



# AC/DC Power Supplies DC/DC Converters

2021 Product Portfolio



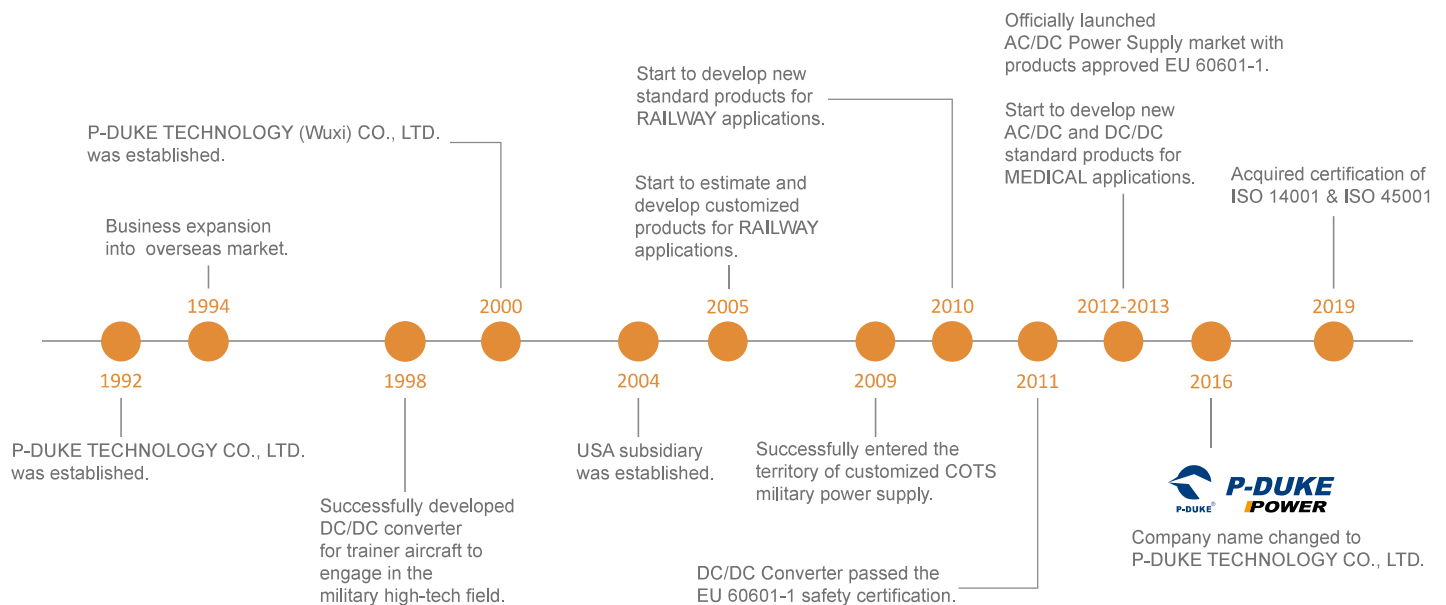
## COMPANY PROFILE

Founded in 1992, P-DUKE 100% concentrated on the research, development, production, sales and service of DC/DC Converters and related products. With products sold under our own brand name, P-DUKE to Europe, America, and Japan, we accumulate great skills through years of experience and open up better product awareness which leads to further cooperation with world-famous companies, making P-DUKE an important role in the global market.



Through multiple methods, P-DUKE keeps following up the ever-changing pulse of power industry, and performs our 3S commitments to the highest. We provide a full range of product line, from standard types to customized products. Even the application engineering service of the final product systems is also our forte. What we have and what we do is exactly what you need, and this is why P-DUKE makes an irreplaceable role among customers and partners.

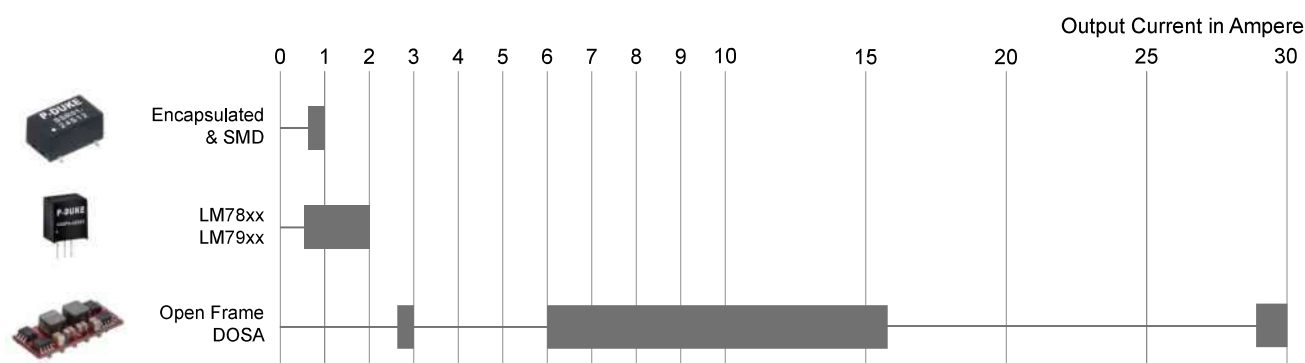
We expand our own brand, P-DUKE through various marketing channels to construct a worldwide network. Apart from stabilizing the existing markets, P-DUKE operates strategy management on Niche markets by changing from distribution to local direct selling. With the faith we hold, "Global Logistic, Local Management", we'll keep pushing new innovations toward power modules and therefore creating a full range of product line.



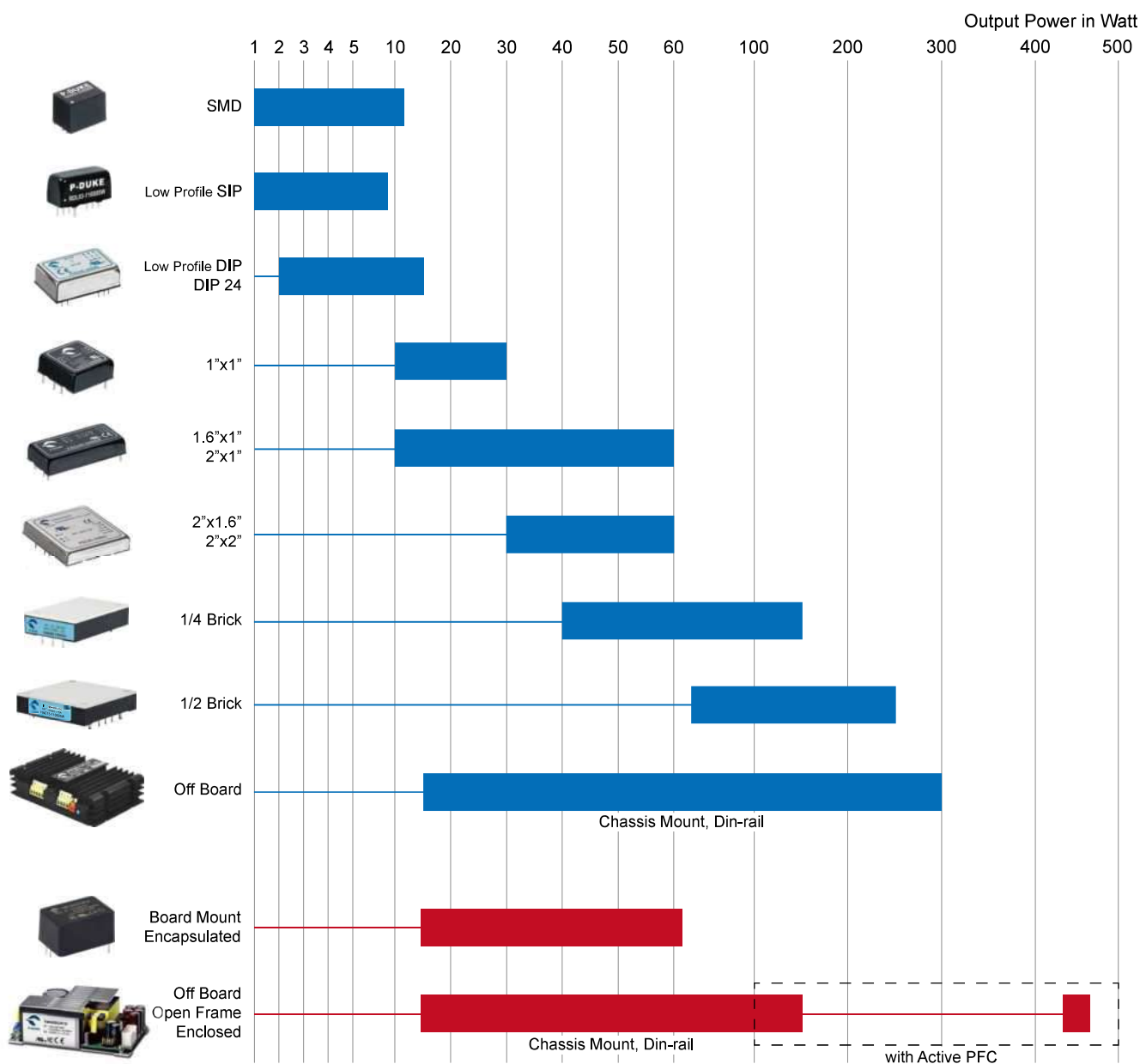
P-DUKE has engaged in developing DC/DC converters for 30 years, with abundant experience and knowledge, we can support our customers for providing the best solution to the application according to different requirements. It is important for AC/DC and DC/DC possessing high reliability and longevity as they always stand an important position in a system. Base on that, P-DUKE devotes to quality of each product as well as customer service in order to bring enormous benefit to our customers.



