

Power Supplies

DC to DC Converters

Single/Multi Output, General-Purpose

CRZ Series

FEATURES

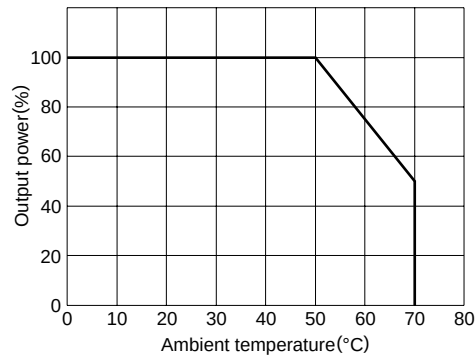
- DC to DC converter within a DIP type package.
- Built-in output smoothing capacitor avoids the need for an external capacitor(only C type).
- Can be mounted using automatic assembly equipment. Magazine packaging holds 25 units.

TEMPERATURE RANGES

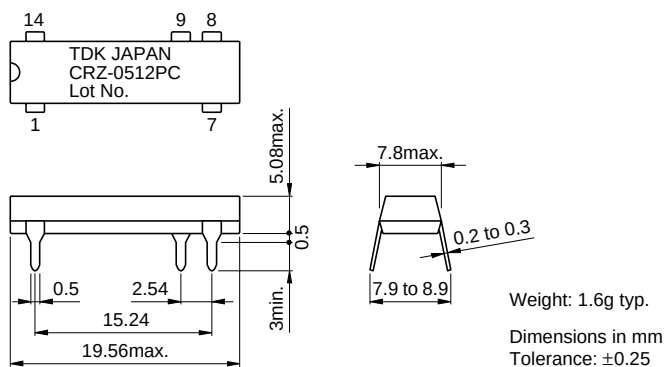
Operating	-20 to +70°C[With derating over 50°C]
Storage	-40 to +85°C

DERATINGS

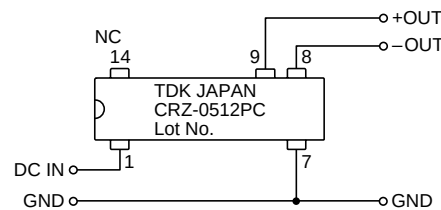
Derating is necessary when operating environment temperatures exceed 50°C.



SHAPES AND DIMENSIONS



CIRCUIT DIAGRAM



TERMINAL CONNECTIONS

No.1	+Vin
No.7	GND
No.8	-V output(not connected when +V output, NC)
No.9	+V output(not connected when -V output, NC)
No.14	NC

ELECTRICAL CHARACTERISTICS

BUILT-IN OUTPUT CAPACITOR

Part No.	Input voltage Edc(V)	Input current*1 (A)max.	Output voltage*1 (V)	Output current (mA)	Maximum output power (W)	Output voltage stability(%)max.			Efficiency (%)typ.	Output ripple Ep-p(mV)max.
						Input*2	Load*3	Temperature*4		
CRZ0305PC	+3.15±0.5%	0.25	+5±0.4	0 to 100	0.5	2	2	5	70	300
CRZ0312PC	+3.15±0.5%	0.25	+12±0.5	0 to 42	0.5	2	2	4	70	300
CRZ0503PC	+5±10%	0.17	+3±0.3	0 to 200	0.6	2	2	3	75	150
CRZ0505NC	+5±10%	0.17	-5±0.4	0 to 100	0.5	2	2	5	65	300
CRZ0512PC	+5±10%	0.17	+12±0.5	0 to 50	0.6	2	2	4	75	300
CRZ0512NC	+5±10%	0.2	-12±0.5	0 to 50	0.6	3	2	7	65	300
CRZ0515PC	+5±10%	0.17	+15±0.6	0 to 40	0.6	2	2	4	75	300
CRZ0515NC	+5±10%	0.2	-15±0.6	0 to 40	0.6	3	2	7	65	300
CRZ0524NC	+5±10%	0.2	-24±0.8	0 to 25	0.6	2	2	4	70	500
CRZ0512WC	+5±10%	0.11	±12±0.6	0 to 10	0.24	2	2	4	65	300
CRZ0515WC	+5±10%	0.11	±15±0.7	0 to 8	0.24	2	2	4	65	300

*1 Input current and output voltage shall be the rated input and output values at 25°C.

