NIPPON CHEMI-CON

The Next-Generation Decoupling Device for Power Integrity.

Proadlizer®

Proadlizer is a decoupling device that can simply solve needs
for "High-speed transient response" and "Noise reduction".

What is Proadlizer?
Materials Construction
Proposal of Proadlizer Design
Summary For use
Catalog

What is Proadlizer?

Proadlizer is a decoupling device for Power Integrity that can simply solve needs for "High-speed transient response" and "Noise reduction".

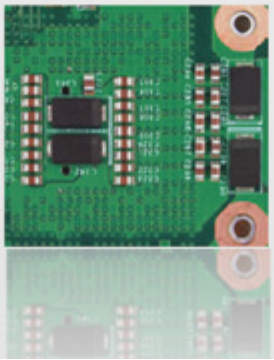
Proadlizer®

Prompt **Broadband** **Stabilizer**

Proadlizer is a next generation decoupling device that can supply current rapidly and has excellent noise absorption from kHz to GHz.
It has more flat and low impedance characteristics than the conventional decoupling devices such as aluminum electrolytic capacitors and ceramic capacitors.
As a fact, Proadlizer can reduce a great number of capacitors used and miniaturize substrate space, as well as significantly reduce radiation noise.

If there are problems regarding higher speed CPU such as radiation noise, increasing number of capacitors used, and complicated circuit designs etc….
Our Proadlizer WR series will propose a new solution for digital equipments and the next generation network equipments

Capacitor: 39pcs.



Conductive Polymer Cap.
220uFx4pcs.

MLCC
10uFx35pcs.

Proadlizer: 1pc.

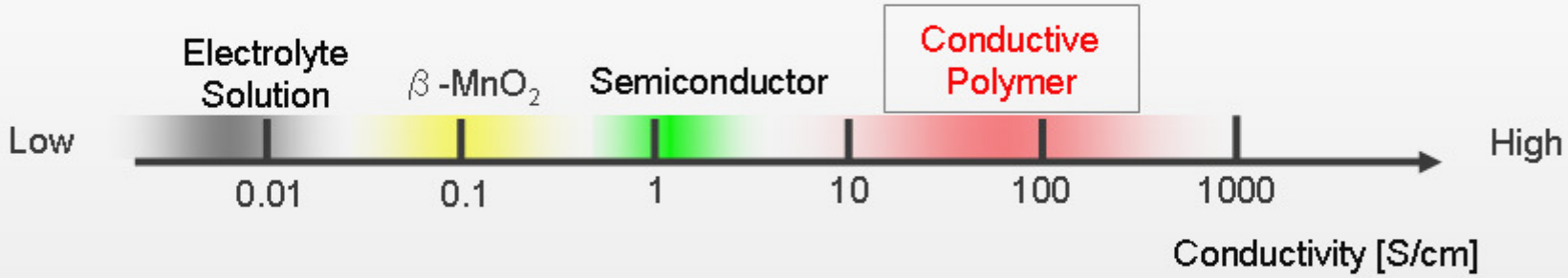
Proadlizer
1,000uFx1pc.

Materials Construction

Proadlizer is an aluminum solid electrolytic capacitor
that adopted "Conductive polymer" electrolyte.
It succeeded in drawing out an excellent characteristic by adopting
the laminated structure and the face down / three terminals electrode structure.