## Non-isolated DC/DC



## Isolated DC/DC



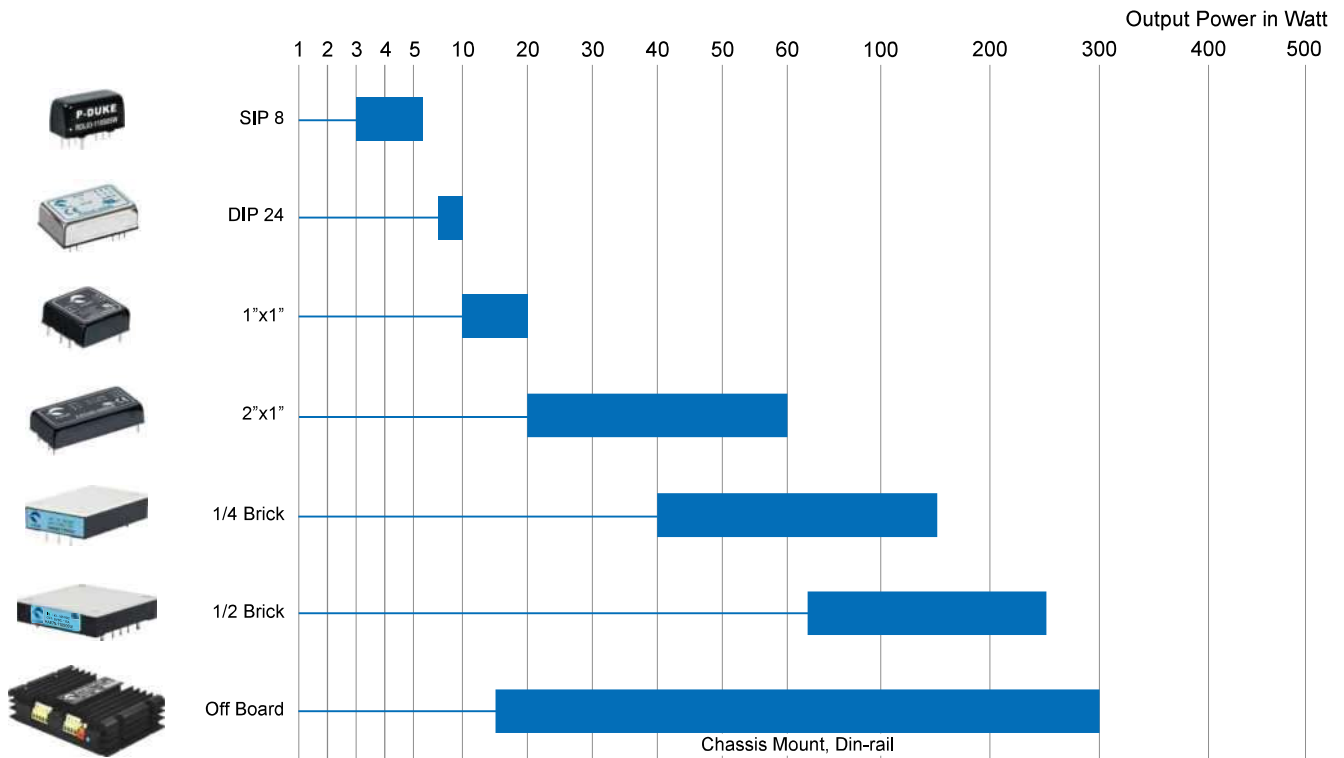


# RAILWAY



IEC 62368-1 | EN 50155 : 2017 | EN 45545-2 | EN 61373

Isolated DC/DC

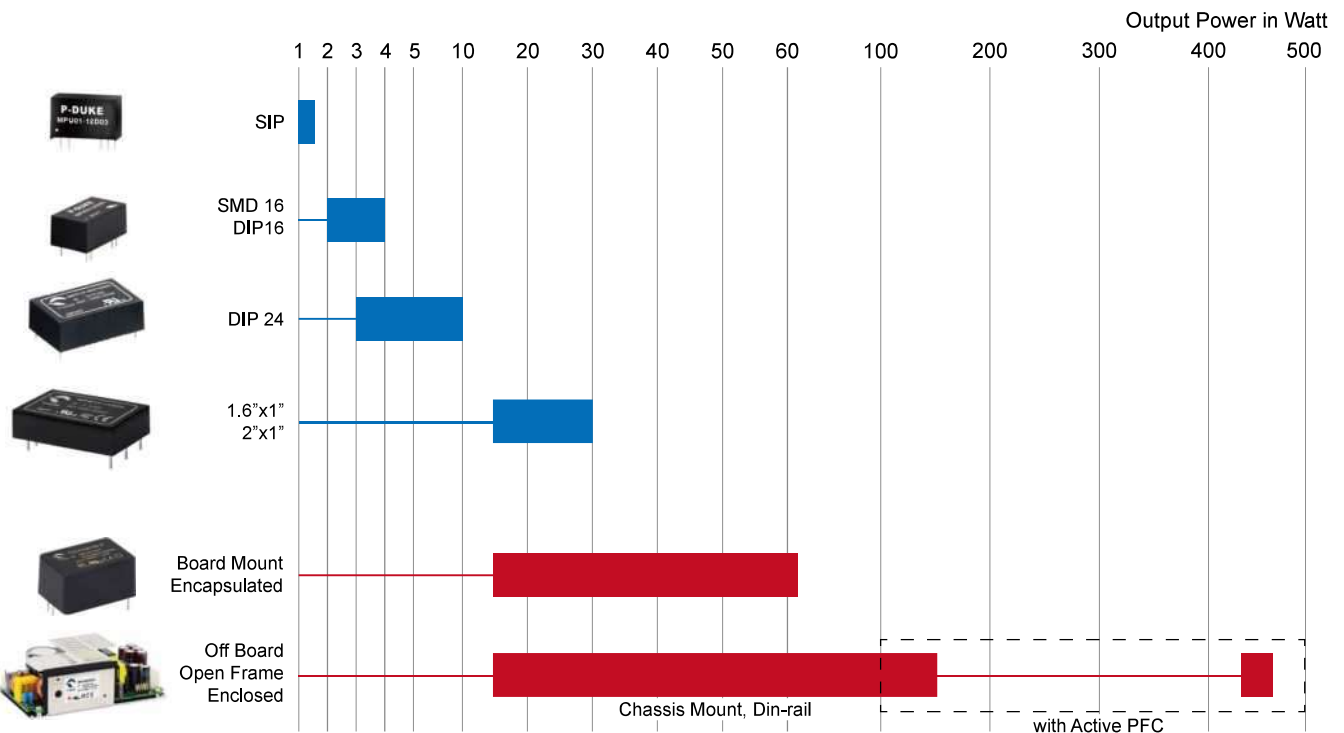


# MEDICAL



IEC 62368-1 | IEC 60601-1 Edition 3.1 | IEC 60601-1-2 4th Edition | ISO 13485 | ISO 14971

Isolated DC/DC



AC/DC



## AC/DC POWER SUPPLIES

| Series                                                                             |                             | Output Power (W) | Input Voltage (VAC) | Output Voltage (VDC)                                                                                                                                                 | Eff. (%) | Isolation Voltage | Dimensions (Inch)                          |
|------------------------------------------------------------------------------------|-----------------------------|------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------------|--------------------------------------------|
|    | TSC15                       | 15               | 85 - 264            | 3.3, 5, 7.5, 9, 12, 15, 18, 24, 28, 36, 48, 53                                                                                                                       | 89       | 3000 VAC          | Encapsulated<br>1.14 x 2.82 x 0.82         |
|                                                                                    | TSD30                       | 30               |                     |                                                                                                                                                                      | 91.5     |                   | Encapsulated<br>1.50 x 3.95 x 1.00         |
|    | TSD40                       | 40               |                     | 5, 7.5, 9, 12, 15, 18, 24, 28, 36, 48, 53                                                                                                                            | 93       |                   | Encapsulated<br>2.20 x 4.30 x 1.20         |
|                                                                                    | TSD65                       | 65               |                     |                                                                                                                                                                      | 93.5     |                   |                                            |
|    | TAC15                       | 15               |                     | 3.3, 5, 7.5, 9, 12, 15, 18, 24, 28, 36, 48, 53                                                                                                                       | 89       |                   | Open Frame<br>1.00 x 2.61 x 0.62           |
|                                                                                    | TAD30<br>N TAD30-P          | 30               |                     |                                                                                                                                                                      | 91.5     |                   | Open Frame<br>1.36 x 3.34 x 0.77           |
|    | TAD40 Single ●              | 40               |                     | 5, 7.5, 9, 12, 15, 18, 24, 28, 36, 48, 53                                                                                                                            | 93       |                   | Open Frame/ Enclosed<br>2.00 x 3.00 x 0.94 |
|                                                                                    | TAD65 Single ●<br>N TAD65-P | 65               |                     |                                                                                                                                                                      | 93.5     |                   |                                            |
|    | TAD40 Multi ●               | 40               |                     | 5/ 3.3, 12/ 5, 12/ 3.3, 15/ 5, 24/ 5, 28/ 5, 5/ 3.3/ -5, 5/ 3.3/ 12, 5/ 3.3/ -12, 12/ 5/ -5, 12/ 5/ -12, 12/ 3.3/ 5, 12/ 3.3/ -12, 15/ 5/ -15, 24/ 5/ 12, 24/ 5/ -12 | 90       |                   | Open Frame/ Enclosed<br>2.00 x 3.50 x 0.98 |
|                                                                                    | TAD65 Multi ●               | 65               |                     |                                                                                                                                                                      | 90.5     |                   |                                            |
|   | TAD100                      | 100              |                     | 12, 15, 24, 28, 36, 48                                                                                                                                               | 92       |                   | Open Frame/ Enclosed<br>2.00 x 3.00 x 1.16 |
