



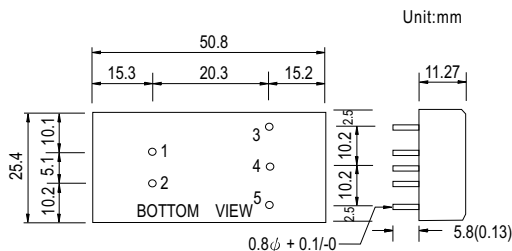
- Features :
- 2:1 wide input range
- 4:1 wide input range(option)
- 1000VDC I/O isolation
- 3000VDC I/O isolation(option)
- Built-in EMI filter
- Protections: Short circuit / Overload
- Cooling by free air convection
- Six-sided shield metal case
- 100% burn-in test
- Low cost / High reliability
- Approvals: FCC / CE
- 2 years warranty



**SPECIFICATION**

| ORDER NO.  | SLW05A-05   | SLW05B-05 | SLW05C-05 | SLW05A-09    | SLW05B-09 | SLW05C-09 | SLW05A-12    | SLW05B-12 | SLW05C-12 | SLW05A-15    | SLW05B-15 | SLW05C-15 |              |  |  |
|--|---|-----------|-----------|--------------|-----------|-----------|--------------|-----------|-----------|--------------|-----------|-----------|--------------|--|--|
| <b>OUTPUT</b>  | <b>DC VOLTAGE</b>   |           |           | 5V           |           |           | 9V           |           |           | 12V          |           |           | 15V          |  |  |
|  | <b>CURRENT RANGE</b>  |           |           | 100 ~ 1000mA |           |           | 55.6 ~ 556mA |           |           | 41.7 ~ 417mA |           |           | 33.3 ~ 333mA |  |  |
|  | <b>RATED POWER</b>  |           |           | 5W           |           |           |              |           |           |              |           |           |              |  |  |
|  | <b>VOLTAGE ACCURACY</b>   |           |           | ±2.0%        |           |           |              |           |           |              |           |           |              |  |  |
|  | <b>RIPPLE &amp; NOISE (max.)</b> Note.2   |           |           | 50mVp-p      |           |           | 60mVp-p      |           |           | 60mVp-p      |           |           | 60mVp-p      |  |  |
|  | <b>LINE REGULATION</b> Note.3   |           |           | ±0.2%        |           |           |              |           |           |              |           |           |              |  |  |
|  | <b>LOAD REGULATION</b> Note.4   |           |           | ±0.5%        |           |           |              |           |           |              |           |           |              |  |  |
|  | <b>SWITCHING FREQUENCY</b>  |           |           | 50KHz min.   |           |           |              |           |           |              |           |           |              |  |  |
| <b>INPUT</b>   | <b>VOLTAGE RANGE</b>  |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
|  | A: 9 ~ 18VDC B: 18 ~ 36VDC C: 36 ~ 72VDC  |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
|  | <b>EFFICIENCY (Typ.)</b>  |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
|  | 75%    77%    77%    80%    80%    83%    80%    80%    83%    81%    81%    85%  |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
|  | <b>DC CURRENT</b>   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| Full load    A: 556mA    B: 270mA    C: 135mA  |   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| No load    A: 33mA    B: 16mA    C: 10mA   |   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| <b>FILTER</b>  |   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| Pi network   |   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| <b>PROTECTION</b>  |   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| Fuse recommended   |   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| <b>PROTECTION (Note. 5)</b>  | <b>OVER CURRENT</b>   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
|  | 160 ~ 250% rated output power<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| <b>SHORT CIRCUIT</b>   |   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| All output equipped with short circuit<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed |   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| <b>ENVIRONMENT</b>   | <b>WORKING TEMP.</b>  |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
|  | -25 ~ +71°C (Refer to output load derating curve)   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
|  | <b>WORKING HUMIDITY</b>   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
|  | 20% ~ 90% RH non-condensing   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
|  | <b>STORAGE TEMP., HUMIDITY</b>  |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| -25 ~ +105°C, 10 ~ 95% RH  |   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| <b>TEMP. COEFFICIENT</b>   |   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| ±0.03%/°C (0 ~ 50°C)   |   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| <b>VIBRATION</b>   |   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes  |   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| <b>SAFETY &amp; EMC</b>  | <b>WITHSTAND VOLTAGE</b>  |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
|  | I/P-O/P:1KVDC   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
|  | <b>ISOLATION RESISTANCE</b>   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
|  | I/P-O/P: 100M Ohms / 500VDC / 25°C / 70% RH   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| <b>EMI CONDUCTION &amp; RADIATION</b>  |   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| Compliance to EN55022 Class B, FCC part 15 Class B   |   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| <b>EMS IMMUNITY</b>  |   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| Compliance to EN61000-4-2,3,4,5,6,8, light industry level, criteria A  |   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| <b>OTHERS</b>  | <b>MTBF</b>   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
|  | 800khrs min. MIL-HDBK-217F(25°C)  |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
|  | <b>DIMENSION</b>  |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| 50.8*25.4*11.27mm or 2**1**0.44" inch (L*W*H)  |   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| <b>WEIGHT</b>  |   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |
| 32g  |   |           |           |              |           |           |              |           |           |              |           |           |              |  |  |