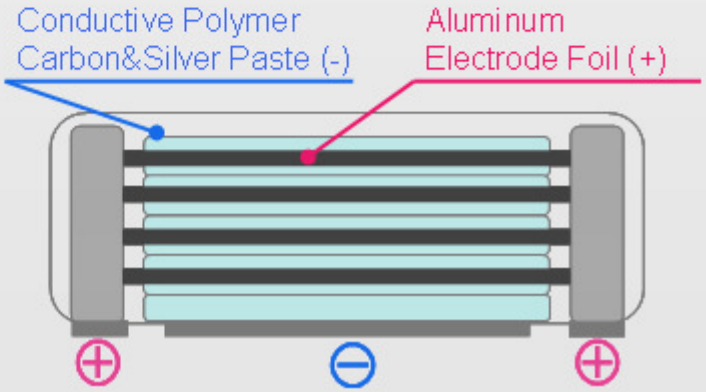
Materials

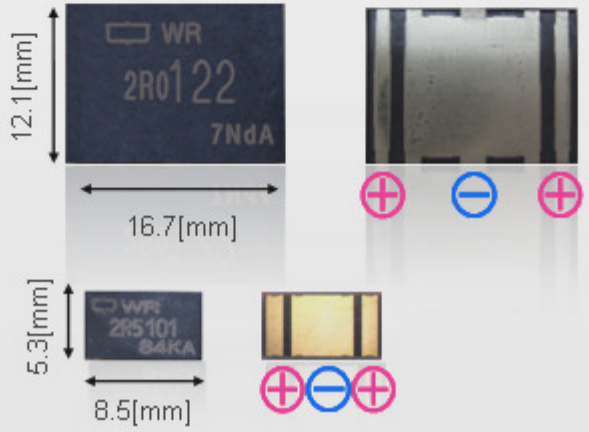
Super low ESR, impedance and high heat resistance have been obtained by using conductive polymer electrolyte.



Construction

Low ESL has been obtained by adopting the laminated structure and the face down / three terminals electrode structure.





Proposal of Proadlizer Design

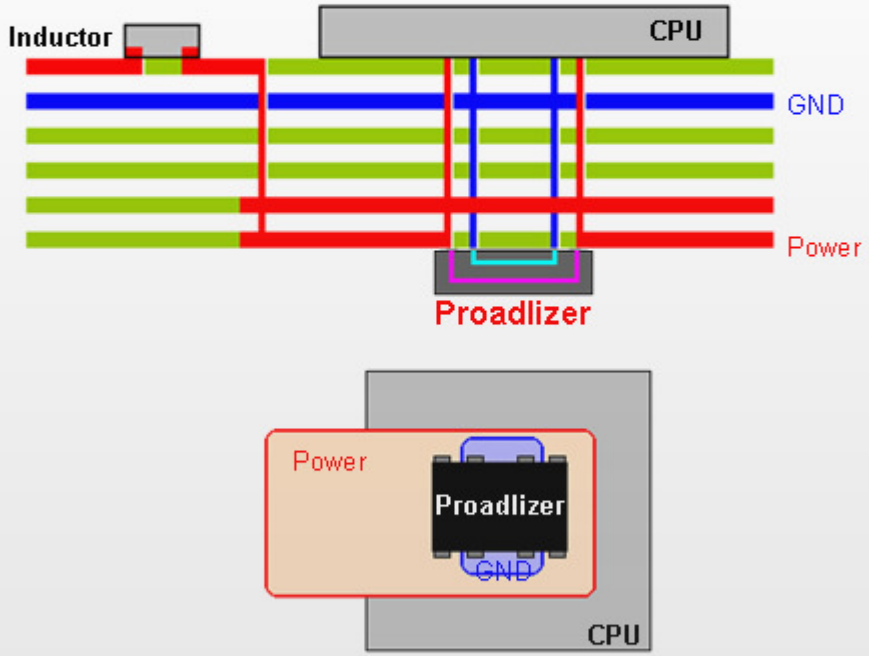
We will propose two kinds of circuit design.

For high-speed transient response. ⇒ "Decoupling Circuit Design"

For high-frequency noise reduction. ⇒ "Filtering Circuit Design"

Decoupling Circuit Design

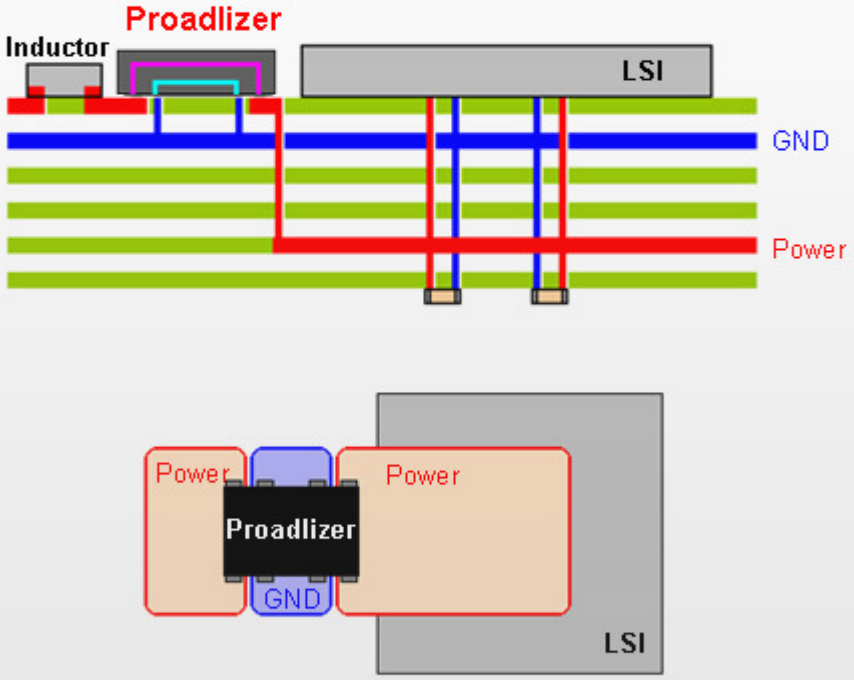
This circuit design is for high-speed transient response.