|                                                                                    | N TAD125                    | 125              |                     |                                                                                                                                                                      | 92       |                   |                                            |
|  | TAF150                      | 150              |                     | 12, 15, 24, 28, 36, 48                                                                                                                                               | 92       |                   | Open Frame/ Enclosed<br>2.00 x 4.00 x 1.16 |
|                                                                                    | TAH450                      | 450              |                     | 12, 15, 24, 28, 36, 48, 53                                                                                                                                           | 94       |                   | Open Frame/ Enclosed<br>3.00 x 5.00 x 1.58 |

## NON-ISOLATED DC/DC CONVERTERS

| Series                                                                              |                | Output Current (A) | Input Voltage (VDC)   | Output Voltage (VDC)                                                                    | Eff. (%) | Isolation Voltage | Dimensions (Inch)               |
|-------------------------------------------------------------------------------------|----------------|--------------------|-----------------------|-----------------------------------------------------------------------------------------|----------|-------------------|---------------------------------|
|  | N HSRP6        | 0.6                | 9 - 72                | 3.3, 5, 6.5, 9, 12, 15, 24                                                              | 94       | None              | LM78xx<br>0.47 x 0.34 x 0.53    |
|                                                                                     | N HSR01        | 1                  |                       |                                                                                         | 93       |                   | LM78xx<br>0.48 x 0.34 x 0.69    |
|  | ASR01          | 1                  | -7 - -32              | -5, -5.2, -6, -8, -9, -12, -15                                                          | 96       |                   | LM79xx<br>0.46 x 0.30 x 0.65    |
|  | NSR01          | 1                  | 4.6 - 36              | 1.2, 1.5, 1.8, 2.5, 3, 3.3, 5, 6.5, 9, 12, 15<br>*negative output application available | 95.5     |                   | LM78xx<br>0.46 x 0.30 x 0.40    |
|                                                                                     | PSR1.0         | 1                  |                       | 1.2, 1.5, 1.8, 2.5, 3.3, 5, 6.5, 9, 12, 15                                              | 96       |                   |                                 |
|  | LSR01          | 1                  | 3.0 - 36              | 1.2, 1.5, 1.8, 2.5, 3.3, 5.0, 6.5, 9.0, 12, 15                                          | 96       |                   | SMD<br>0.60 x 0.37 x 0.30       |
|                                                                                     | SSR01          | 1                  |                       | 2.5, 3.3, 5, 9, 12, 15<br>*negative output application available                        | 95.5     |                   |                                 |
|  | PSR02          | 2                  | 2.5 - 30              | 1.2, 1.5, 1.8, 2.5, 3.3, 5, 6.5, 9, 12, 15                                              | 96       |                   | LM78xx<br>0.55 x 0.30 x 0.40    |
|  | OSR03          | 3                  |                       | 0.59 - 15<br>*negative output application available                                     | 95       |                   | SIP<br>0.37 x 0.24 x 0.61       |
|  | DOS06<br>DOH06 | 6                  | 2.4 - 5.5<br>8.3 - 14 | 0.75 - 5.0                                                                              | 94       |                   | SMD / SIP<br>0.80 x 0.45 x 0.25 |
|                                                                                     | DOS10<br>DOH10 | 10                 |                       |                                                                                         | 95       |                   |                                 |
|  | DOS16<br>DOH16 | 16                 | 4.5 - 14              | 0.8 - 5.5                                                                               | 95       |                   | SMD / SIP<br>1.30 x 0.53 x 0.30 |
|  | DOS30<br>DOH30 | 30                 |                       |                                                                                         | 93       |                   |                                 |

