



- ① Series name
- ② Output wattage
- ③ Output voltage combination
- ④ Optional
  - C : with Coating
  - G : Low leakage current
  - J : Connector type
  - N : with Cover

MMC

| MODEL     | MMC50A-1 | MMC50A-2            | MMC50A-3  | MMC50A-4            |                     |
|-----------|----------|---------------------|-----------|---------------------|---------------------|
| DC OUTPUT | V1       | +5V 5.0A            | +5V 5.0A  | +5V 5.0A            | +5V 7.0A            |
|           | V2       | +12V 1.5(Peak 2.0)A | +15V 1.2A | +12V 1.5(Peak 2.0)A | +12V 1.0(Peak 1.5)A |
|           | V3       | -12V 0.5A           | -15V 0.5A | -5V 0.5A            | -12V 0.3A           |

## SPECIFICATIONS

|                                    | MODEL                              | MMC50A-1  | MMC50A-2                        | MMC50A-3    | MMC50A-4       |                  |             |                |                |             |                |                  |        |        |
|------------------------------------|------------------------------------|---|---------------------------------|-------------|----------------|------------------|-------------|----------------|----------------|-------------|----------------|------------------|--------|--------|
| INPUT                              | VOLTAGE[V]                         | AC85 - 132 1φ or DC110 - 170  |                                 |             |                |                  |             |                |                |             |                |                  |        |        |
|                                    | CURRENT[A]                         | ACIN 100V   | 1.5typ (Io=100%)                |             |                |                  |             |                |                |             |                |                  |        |        |
|                                    | FREQUENCY[Hz]                      | 47 - 440 or DC  |                                 |             |                |                  |             |                |                |             |                |                  |        |        |
|                                    | EFFICIENCY[%]                      | ACIN 100V   | 70typ (Io=100%)                 |             |                |                  |             |                |                |             |                |                  |        |        |
|                                    | INRUSH CURRENT[A]                  | ACIN 100V   | 30typ (Io=100%) (At cold start) |             |                |                  |             |                |                |             |                |                  |        |        |
| OUTPUT                             | VOLTAGE[V]                         | +5  | +12                             | -12         | +5             | +15              | -15         | +5             | +12            | -5          | +5             | +12              | -12    |        |
|                                    | CURRENT[A]                         | *1 5  | 1.5 (Peak2)                     | 0.5         | 5              | 1.2              | 0.5         | 5              | 1.5 (Peak2)    | 0.5         | 7              | 1 (Peak1.5)      | 0.3    |        |
|                                    | MINIMUM CURRENT[A]                 | 0.75  | 0                               | 0           | 0.75           | 0                | 0           | 0.75           | 0              | 0           | 0.75           | 0                | 0      |        |
|                                    | LINE REGULATION[mV]                | 20max   | 48max                           | 100max      | 20max          | 60max            | 60max       | 20max          | 48max          | 20max       | 20max          | 48max            | 48max  |        |
|                                    | LOAD REGULATION[mV]                | 40max   | 150max                          | 150max      | 40max          | 150max           | 150max      | 40max          | 150max         | 100max      | 40max          | 150max           | 150max |        |
|                                    | RIPPLE[mVp-p]                      | *2 80max  | 120max                          | 120max      | 80max          | 120max           | 120max      | 80max          | 120max         | 120max      | 80max          | 120max           | 120max |        |
|                                    | RIPPLE NOISE[mVp-p]                | *2 120max   | 150max                          | 150max      | 120max         | 150max           | 150max      | 120max         | 150max         | 150max      | 120max         | 150max           | 150max |        |
|                                    | TEMPERATURE REGULATION[mV]         | 0 to +50°C  | 50max                           | 350max      | 350max         | 50max            | 350max      | 350max         | 50max          | 350max      | 350max         | 50max            | 350max | 350max |
|                                    | START-UP TIME[ms]                  | 100max (ACIN 85V, Io=100%)  |                                 |             |                |                  |             |                |                |             |                |                  |        |        |
|                                    | HOLD-UP TIME[ms]                   | 15typ (ACIN 85V, Io=100%)   |                                 |             |                |                  |             |                |                |             |                |                  |        |        |
| OUTPUT VOLTAGE ADJUSTMENT RANGE[V] | 5.00 - 5.25                        | Fixed   | Fixed                           | 5.00 - 5.25 | Fixed          | Fixed            | 5.00 - 5.25 | Fixed          | Fixed          | 5.00 - 5.25 | Fixed          | Fixed            |        |        |
| OUTPUT VOLTAGE SETTING[V]          | —                                  | 11.40 to 12.60  | -11.40 to -12.60                | —           | 14.25 to 15.75 | -14.25 to -15.75 | —           | 11.40 to 12.60 | -4.75 to -5.25 | —           | 11.40 to 12.60 | -11.40 to -12.60 |        |        |
| PROTECTION CIRCUIT                 | OVERCURRENT PROTECTION             | Works over 105% of rating (V2 works at peak current) and recovers automatically             |                                 |             |                |                  |             |                |                |             |                |                  |        |        |
|                                    | OVERVOLTAGE PROTECTION             | Works at 115 - 140% of rating (+5V)   |                                 |             |                |                  |             |                |                |             |                |                  |        |        |
| ISOLATION                          | INPUT-CASE, OUTPUT                 | AC2,000V 1minute, DC500V 50MΩmin (At Room Temperature)                                      |                                 |             |                |                  |             |                |                |             |                |                  |        |        |
|                                    | OUTPUT-CASE                        | AC500V 1minute, DC500V 50MΩmin (At Room Temperature)  |                                 |             |                |                  |             |                |                |             |                |                  |        |        |
|                                    | OUTPUT-OUTPUT(V1-V2,V3)            | AC100V 1minute, DC100V 10MΩmin (At Room Temperature)  |                                 |             |                |                  |             |                |                |             |                |                  |        |        |
| ENVIRONMENT                        | OPERATING TEMP.,HUMID.AND ALTITUDE | 0 to +65°C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max  |                                 |             |                |                  |             |                |                |             |                |                  |        |        |
|                                    | STORAGE TEMP.,HUMID.AND ALTITUDE   | -20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max                          |                                 |             |                |                  |             |                |                |             |                |                  |        |        |
|                                    | VIBRATION                          | 10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 30minutes each along X, Y and Z axis |                                 |             |                |                  |             |                |                |             |                |                  |        |        |
|                                    | IMPACT                             | 196.1m/s <sup>2</sup> (20G), 11ms, once each X, Y and Z axis                                |                                 |             |                |                  |             |                |                |             |                |                  |        |        |
| SAFETY AND NOISE REGULATIONS       | AGENCY APPROVALS                   | UL60950-1, C-UL Complies with DEN-AN  |                                 |             |                |                  |             |                |                |             |                |                  |        |        |
|                                    | CONDUCTED NOISE                    | Complies with FCC-A   |                                 |             |                |                  |             |                |                |             |                |                  |        |        |

\*1 Peak current for 30 seconds.  
 \*2 Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN : RM101).  
 \* When units are operated with chassis and cover, derating is required.  
 \* Avoid prolonged use under over-load.