- Efficient power supply will be available by mounting close to CPU.
- The number of decoupling capacitors and the mounting area can be greatly reduced.
- This circuit design is best for Laptop PC decoupling.

Filtering Circuit Design

This circuit design is for high-frequency noise reduction.

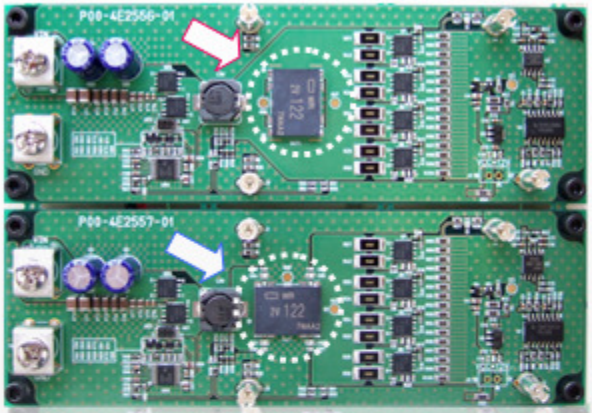


- Proadlizer is used as a "Feed-Through Capacitor".
- The power supply noise generated from LSI will be blocked.
- Able to reduce efficiency noise.

・ Evaluation of Voltage Drops & Voltage Ripples for
"Decoupling Circuit Design" and "Filtering Circuit Design"
(*F25case 2V1200uF)

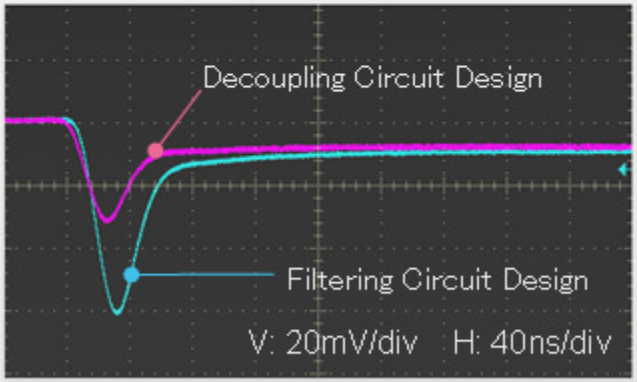
Decoupling Circuit Design

Filtering Circuit Design



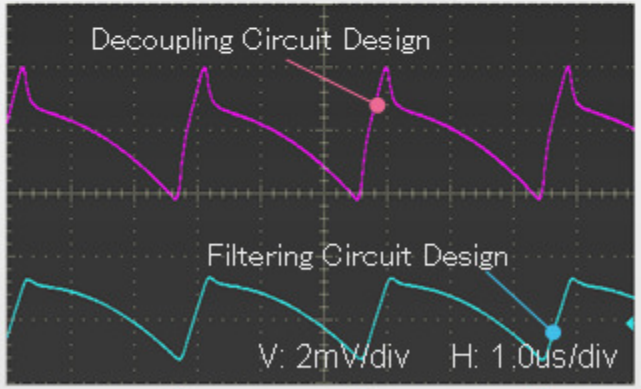
Measurement Condition
- SW Regulator :DC/DC Buck Type
- SW Frequency :330kHz
- Input/Output Voltage :12V/1.8V
- Current :2A (Static) / 2A⇒8.5A (Dynamic)
- Current Slew Rate :200A/us

IR Drops



"Decoupling Circuit Design"
⇒Small Voltage Drop.
For high-speed transient response.

Voltage Ripples

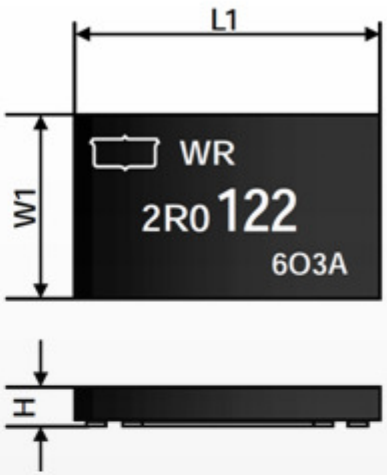


"Filtering Circuit Design"
⇒Small Voltage Ripple.
(Small Radiation Noise)
For high-frequency noise reduction.