# ISOLATED DC/DC CONVERTERS

SMALL SIZE & LOW PROFILE PACKAGE | 1 - 9W

| Series                                                                                  | Output Power (W)    | Input Voltage (VDC)                 | Output Voltage (VDC)                     | Eff. (%) | Isolation Voltage    | Dimensions (Inch)               |
|-----------------------------------------------------------------------------------------|---------------------|-------------------------------------|------------------------------------------|----------|----------------------|---------------------------------|
|  EUR01 | 1                   | 3.3, 5, 12, 15, 24<br>* ±10%        | 3.3, 5, 9, 12, 15, 24<br>* Unregulated   | 81       | 3000 VDC<br>1600 VDC | SIP<br>0.45 x 0.24 x 0.39       |
|  DU1P0 | 1                   | 5, 12, 15, 24<br>* ±10%             | 5, 12, 15, ±5, ±12, ±15<br>* Unregulated | 82       | 3000 VDC<br>1600 VDC | SIP<br>0.77 x 0.24 x 0.40       |
|        | UDS/H01             | 1                                   | 3.3, 5, 9, 12, 15, 24, ±5, ±12, ±15      | 83       | 1600 VDC             | SMD / SIP<br>0.47 x 0.44 x 0.31 |
|                                                                                         | UDS/H02             | 2                                   |                                          | 84       |                      |                                 |
|                                                                                         | UDS/H03             | 3                                   |                                          | 84       |                      |                                 |
|        | SDS/H01<br>SDS/H01W | 1                                   | 3.3, 5, 9, 12, 15, 24, ±5, ±12, ±15      | 83       | 3000 VDC<br>1600 VDC | SMD / DIP<br>0.52 x 0.36 x 0.40 |
|                                                                                         | SDS/H02<br>SDS/H02W | 2                                   |                                          | 86       |                      |                                 |
|                                                                                         | SDS/H03W            | 3                                   |                                          | 84       |                      |                                 |
|                                                                                         | SDS/H05<br>SDS/H05W | 5                                   |                                          | 86       |                      |                                 |
|        | PDS/H02<br>PDS/H02W | 2                                   | 3.3, 5, 9, 12, 15, ±5, ±12, ±15          | 84       | 3000 VDC<br>1600 VDC | SMD / DIP<br>0.74 x 0.50 x 0.34 |
|                                                                                         | PDS/H03<br>PDS/H03W | 3                                   |                                          | 83       |                      |                                 |
|       | EDL02<br>EDL02W     | 2                                   | 3.3, 5, 9, 12, 15, 24 ±5, ±12, ±15       | 86       | 1600 VDC             | SIP<br>0.86 x 0.36 x 0.44       |
|                                                                                         | EDL03<br>EDL03W     | 3                                   |                                          |          |                      |                                 |
|                                                                                         | LDL03               | 3                                   | 3.3, 5, 9, 12, 15, 24, ±5, ±12, ±15      | 85       | 1600 VDC             |                                 |
|                                                                                         | PDL02               | 2                                   |                                          |          |                      |                                 |
|                                                                                         | PDL03<br>PDL03W     | 3                                   | 3.3, 5, 9, 12, 15, ±5, ±12, ±15          | 85       | 3000 VDC<br>1600 VDC |                                 |
|                                                                                         | PDL06<br>PDL06W     | 6                                   |                                          |          |                      |                                 |
|                                                                                         | PDL09<br>PDL09W     | 9                                   | 3.3, 5, 9, 12, 15, 24, ±5, ±12, ±15      | 90       | 1600 VDC             |                                 |
| RDL03W                                                                                  | 3                   | 3.3, 5, 9, 12, 15, 24, ±5, ±12, ±15 |                                          |          |                      | 83                              |
| RDL06W                                                                                  | 6                   |                                     | 87                                       |          |                      |                                 |

## DIP 24 PACKAGE | 3 - 15W

| Series                                                                                     | Output Power (W) | Input Voltage (VDC)                                                                                                            | Output Voltage (VDC)                                    | Eff. (%) | Isolation Voltage | Dimensions (Inch)                     |
|--------------------------------------------------------------------------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|----------|-------------------|---------------------------------------|
|  FKC03  | 3                | <div>2:1</div> <div>9 - 18    18 - 36</div> <div>36 - 75</div>                                                                 | 3.3, 5, 12, 15,<br>$\pm 5$ , $\pm 12$ , $\pm 15$        | 82       | 1600 VDC          | DIP 24 / SMD 24<br>1.25 x 0.80 x 0.40 |
|  FKC05  | 5                | <div>2:1</div> <div>9 - 18    18 - 36</div> <div>36 - 75</div> <div>4:1</div> <div>9 - 36    18 - 75</div>                     | 3.3, 5, 12, 15,<br>$\pm 5$ , $\pm 12$ , $\pm 15$        | 84       |                   |                                       |
|  FKC05W | 5                | <div>2:1</div> <div>9 - 18    18 - 36</div> <div>36 - 75</div> <div>4:1</div> <div>9 - 36    18 - 75</div>                     | 3.3, 5, 12, 15,<br>$\pm 5$ , $\pm 12$ , $\pm 15$        | 84       |                   |                                       |
|  FKC08  | 8                | <div>2:1</div> <div>9 - 18    18 - 36</div> <div>36 - 75</div> <div>4:1</div> <div>9 - 36    18 - 75</div> <div>43 - 160</div> | 3.3, 5, 12, 15,<br>$\pm 5$ , $\pm 12$ , $\pm 15$        | 88       |                   |                                       |
|  FKC08W | 8                | <div>2:1</div> <div>9 - 18    18 - 36</div> <div>36 - 75</div> <div>4:1</div> <div>9 - 36    18 - 75</div> <div>43 - 160</div> | 3.3, 5, 12, 15,<br>$\pm 5$ , $\pm 12$ , $\pm 15$        | 88       |                   |                                       |
|  FKC12  | 12               | <div>2:1</div> <div>9 - 18    18 - 36</div> <div>36 - 75</div> <div>4:1</div> <div>9 - 36    18 - 75</div>                     | 2.5, 3.3, 5.1, 12, 15,<br>$\pm 5$ , $\pm 12$ , $\pm 15$ | 88       | 1600 VDC          | DIP 24<br>1.25 x 0.80 x 0.40          |
|  FKC12W | 12               | <div>2:1</div> <div>9 - 18    18 - 36</div> <div>36 - 75</div> <div>4:1</div> <div>9 - 36    18 - 75</div>                     | 2.5, 3.3, 5.1, 12, 15,<br>$\pm 5$ , $\pm 12$ , $\pm 15$ | 88       |                   |                                       |
|  FKC15  | 15               | <div>2:1</div> <div>9 - 18    18 - 36</div> <div>36 - 75</div> <div>4:1</div> <div>9 - 36    18 - 75</div>                     | 3.3, 5.1, 12, 15,<br>$\pm 5$ , $\pm 12$ , $\pm 15$      | 91       | 1600 VDC          | DIP 24<br>1.25 x 0.80 x 0.40          |
|  FKC15W | 15               | <div>2:1</div> <div>9 - 18    18 - 36</div> <div>36 - 75</div> <div>4:1</div> <div>9 - 36    18 - 75</div>                     |                                                         | 91       |                   |                                       |