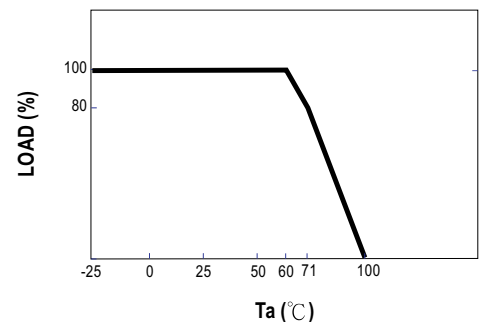
**Mechanical Specification**



**Pin Configuration**

| Pin no. | Output Single |
|---------|---------------|
| 1       | +Vin          |
| 2       | -Vin          |
| 3       | +Vout         |
| 4       | No Pin        |
| 5       | -Vout         |

**Derating Curve**



**NOTE**

1. All parameters are specified at normal input, rated load, 25°C 70% RH ambient.
2. Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1uf & 47uf capacitor.
3. Line regulation is measured from low line to high line at rated load.
4. Load regulation is measured from 10% to 100% rated load.
5. Please prevent the converter from operating in overload or short circuit condition for more than 30 seconds.

# Quality Engineering Test Report

**SERIES: SLW05B 5W DC-DC SINGLE OUTPUT CONVERTER**

**SAMPLE:**    **A:SLW05B-05**                    **+5V / 1000mA**  
                   **B:SLW05B-09**                    **+9V / 556mA**  
                   **C:SLW05B-12**                    **+12V / 417mA**  
                   **D:SLW05B-15**                    **+15V / 333mA**