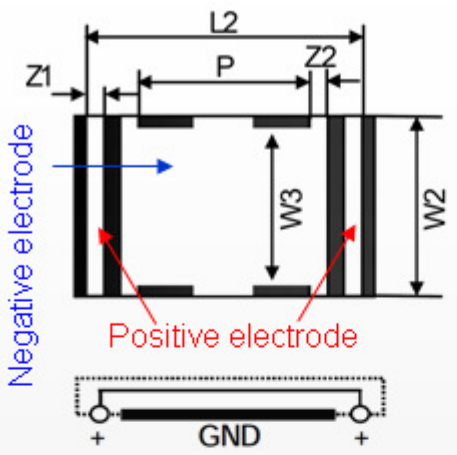
Summery
For use

Dimensions [mm]

Top view

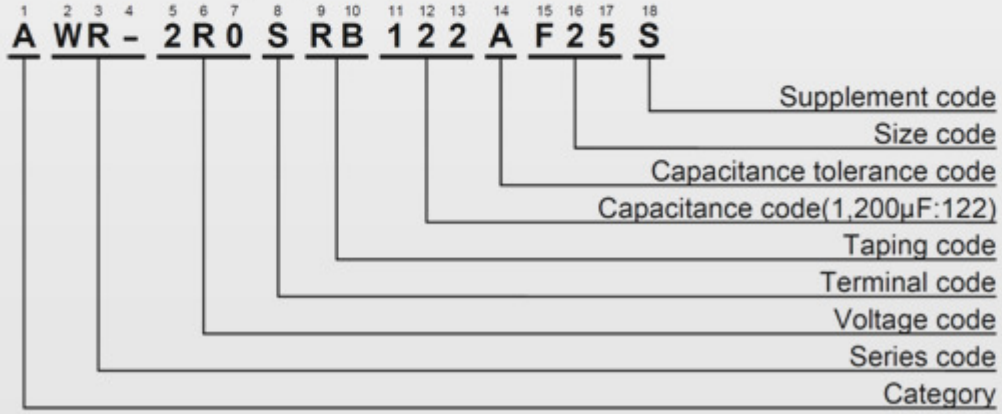


Bottom view

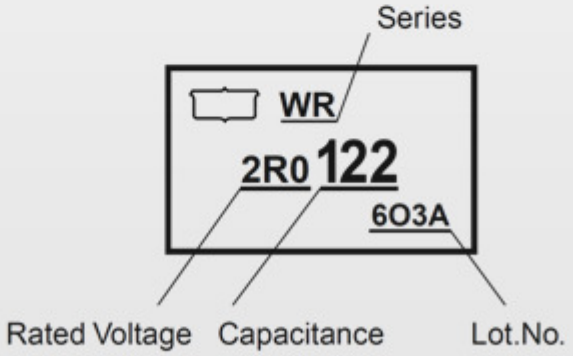


Size Code	L1	L2	W1	W2	W3	H	Z1	Z2	P
F25	16.7±0.2	15.3±0.2	12.1±0.2	11.9±0.2	10.7±0.2	2.5以下	1.0±0.2	1.2±0.2	8.0±0.2
E20	8.5±0.2	8.2±0.2	5.3±0.2	5.7±0.2	-	2.0以下	1.2±0.2	-	3.6±0.2

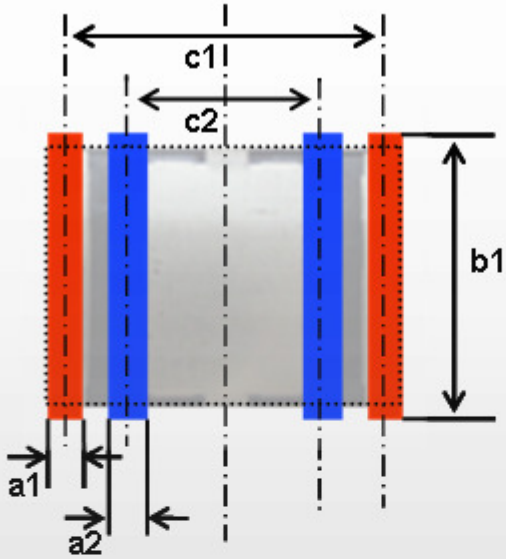
Part Numbering System



Printing



Recommended Solder Land [mm]



- Recommended solder Land is as below.