# DIP 24 PACKAGE | 3 - 15W

| Series                                                                                                                                                                     | Output Power (W) | Input Voltage (VDC)                                                                                          | Output Voltage (VDC)                  | Eff. (%) | Isolation Voltage | Dimensions (Inch)            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------------------------------------------------------------------------------------------------|---------------------------------------|----------|-------------------|------------------------------|
|  LKC05W                                                                                   | 5                |  4.5 - 12 9 - 36<br>18 - 75 | 3.3, 5, 12, 15, 24, ±5, ±12, ±15, ±24 | 89       | 1600 VDC          | DIP 24<br>1.25 x 0.80 x 0.40 |
|   RHK10W | 10               |  36 - 160                   | 3.3, 5, 5.1, 12, 15, 24 ±5, ±12, ±15  | 88       | 3000 VAC          |                              |

# 1" x 1" PACKAGE | 10 - 30W

| Series                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                     | Output Power (W) | Input Voltage (VDC)                                                                       |                                                                                                                                 | Output Voltage (VDC)                   | Eff. (%) | Isolation Voltage               | Dimensions (Inch)         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|----------|---------------------------------|---------------------------|
| <br><br><br><br><br><br><br> | LCD10<br>LCD10W     | 10               |                                                                                           |                                                                                                                                 | 3.3, 5, 12, 15, 24, ±5, ±12, ±15       | 91       | 1600 VDC                        | DIP<br>1.00 x 1.00 x 0.39 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | LCD15<br>LCD15W     | 15               | <div>2:1</div>                                                                            | <div>9 - 18</div> <div>18 - 36</div> <div>36 - 75</div>                                                                         | 3.3, 5, 12, 15, 24 ±5, ±12, ±15, ±24   | 91       |                                 |                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | LCD20<br>LCD20W     | 20               | <div>4:1</div>                                                                            | <div>9 - 36</div> <div>18 - 75</div>                                                                                            | 3.3, 5, 12, 15, 24 ±12, ±15, ±24       | 92       |                                 |                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | LCD30<br>LCD30W     | 30               |                                                                                           |                                                                                                                                 | 3.3, 5, 12, 15, 24 ±12, ±15, ±24       | 93       |                                 |                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | RCD10W              | 10               | <div>4:1</div>                                                                            | <div>9 - 36</div> <div>18 - 75</div> <div>36 - 160</div>                                                                        | 3.3, 5, 12, 15, 24, ±5, ±12, ±15, ±24  | 90       | 3000 VDC<br>1600 VDC            |                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | RCD15<br>RCD15W     | 15               | <div>2:1</div>                                                                            | <div>9 - 18</div> <div>18 - 36</div> <div>36 - 75</div> <div>4:1</div> <div>9 - 36</div> <div>18 - 75</div> <div>36 - 160</div> | 3.3, 5, 12, 15, 24, ±5, ±12, ±15, ±24  | 91       |                                 |                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <div>N</div> RCD20W | 20               | <div>4:1</div>                                                                            | <div>9 - 36</div> <div>18 - 75</div> <div>36 - 160</div>                                                                        | 3.3, 5, 5.1, 12, 15, 24, ±12, ±15, ±24 | 91       |                                 |                           |
| LED15<br>LED15W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 15                  | <div>2:1</div>   | <div>18 - 36</div> <div>36 - 75</div> <div>4:1</div> <div>9 - 36</div> <div>18 - 75</div> | 3.3, 5, 12, 15                                                                                                                  | 88                                     | 2250 VDC | SMD / DIP<br>1.10 x 0.94 x 0.33 |                           |

# 2" x 1" PACKAGE | 10 - 60W

| Series                                                                                                                                                                                                                                                                                                                                               |                                                                                            | Output Power (W)    | Input Voltage (VDC)                                                                              | Output Voltage (VDC)                                                                | Eff. (%) | Isolation Voltage | Dimensions (Inch)         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------|-------------------|---------------------------|
| <br><br><br> | FDC10<br>FDC10W                                                                            | 10                  | <div>2:1<div>9 - 1818 - 36</div></div> <div>36 - 75</div> <div>4:1<div>9 - 3618 - 75</div></div> | 3.3, 5, 12, 15, ±5, ±12, ±15                                                        | 87       | 1600 VDC          | DIP<br>2.00 x 1.00 x 0.40 |
|                                                                                                                                                                                                                                                                                                                                                      | FEC15<br>FEC15W                                                                            | 15                  |                                                                                                  | 3.3, 5, 5.1, 12, 15, ±5, ±12, ±15                                                   | 88       |                   |                           |
|                                                                                                                                                                                                                                                                                                                                                      | FED20<br>FED20W                                                                            | 20                  |                                                                                                  | 1.5, 1.8, 2.5, 3.3, 5, 12, 15, ±5, ±12, ±15                                         | 89       |                   |                           |
|                                                                                                                                                                                                                                                                                                                                                      | FED30<br>FED30W                                                                            | 30                  |                                                                                                  | 1.5, 2.5, 3.3, 5, 5.1, 12, 15, ±5, ±12, ±15, 3.3 / ±12, 3.3 / ±15, 5 / ±12, 5 / ±15 | 91       |                   |                           |
|                                                                                                                                                                                                                                                                                                                                                      | EED40<br>EED40W                                                                            | 40                  |                                                                                                  | 3.3, 5, 12, 15, 24, ±12, ±15, ±24                                                   | 93       |                   |                           |
|                                                                                                                                                                                                                                                                                                                                                      | FED60<br>FED60W                                                                            | 60                  |                                                                                                  | 3.3, 5, 12, 15, 24, ±12, ±15, ±24                                                   | 92       |                   |                           |
|                                                                                                                                                                                                                                                                                                                                                      | RED20W                                                                                     | 20                  | <div>4:1<div>9 - 3618 - 75</div></div> <div>43 - 160</div>                                       | 3.3, 5, 12, 15, ±12, ±15                                                            | 89       | 2250 VDC          |                           |
|                                                                                                                                                                                                                                                                                                                                                      | RED40W                                                                                     | 40                  | <div>4:1<div>9 - 3618 - 75</div></div> <div>36 - 160</div>                                       | 3.3, 5, 12, 15, 24, 48, 53, ±12, ±15, ±24                                           | 93       | 3000 VDC          |                           |
|  RED60W                                                                                                                                                                                                                                                           | 60                                                                                         | <div>36 - 160</div> | 3.3, 5, 5.1, 12, 15, 24, 48, 53, ±12, ±15, ±24                                                   | 94                                                                                  |          |                   |                           |
|                                                                                                                                                                                |  RHD40W | 40                  | <div>4:1<div>36 - 160</div></div>                                                                | 5, 5.1, 12, 15, 24, ±12, ±15                                                        | 90       | 3000 VAC          |                           |

