



- Features :
 - 1000VDC I/O isolation
 - Internal SMD technology
 - Built-in EMI filter
 - Cooling by free air convection
 - Non-conductive plastic case
 - Single in line package
 - DIP package is available
 - 100% burn-in test
 - Low cost / High reliability
 - Approvals: FCC / CE
 - 2 years warranty



SELECTION GUIDE

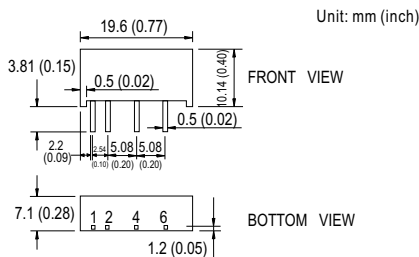
| | | | | | | | | |
|----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| ORDER NO. | SPR01L-05 | SPR01M-05 | SPR01N-05 | SPR01O-05 | SPR01L-09 | SPR01M-09 | SPR01N-09 | SPR01O-09 |
| DC OUTPUT VOLTAGE | 5V | | | | 9V | | | |
| OUTPUT CURRENT RANGE | 0 ~ 200mA | | | | 0 ~ 100mA | | | |
| EFFICIENCY | 57% | 65% | 62% | 62% | 57% | 60% | 60% | 56% |

| | | | | | | | | |
|----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| ORDER NO. | SPR01L-12 | SPR01M-12 | SPR01N-12 | SPR01O-12 | SPR01L-15 | SPR01M-15 | SPR01N-15 | SPR01O-15 |
| DC OUTPUT VOLTAGE | 12V | | | | 15V | | | |
| OUTPUT CURRENT RANGE | 0 ~ 84mA | | | | 0 ~ 67mA | | | |
| EFFICIENCY | 58% | 60% | 60% | 58% | 60% | 62% | 60% | 58% |

SPECIFICATION

| | | | | | | | | | | |
|----------------------|------------------------------|--|--------------|--------------|--------------|-------------|--------------|--------------|--------------|------|
| OUTPUT | RATED POWER | 1W | | | | | | | | |
| | RIPPLE & NOISE (max.) Note.2 | 100mVp-p | | | | | | | | |
| | LINE REGULATION | ±1.0% | | | | | | | | |
| | LOAD REGULATION Note.3 | ±1.0% | | | | | | | | |
| | VOLTAGE ACCURACY | ±2.0%(Typ.) | | | | ±3.0%(max.) | | | | |
| SWITCHING FREQUENCY | | 50KHz min. | | | | | | | | |
| INPUT | VOLTAGE RANGE | 4.5 ~ 5.5V | 10.8 ~ 13.2V | 21.6 ~ 26.4V | 43.2 ~ 52.8V | 4.5 ~ 5.5V | 10.8 ~ 13.2V | 21.6 ~ 26.4V | 43.2 ~ 52.8V | |
| | NORMAL VOLTAGE | 5V | 12V | 24V | 48V | 5V | 12V | 24V | 48V | |
| | INPUT CURRENT | Full load | 350mA | 141mA | 67mA | 35mA | 350mA | 141mA | 67mA | 35mA |
| | | No load | 32mA | 15mA | 10mA | 6mA | 32mA | 15mA | 10mA | 6mA |
| | FILTER | Capacitor type | | | | | | | | |
| PROTECTION | Fuse recommended | | | | | | | | | |
| PROTECTION (Note. 4) | OVERLOAD | >110% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed | | | | | | | | |
| | SHORT CIRCUIT | All output equipped with short circuit Protection type : Hiccup mode, recovers automatically after fault condition is removed | | | | | | | | |
| ENVIRONMENT | WORKING TEMP. | -25 ~ +71°C (Refer to output load derating curve) | | | | | | | | |
| | WORKING HUMIDITY | 20% ~ 90% RH non-condensing | | | | | | | | |
| | STORAGE TEMP., HUMIDITY | -25 ~ +105°C, 10 ~ 95% RH | | | | | | | | |
| | TEMP. COEFFICIENT | ±0.03% / °C (0 ~ 50°C) | | | | | | | | |
| | VIBRATION | 10 ~ 500Hz, 2G 10min./1 cycle, period for 60min. each along X, Y, Z axes | | | | | | | | |
| SAFETY & EMC | WITHSTAND VOLTAGE | I/P-O/P:1KVDC | | | | | | | | |
| | ISOLATION RESISTANCE | I/P-O/P: 100M Ohms / 500VDC / 25°C / 70% RH | | | | | | | | |
| | ISOLATION CAPACITANCE | 80pF max. | | | | | | | | |
| | EMI CONDUCTION & RADIATION | Compliance to EN55022 Class B, FCC part 15 Class B | | | | | | | | |
| | EMS IMMUNITY | Compliance to EN61000-4-2,3,4,5,6,8, light industry level, criteria A | | | | | | | | |
| OTHERS | MTBF | 700khrs min. MIL-HDBK-217F(25°C) | | | | | | | | |
| | DIMENSION | 19.6*7.1*10.2mm or 0.77**0.28**0.40" inch (L*W*H) | | | | | | | | |
| | WEIGHT | 2.3g | | | | | | | | |

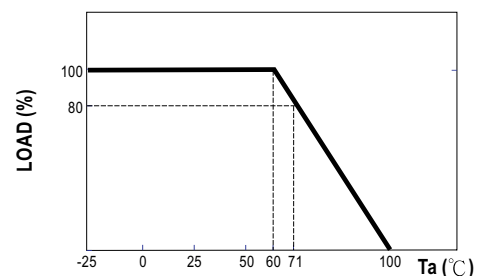
Mechanical Specification



Pin Configuration

| Pin No. | Output |
|---------|--------|
| 1 | +Vin |
| 2 | -Vin |
| 4 | -Vout |
| 6 | +Vout |

Derating Curve



NOTE

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