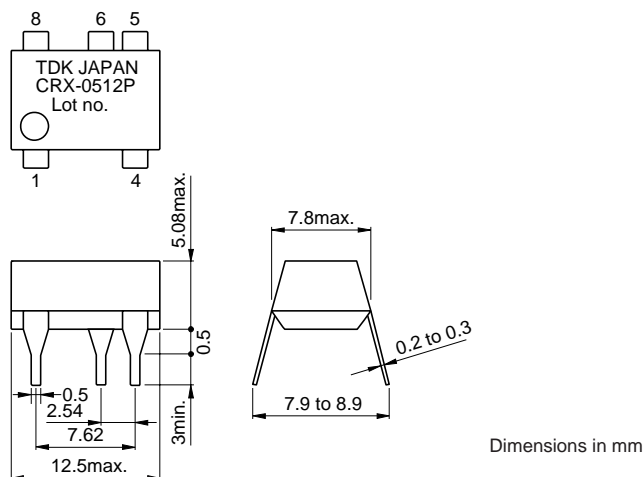
C<sub>1</sub>:16V,33μF  
C<sub>2</sub>,C<sub>3</sub>:16V,33μF(V<sub>o</sub>=5V)  
25V,10μF(V<sub>o</sub>>5V)

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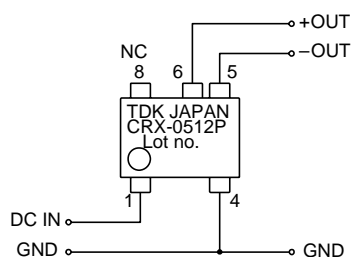
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## SHAPES AND DIMENSIONS



## CIRCUIT DIAGRAM



### Terminal connection

No.1	Vin(+5V input)
No.4	GND
No.6	-V output(Not connected when +V output, NC)
No.6	+V output(Not connected when -V output, NC)
No.8	NC

Oscillating method: Astable frequency method

Oscillating frequency: Approx. 250kHz(100% load) to approx.

1000kHz(no load)

MTTF: 206Fit(4800000h, 100% load)

## COMMON SPECIFICATIONS

### AUXILIARY FUNCTIONS

Overcurrent protection	No
Remote ON-OFF	No

### CONSTRUCTIONS

External dimensions	mm	12.5×5.08×7.8(W×H×D)
Weight	g	1

### TEMPERATURE AND HUMIDITY

Operating temperature range	°C	-20 to +70[Derating is necessary when operating environment temperature exceed 50°C.]
Storage temperature range	°C	-40 to +85
Operating humidity range	(%)RH	20 to 95[Maximum wet-bulb temperature: 38°C, without dewing]
Storage humidity range	(%)RH	20 to 95[Maximum wet-bulb temperature: 38°C, without dewing]