# 2" x 1.6" & 2" x 2" PACKAGE | 15 - 60W

| Series                                                                             |                 | Output Power (W) | Input Voltage (VDC)                                                                                                                                      |                                                                                             | Output Voltage (VDC) | Eff. (%) | Isolation Voltage         | Dimensions (Inch) |
|------------------------------------------------------------------------------------|-----------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------------------|----------|---------------------------|-------------------|
|  | FDC20<br>FDC20W | 20               | <div><div>2:1</div><div>9 - 18</div><div>18 - 36</div></div> <div><div>36 - 75</div></div> <div><div>4:1</div><div>9 - 36</div><div>18 - 75</div></div>  | 3.3, 5, 12, 15, ±5, ±12, ±15<br>3.3 / ±12, 3.3 / ±15, 5 / ±12, 5 / ±15                      | 87                   | 1600 VDC | DIP<br>2.00 x 1.60 x 0.40 |                   |
|                                                                                    | FEC30<br>FEC30W | 30               | <div><div>2:1</div><div>9 - 18</div><div>18 - 36</div></div> <div><div>36 - 75</div></div> <div><div>4:1</div><div>10 - 40</div><div>18 - 75</div></div> | 1.5, 1.8, 2.5, 3.3, 5, 12, 15, ±12, ±15                                                     | 90                   |          |                           |                   |
|  | FEC40<br>FEC40W | 40               | <div><div>2:1</div><div>9 - 18</div><div>18 - 36</div></div> <div><div>36 - 75</div></div> <div><div>4:1</div><div>9 - 36</div><div>18 - 75</div></div>  | 1.5, 1.8, 2.5, 3.3, 5, 12, 15, ±12, ±15,<br>3.3 / 5, 3.3 / ±12, 3.3 / ±15, 5 / ±12, 5 / ±15 | 90                   |          | DIP<br>2.00 x 2.00 x 0.40 |                   |
|                                                                                    | FEC60           | 60               | <div><div>2:1</div><div>9 - 18</div><div>18 - 36</div></div>                                                                                             | 3.3, 5, 12, 15, 24                                                                          | 91                   |          |                           |                   |

# QUARTER BRICK PACKAGE | 40 - 132W

| Series                                                                                                                                                       | Output Power (W) | Input Voltage (VDC)                | Output Voltage (VDC)       | Eff. (%) | Isolation Voltage    | Dimensions (Inch)                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------------------|----------------------------|----------|----------------------|-------------------------------------|
|  N QAE40U<br>N QAE60U<br>N QAE100U<br>QAE100<br>QAE100W<br>QAE150<br>QAE150W | 40               | Ultra 9 - 75 14 - 160              | 5, 12, 15, 24, 28, 48, 53  | 91       | 3000 VAC<br>2250 VDC | Quarter Brick<br>2.28 x 1.45 x 0.50 |
|                                                                                                                                                              | 60               |                                    |                            | 91       |                      |                                     |
|                                                                                                                                                              | 100              |                                    |                            | 90       |                      |                                     |
|                                                                                                                                                              | 108              | 2:1 8.5 - 22 16.5 - 36<br>33 - 75  | 3.3, 5, 12, 15, 24, 30, 48 | 93       |                      |                                     |
|                                                                                                                                                              | 150              | 4:1 8.5 - 36 16.5 - 75<br>40 - 160 |                            | 92       |                      |                                     |

# HALF BRICK PACKAGE | 75 - 255W

| Series                                                                                                                                                               |                   | Output Power (W) | Input Voltage (VDC) |                      | Output Voltage (VDC)           | Eff. (%) | Isolation Voltage    | Dimensions (Inch)                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------|---------------------|----------------------|--------------------------------|----------|----------------------|----------------------------------|
| <br> | HAE75W            | 75               | 4:1                 | 9 - 36<br>43 - 160   | 3.3, 5, 12, 15, 24, 28, 48     | 91       | 3000 VAC<br>3000 VDC | Half Brick<br>2.40 x 2.28 x 0.50 |
|                                                                                                                                                                      | HAE100<br>HAE100W | 100              | 2:1                 | 9 - 18<br>36 - 75    |                                | 93       |                      |                                  |
|                                                                                                                                                                      |                   |                  | 4:1                 | 8.5 - 36<br>43 - 160 |                                |          |                      |                                  |
|                                                                                                                                                                      | HAE150<br>HAE150W | 196              | 2:1                 | 8.5 - 22<br>33 - 75  | 3.3, 5, 12, 15, 24, 28, 48, 53 | 93       |                      |                                  |
|                                                                                                                                                                      | HAE200<br>HAE200W | 255              | 4:1                 | 8.5 - 36<br>43 - 160 |                                | 93       |                      |                                  |
|                                                                                                                                                                      | N HAE150U         | 150              | Ultra               | 16 - 160             | 5, 12, 15, 24, 28, 48, 53      | 92.5     | 3000 VAC             |                                  |
|                                                                                                                                                                      | N HAE200U         | 200              |                     |                      |                                | 92       |                      |                                  |

# OFF BOARD | 15 - 300W

| Series                                                                              | Output Power (W)                                                                    | Input Voltage (VDC) | Output Voltage (VDC)                                                                                                            | Eff. (%)                                                                | Isolation Voltage  | Dimensions (Inch)    |                                             |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|--------------------|----------------------|---------------------------------------------|
|   | UFEC15W                                                                             | 15                  | <div>4:1</div> <div>9.5 - 36</div> <div>18 - 75</div>                                                                           | 3.3, 5, 5.1, 12, 15, ±5, ±12, ±15                                       | 87                 | 1600 VDC             | Wall Mount / Din-rail<br>4.00 x 2.25 x 0.75 |
|                                                                                     | UFED20<br>UFED20W                                                                   | 20                  | <div>2:1</div> <div>9.5 - 18</div> <div>36 - 75</div> <div>4:1</div> <div>9.5 - 36</div> <div>18 - 75</div>                     | 3.3, 5, 12, 15, ±5, ±12, ±15                                            | 88                 |                      |                                             |
|                                                                                     | URED20W                                                                             | 20                  | <div>4:1</div> <div>9 - 36</div> <div>18 - 75</div> <div>43 - 160</div>                                                         | 3.3, 5, 12, 15, ±12, ±15                                                | 88                 | 2250 VDC             |                                             |
|                                                                                     | UFEC30<br>UFEC30W                                                                   | 30                  | <div>2:1</div> <div>9.5 - 18</div> <div>36 - 75</div> <div>4:1</div> <div>10 - 40</div> <div>18 - 75</div>                      | 3.3, 5, 12, 15, 24, 28 ±12, ±15                                         | 89                 | 1600 VDC             |                                             |
|                                                                                     | UFEC40<br>UFEC40W                                                                   | 40                  | <div>2:1</div> <div>9.5 - 18</div> <div>36 - 75</div> <div>4:1</div> <div>9.5 - 36</div> <div>18 - 75</div>                     | 3.3, 5, 12, 15, 24, 28 ±12, ±15, 3.3 / ±12, 3.3 / ±15, 5 / ±12, 5 / ±15 | 89                 |                      |                                             |
|                                                                                     | UFED40W                                                                             | 40                  | <div>4:1</div> <div>9.5 - 36</div> <div>18 - 75</div> <div>43 - 160</div>                                                       | 3.3, 5, 12, 15, 24, ±12, ±15, ±24                                       | 91                 | 3000 VDC<br>1600 VDC |                                             |
|                                                                                     | UFEC60                                                                              | 60                  | <div>2:1</div> <div>18 - 36</div> <div>36 - 75</div>                                                                            | 3.3, 5, 12, 15, 24                                                      | 89                 | 1600 VDC             |                                             |
|  | HAE75W-T                                                                            | 75                  | <div>4:1</div> <div>9 - 36</div> <div>18 - 75</div> <div>43 - 160</div>                                                         | 3.3, 5, 12, 15, 24, 28, 48                                              | 91                 | 3000 VAC<br>3000 VDC | Wall Mount<br>3.35 x 2.40 x 1.59            |
|                                                                                     | HAE100-T<br>HAE100W-T                                                               | 100                 | <div>2:1</div> <div>9 - 18</div> <div>36 - 75</div> <div>4:1</div> <div>8.5 - 36</div> <div>16.5 - 75</div> <div>43 - 160</div> |                                                                         | 93                 |                      |                                             |
|                                                                                     | HAE150-T<br>HAE150W-T                                                               | 182                 | <div>2:1</div> <div>8.5 - 22</div> <div>16.5 - 36</div> <div>33 - 75</div>                                                      | 3.3, 5, 12, 15, 24, 28, 48, 53                                          | 93                 |                      |                                             |
|                                                                                     | HAE200-T<br>HAE200W-T                                                               | 255                 | <div>4:1</div> <div>8.5 - 36</div> <div>16.5 - 75</div> <div>43 - 160</div>                                                     | 93                                                                      |                    |                      |                                             |
|                                                                                     |  | WAF150W<br>WAD150W  | 150                                                                                                                             | <div>4:1</div> <div>9 - 36</div> <div>18 - 75</div> <div>43 - 160</div> | 12, 15, 24, 28, 48 |                      |                                             |
| WAF300W                                                                             |                                                                                     | 300                 | <div>4:1</div> <div>18 - 75</div> <div>43 - 160</div>                                                                           | 12, 15, 24, 28, 48                                                      | 92                 | 3000 VAC             | Wall Mount / Din-rail<br>6.00 x 4.00 x 1.52 |