*2 Input variation shall be the value for the variations of 3.15V±0.5% and 5V±10% input voltage.

*3 Load variation shall be the value for the variation of 10 to 100% rated output current(However, it is assumed that the load variation of 2 outputs simultaneously occurred for 2-output type).

*4 Temperature variation shall be the value when the temperature is changed from 0 to +50°C for the rated input and output.

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ELECTRICAL CHARACTERISTICS

NOT BUILT-IN OUTPUT CAPACITOR

Part No.	Input voltage E _{dc} (V)	Input current*1 (A)max.	Output voltage*1 (V)	Output current (mA)	Maximum output power (W)	Output voltage stability(%)max.			Efficiency (%)typ.	Output ripple*5 E _{p-p} (mV)max.
						Input*2	Load*3	Temperature*4		
CRZ0505N	+5±10%	0.17	-5±0.4	0 to 100	0.5	2	2	5	65	200
CRZ0512P	+5±10%	0.17	+12±0.5	0 to 50	0.6	2	2	4	75	200
CRZ0512N	+5±10%	0.2	-12±0.5	0 to 50	0.6	3	2	7	65	200
CRZ0515P	+5±10%	0.17	+15±0.6	0 to 40	0.6	2	2	4	75	200
CRZ0515N	+5±10%	0.2	-15±0.6	0 to 40	0.6	3	2	7	65	200
CRZ0524N	+5±10%	0.2	-24±0.8	0 to 25	0.6	2	2	4	70	300
CRZ0512W	+5±10%	0.11	±12±0.6	0 to 10	0.24	2	2	4	65	200
CRZ0515W	+5±10%	0.11	±15±0.7	0 to 8	0.24	2	2	4	65	200

*1 Input current and output voltage shall be the rated input and output values at 25°C.

*2 Input variation shall be the value for the variation of 5V±10% input voltage.

*3 Load variation shall be the value for the variation of 10 to 100% rated output current(However, it is assumed that the load variation of 2 outputs simultaneously occurred for 2-output type).

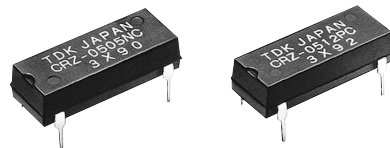
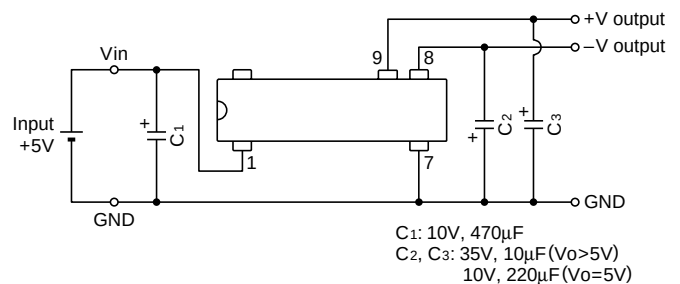
*4 Temperature variation shall be the value when the temperature is changed from 0 to +50°C for the rated input and output.

*5 The value when the external capacitor(5V output item: 220μF, 12V and 15V items: 10μF) is connected to the output side.

PRECAUTIONS

- Only P type converter has a built-in output capacitor. Therefore if an external capacitor is used, the capacitance should be less than 10μF.
- Parallel operation to increase output current is not possible.
- 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 in order to reduce input terminal ripple voltage.
- Input fuse
A 0.25A fuse should be connected to the input.
- An output capacitor must be installed for converters that do not include a built-in output capacitor.
- Soldering condition
Dipping: 260±5°C, 10s
- Cleaning condition
Solvent: IPA

CAPACITOR CIRCUIT DIAGRAM



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