: (+) Anode Solder Land

: (-) Cathode Solder Land

: Proadlizer

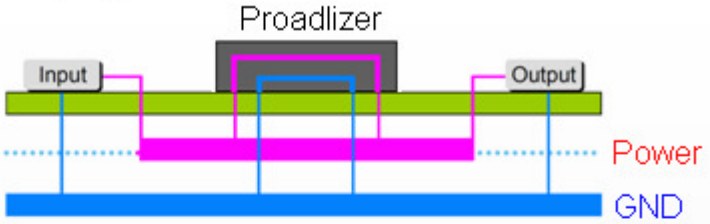
Size Code	a1	a2	b1	c1	c2
F25	1.6	1.8	14.2	14.8	8.4
E20	1.3	1.0	6.0	7.1	3.6

Standard Ratings

Rated Voltage [Vdc]	Capacitance 20℃120Hz [uF]	Size Code	tan δ 20℃120Hz	L.C. WV 5min [uA]	ESR 20℃100kHz [mΩ max]	Part No.
2	1,000	F25	0.1	300	2	AWR-2R0SRB102MF25S
2	1,200	F25	0.1	300	2	AWR-2R0SRB122AF25S
2.5	33	E20	0.05	42	50	AWR-2R5SRB330ME20P
2.5	100	E20	0.05	125	30	AWR-2R5SRB101ME20P
4	22	E20	0.05	44	50	AWR-4R0SRB220ME20P
4	47	E20	0.05	94	30	AWR-4R0SRB470ME20P

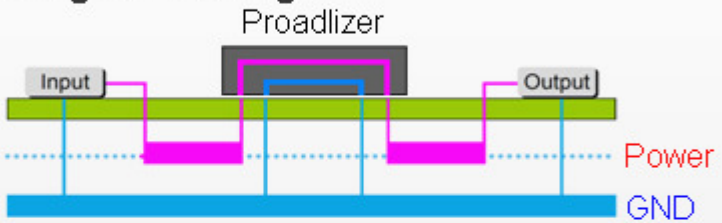
Note

○ Decoupling Circuit Design



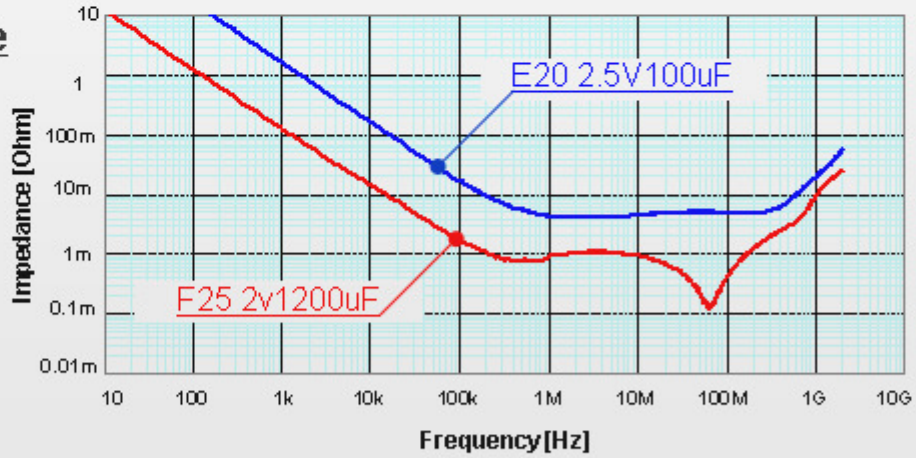
- Effective "Decoupling" performance is obtained by not separating input and output of the Power layer.
- This circuit design is for high-speed transient response.

○ Filtering Circuit Design



- Effective "Filtering" performance is obtained by separating input and output of the Power layer.
  (Proadlizer is used as a "Feed-Through Capacitor")
- This circuit design is for high-frequency noise reduction.

Performance



*The characteristics are measured by Vector Network Analyzer.
(The value is derived from S21.)

*The characteristics are directly measured on Proadlizer devices without substrate.

Contact

Technical Inquiries: Kimito Matsuo
Integrated Passive Components Department, Sales Headquarters, Nippon Chemi-Con Corporation
6-4, Osaki 5-Chome Shinagawa-ku, Tokyo 141-8605, Japan
E-mail: ipc-tec@nippon.chemi-con.co.jp
Tel: +81-3-5436-7758 / FAX: +81-3-5436-7498