## DC/DC CONVERTERS

| Series                                                                              |                                                                                             |                                                                                             | Output Power (W)                                                                    | Input Voltage (VDC)                                                                                                                              | Output Voltage (VDC)                                                                                                                             | Eff. (%)                               | Isolation Voltage    | Dimensions (Inch)                           |          |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|----------------------|---------------------------------------------|----------|
|    | RDL03W                                                                                      |            | 3                                                                                   |  <div>9 - 36</div> <div>18 - 75</div> <div>43 - 160</div>       | 3,3, 5, 9, 12, 15, 24, ±5, ±12, ±15                                                                                                              | 83                                     | 3000 VDC             | SIP 8<br>0.86 x 0.36 x 0.44                 |          |
|                                                                                     | RDL06W                                                                                      |            | 6                                                                                   |                                                                                                                                                  |                                                                                                                                                  | 87                                     |                      |                                             |          |
|    | FKC08W                                                                                      |            | 8                                                                                   |  <div>36 - 160</div>                                            | 3,3, 5, 12, 15, ±5, ±12, ±15                                                                                                                     | 88                                     | 1600 VDC             | DIP 24<br>1.25 x 0.80 x 0.40                |          |
|    |  RHK10W    |            | 10                                                                                  |                                                                                                                                                  | 3,3, 5, 5.1, 12, 15, 24 ±5, ±12, ±15                                                                                                             | 88                                     | 3000 VAC             |                                             |          |
|    | RCD10W                                                                                      |            | 10                                                                                  |  <div>9 - 36</div> <div>18 - 75</div> <div>36 - 160</div>       | 3,3, 5, 12, 15, 24, ±5, ±12, ±15, ±24                                                                                                            | 90                                     | 3000 VDC             | DIP<br>1.00 x 1.00 x 0.39                   |          |
|                                                                                     | RCD15W                                                                                      |            | 15                                                                                  |                                                                                                                                                  | 3,3, 5, 12, 15, 24, ±5, ±12, ±15, ±24                                                                                                            | 91                                     |                      |                                             |          |
|                                                                                     |            |  RCD20W    |    |                                                                                                                                                  | 20                                                                                                                                               | 3,3, 5, 5.1, 12, 15, 24, ±12, ±15, ±24 |                      |                                             | 91       |
|    | RED20W                                                                                      |            | 20                                                                                  |  <div>9 - 36</div> <div>18 - 75</div> <div>43 - 160</div>       | 3,3, 5, 12, 15, ±12, ±15,                                                                                                                        | 89                                     | 2250 VDC             | DIP<br>2.00 x 1.00 x 0.40                   |          |
|    | RED40W                                                                                      |            | 40                                                                                  |  <div>9 - 36</div> <div>18 - 75</div> <div>36 - 160</div>       | 3,3, 5, 12, 15, 24, 48, 53, ±12, ±15, ±24                                                                                                        | 93                                     | 3000 VDC             |                                             |          |
|                                                                                     | RED60W                                                                                      |            | 60                                                                                  |                                                                                                                                                  | 3,3, 5, 5.1, 12, 15, 24, 48, 53, ±12, ±15, ±24                                                                                                   | 94                                     |                      |                                             |          |
|    |  RHD40W    |            | 40                                                                                  |  <div>36 - 160</div>                                            | 5, 5.1, 12, 15, 24, ±12, ±15                                                                                                                     | 90                                     | 3000 VAC             |                                             |          |
|  |  QAE40U    |            | 40                                                                                  |  <div>9 - 75</div> <div>14 - 160</div>                         | 5, 12, 15, 24, 28, 48, 53                                                                                                                        | 91                                     | 3000 VAC<br>2250 VDC | Quarter Brick<br>2.28 x 1.45 x 0.50         |          |
|                                                                                     |  QAE60U  |          | 60                                                                                  |                                                                                                                                                  |                                                                                                                                                  | 91                                     |                      |                                             |          |
|                                                                                     |  QAE100U |          | 100                                                                                 |                                                                                                                                                  |                                                                                                                                                  | 90                                     |                      |                                             |          |
|                                                                                     |          | QAE100W                                                                                     |  | 90                                                                                                                                               |  <div>8.5 - 36</div> <div>16.5 - 75</div> <div>40 - 160</div> | 3,3, 5, 12, 15, 24, 30, 48             |                      |                                             | 90       |
|                                                                                     | QAE150W                                                                                     |          | 132                                                                                 | 90                                                                                                                                               |                                                                                                                                                  |                                        |                      |                                             |          |
|  | HAE75W                                                                                      |          | 75                                                                                  |  <div>9 - 36</div> <div>18 - 75</div> <div>43 - 160</div>     | 3,3, 5, 12, 15, 24, 28, 48                                                                                                                       | 91                                     | 3000 VAC<br>3000 VDC | Half Brick<br>2.40 x 2.28 x 0.50            |          |
|                                                                                     | HAE100W                                                                                     |          | 100                                                                                 |                                                                                                                                                  |                                                                                                                                                  | 93                                     |                      |                                             |          |
|                                                                                     | HAE150W                                                                                     |          | 182                                                                                 |  <div>8.5 - 36</div> <div>16.5 - 75</div> <div>43 - 160</div> |                                                                                                                                                  | 91                                     |                      |                                             |          |
|                                                                                     | HAE200W                                                                                     |          | 240                                                                                 |                                                                                                                                                  |                                                                                                                                                  | 91                                     |                      |                                             |          |
|                                                                                     |          |  HAE150U |  | 150                                                                                                                                              |  <div>16 - 160</div>                                          | 5, 12, 15, 24, 28, 48, 53              | 92.5                 |                                             | 3000 VAC |
|                                                                                     |          |  HAE200U |  | 200                                                                                                                                              |                                                                                                                                                  | 92                                     |                      |                                             |          |
|   | URED20W                                                                                     |          | 20                                                                                  |  <div>9 - 36</div> <div>18 - 75</div> <div>43 - 160</div>     | 3,3, 5, 12, 15, ±12, ±15                                                                                                                         | 88                                     | 2250 VDC             | Wall Mount / Din-rail<br>4.00 x 2.25 x 0.75 |          |
|                                                                                     | UFED40W                                                                                     |          | 40                                                                                  |  <div>9.5 - 36</div> <div>18 - 75</div> <div>43 - 160</div>   | 3,3, 5, 12, 15, 24, ±12, ±15, ±24                                                                                                                | 91                                     | 3000 VDC<br>1600 VDC |                                             |          |
|   | HAE75W-T                                                                                    |          | 75                                                                                  |  <div>9 - 36</div> <div>18 - 75</div> <div>43 - 160</div>     | 3,3, 5, 12, 15, 24, 28, 48                                                                                                                       | 91                                     | 3000 VAC<br>3000 VDC | Wall Mount<br>3.35 x 2.40 x 1.59            |          |
|                                                                                     | HAE100W-T                                                                                   |          | 100                                                                                 |                                                                                                                                                  |                                                                                                                                                  | 93                                     |                      |                                             |          |
|                                                                                     | HAE150W-T                                                                                   |          | 182                                                                                 |  <div>8.5 - 36</div> <div>16.5 - 75</div> <div>43 - 160</div> |                                                                                                                                                  | 91                                     |                      |                                             |          |
|                                                                                     | HAE200W-T                                                                                   |          | 255                                                                                 |                                                                                                                                                  |                                                                                                                                                  | 91                                     |                      |                                             |          |
|  | WAF150W<br>WAD150W                                                                          |          | 150                                                                                 |  <div>9 - 36</div> <div>18 - 75</div> <div>43 - 160</div>     | 12, 15, 24, 28, 48                                                                                                                               | 89                                     | 3000 VDC<br>2250 VDC | Wall Mount<br>3.86 x 2.56 x 0.67            |          |
|  | WAF300W                                                                                     |          | 300                                                                                 |  <div>18 - 75</div> <div>43 - 160</div>                       | 12, 15, 24, 28, 48                                                                                                                               | 92                                     | 3000 VAC             | Wall Mount / Din-rail<br>6.00 x 4.00 x 1.52 |          |