| NO         | TEST ITEM  | TEST CONDITION / SPECIFICATION  | RESULT   | VERDICT  |        |      |    |      |           |       |
|------------|--|---|--|----------|--------|------|----|------|-----------|-------|
| 1          | DC INPUT VOLTAGE RANGE                                     | I/P : TESTING            SPEC : 18~36VDC<br>O/P : FULL LOAD   | A:11~36VDC   | P        |        |      |    |      |           |       |
| 2          | LINE REGULATION  | I/P : 18~36VDC        SPEC : ±0.2%(MAX.)<br>O/P : FULL LOAD   | A:-0%~+0%<br>B:-0%~+0%<br>C:-0%~+0%<br>D:-0%~+0%         | P        |        |      |    |      |           |       |
| 3          | LOAD REGULATION  | I/P : 24VDC            SPEC : ±1%<br>O/P : MIN. TO FULL LOAD  | A:-0%~+0%<br>B:-0.1%~+0%<br>C:-0.1%~+0%<br>D:-0.1%~+0%   | P        |        |      |    |      |           |       |
| 4          | OUTPUT VOLTAGE TOLERANCE                                   | I/P : 18~36VDC        SPEC : NONE<br>O/P : MIN. TO FULL LOAD  | A:-0.1%~+0%<br>B:-0.1%~+0%<br>C:-0.1%~+0%<br>D:-0.1%~+0% | P        |        |      |    |      |           |       |
| 5          | RIPPLE & NOISE   | I/P : 24VDC            SPEC : 100mV<br>O/P : FULL LOAD  | A:20mV<br>B:20mV<br>C:22mV<br>D:12mV                     | P        |        |      |    |      |           |       |
| 6          | DC INPUT CURRENT   | I/P : 24VDC            SPEC : NONE<br>O/P : FULL LOAD   | A:0.26A  | P        |        |      |    |      |           |       |
| 7          | OVER LOAD PROTECTION                                       | I/P : 24VDC            SPEC : NONE<br>O/P : TESTING   | A:183%<br>B:171%<br>C:246%<br>D:212%                     | P        |        |      |    |      |           |       |
| 8          | O/P VOLTAGE ACCURACY                                       | I/P : 24VDC            SPEC : ±2%<br>O/P : MIN. LOAD  | A:+0.32%<br>B:+0.67%<br>C:+0.91%<br>D:-0.40%             | P        |        |      |    |      |           |       |
| 9          | SET UP TIME  | I/P : 24VDC            SPEC : NONE<br>O/P : FULL LOAD   | A:6.2mS  | P        |        |      |    |      |           |       |
| 10         | EFFICIENCY   | I/P : 24VDC            SPEC : 73%<br>O/P : FULL LOAD  | A:80.0%<br>B:82.6%<br>C:82.6%<br>D:82.1%                 | P        |        |      |    |      |           |       |
| 11         | INSULATION RESISTANCE                                      | SPEC : I/P – O/P 500VDC/100MΩ MIN.  | A:I/P – O/P > 100MΩ                                      | P        |        |      |    |      |           |       |
| 12         | DIELECTRIC / WITHSTAND VOLTAGE                             | SPEC : I/P – O/P : 1000VDC/ 1 min<br>(10mA CUT-OFF)   | A:NO BREAK<br>I/P – O/P : < 0.02mA                       | P        |        |      |    |      |           |       |
| 13         | BURN-IN TEST   | I/P:24VDC            O/P:FULL LOAD<br>TA:25℃                BURN-IN DURATION : 2 hrs  | A:NO BREAK<br>B:NO BREAK<br>C:NO BREAK<br>D:NO BREAK     | P        |        |      |    |      |           |       |
| 14         | TEMPERATURE RISE TEST ΔT OF PARTS                          | A:I/P : 24VDC            AFTER 4 hrs BURN-IN<br>O/P : FULL LOAD    TA : 25℃   |  | P        |        |      |    |      |           |       |
|            |  | <table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">POSITION</th> <th style="width: 25%;">SAMPLE</th> <th style="width: 25%;">TEMP</th> <th style="width: 25%;">ΔT</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">CASE</td> <td style="text-align: center;">SLW05B-05</td> <td style="text-align: center;">42.0℃</td> <td style="text-align: center;">17.0℃</td> </tr> </tbody> </table> | POSITION   |          | SAMPLE | TEMP | ΔT | CASE | SLW05B-05 | 42.0℃ |
| POSITION   | SAMPLE   | TEMP  | ΔT   |          |        |      |    |      |           |       |
| CASE       | SLW05B-05  | 42.0℃   | 17.0℃  |          |        |      |    |      |           |       |
| 15         | CONSTRUCTION INSPECTION (FOR QC INSPECTION REFERENCE ONLY) | A: 1. PACKING : 上,下加泡棉再加紙盒包裝<br>2. MARKING : MODEL<br>3. MECHANICAL : FIVE-SIDED SHIELD METAL CASE<br>4. DIMENSIONS : LXWXH=50.8X25.4X11.27mm   |  |          |        |      |    |      |           |       |
| DATE       | SAMPLE   | TEST RESULT   | TEST   | APPROVAL |        |      |    |      |           |       |
| 1998.11.19 | SLW05B-05<br>SLW05B-09<br>SLW05B-12<br>SLW05B-15           | PASS  | 鄭讚國  | MAX LIN  |        |      |    |      |           |       |