# SURGE SUPPRESSION MODULE

| Series                                                                            |                | Output Power (W) | Input Voltage (VDC) | Transient Voltage (VDC) | Clamp Voltage (VDC) | Meet Standard                             | Dimensions (Inch)            |
|-----------------------------------------------------------------------------------|----------------|------------------|---------------------|-------------------------|---------------------|-------------------------------------------|------------------------------|
|  | SSM-110P50-001 | 20               | 43 - 160            | 385 VDC, 20 ms, max.    | 168                 | RIA12 Surge Susceptibility<br>NF F 01-510 | DIP 24<br>1.25 x 0.80 x 0.40 |
|                                                                                   | SSM-110004-001 | 150              |                     |                         |                     |                                           | DIP<br>1.60 x 1.00 x 0.40    |
|                                                                                   | SSM-110008-001 | 300              |                     |                         |                     |                                           |                              |



# AC/DC POWER SUPPLIES

| Series                                                                              |              | Output Power (W) | Input Voltage (VAC) | Output Voltage (VDC)                                                                                                                                                 | Eff. (%) | Isolation Voltage | Dimensions (Inch)                          |
|-------------------------------------------------------------------------------------|--------------|------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------------|--------------------------------------------|
|    | MSC15        | 15               | 85 - 264            | 3.3, 5, 7.5, 9, 12, 15, 18, 24, 28, 36, 48, 53                                                                                                                       | 89       | 4000 VAC          | Encapsulated<br>1.14 x 2.82 x 0.82         |
|                                                                                     | MSD30        | 30               |                     |                                                                                                                                                                      | 91.5     |                   | Encapsulated<br>1.50 x 3.95 x 1.00         |
|    | MSD40        | 40               |                     | 5, 7.5, 9, 12, 15, 18, 24, 28, 36, 48, 53                                                                                                                            | 93       |                   | Encapsulated<br>2.20 x 4.30 x 1.20         |
|                                                                                     | MSD65        | 65               |                     |                                                                                                                                                                      | 93.5     |                   |                                            |
|   | MAC15        | 15               |                     | 3.3, 5, 7.5, 9, 12, 15, 18, 24, 28, 36, 48, 53                                                                                                                       | 89       |                   | Open Frame<br>1.00 x 2.61 x 0.62           |
|                                                                                     | MAD30        | 30               |                     |                                                                                                                                                                      | 91.5     |                   | Open Frame<br>1.36 x 3.34 x 0.77           |
|  | MAD40 Single | 40               |                     | 5, 7.5, 9, 12, 15, 18, 24, 28, 36, 48, 53                                                                                                                            | 93       |                   | Open Frame/ Enclosed<br>2.00 x 3.00 x 0.94 |
|                                                                                     | MAD65 Single | 65               |                     |                                                                                                                                                                      | 93.5     |                   |                                            |
|                                                                                     | MAD40 Multi  | 40               |                     | 5/ 3.3, 12/ 5, 12/ 3.3, 15/ 5, 24/ 5, 28/ 5, 5/ 3.3/ -5, 5/ 3.3/ 12, 5/ 3.3/ -12, 12/ 5/ -5, 12/ 5/ -12, 12/ 3.3/ 5, 12/ 3.3/ -12, 15/ 5/ -15, 24/ 5/ 12, 24/ 5/ -12 | 90       |                   | Open Frame/ Enclosed<br>2.00 x 3.50 x 0.98 |
|                                                                                     | MAD65 Multi  | 65               |                     |                                                                                                                                                                      | 90.5     |                   |                                            |
|  | MAD100       | 100              |                     | 12, 15, 24, 28, 36, 48                                                                                                                                               | 92       |                   | Open Frame/ Enclosed<br>2.00 x 3.00 x 1.16 |
|  | MAF150       | 150              |                     | 12, 15, 24, 28, 36, 48                                                                                                                                               | 92       |                   | Open Frame/ Enclosed<br>2.00 x 4.00 x 1.16 |
|  | MAH450       | 450              |                     | 12, 15, 24, 28, 36, 48, 53                                                                                                                                           | 94       |                   | Open Frame/ Enclosed<br>3.00 x 5.00 x 1.58 |

AC/DC POWER SUPPLIES

# DC/DC CONVERTERS

| Series                                                                              |                 | Output Power (W) | Input Voltage (VDC)  | Output Voltage (VDC)      | Eff. (%) | Isolation Voltage | Dimensions (Inch)                     |
|-------------------------------------------------------------------------------------|-----------------|------------------|----------------------|---------------------------|----------|-------------------|---------------------------------------|
|  | MPU01           | 1                | 4.5 - 5.5<br>12 - 18 | 9.6 - 14.4<br>19.2 - 28.8 | 85       | 2MOPP<br>5000 VAC | SIP<br>0.77 x 0.49 x 0.39             |
|  | MPS/H02         | 2                | 2:1 4.5 - 12         | 9 - 18                    | 82       |                   | SMD 16 / DIP 16<br>0.95 x 0.57 x 0.40 |
|                                                                                     | MPS/H04         | 3.5              | 18 - 36              | 36 - 75                   | 83       |                   |                                       |
|  | MPP03<br>MPP03W | 3                | 2:1 4.5 - 9          | 9 - 18                    | 87.5     |                   | DIP 24<br>1.25 x 0.80 x 0.40          |
|                                                                                     | MPP06<br>MPP06W | 6                | 18 - 36              | 36 - 75                   | 89       |                   |                                       |
|                                                                                     | MPP10<br>MPP10W | 10               | 4:1 9 - 36           | 18 - 75                   | 89       |                   |                                       |
|  | MPM15<br>MPM15W | 15               | 2:1 9 - 18           | 18 - 36                   | 90       |                   | DIP<br>1.60 x 1.00 x 0.40             |
|                                                                                     | MPM20<br>MPM20W | 20               | 36 - 75              |                           | 90       |                   |                                       |
|  | MPD30<br>MPD30W | 30               | 4:1 9 - 36           | 18 - 75                   | 90.5     |                   | DIP<br>2.00 x 1.00 x 0.40             |

ISOLATED DC/DC CONVERTERS



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