



■ Features :

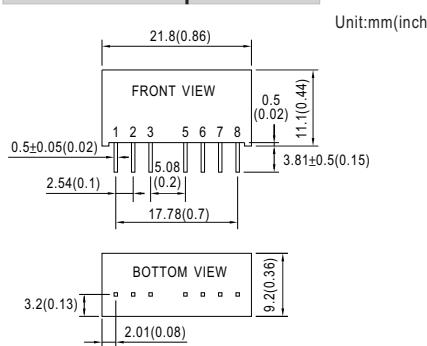
- 2:1 wide input range
- 4:1 wide input range (A / B Type Only)
- 1000VDC I/O isolation
- 3000VDC I/O isolation (Option)
- Built-in remote ON/OFF control
- Built-in EMI filter
- Protections: Short circuit / Overload
- Cooling by free air convection
- Single in line package
- 100% full load burn-in test
- Low cost / High reliability
- Modified models available: output 3.3V/9V
- 2 years warranty



SPECIFICATION

| ORDER NO. | SPA02E-05 | SPA02A-05 | SPA02B-05 | SPA02C-05 | SPA02E-12 | SPA02A-12 | SPA02B-12 | SPA02C-12 | SPA02E-15 | SPA02A-15 | SPA02B-15 | SPA02C-15 |
|----------------------|------------------------------|---|--------------|---------------|---------------|------------|-----------|-----------|------------|------------|-----------|-----------|
| OUTPUT | DC VOLTAGE | 5V | | | 12V | | | | 15V | | | |
| | CURRENT RANGE | 40 ~ 400mA | | | 15 ~ 150mA | 17 ~ 167mA | | | 12 ~ 120mA | 13 ~ 133mA | | |
| | RATED POWER | 2W | | | 1.8W | 2W | | | 1.8W | 2W | | |
| | RIPPLE & NOISE (max.) Note.2 | 60mVp-p | | | 60mVp-p | | | | 60mVp-p | | | |
| | LINE REGULATION Note.3 | ±0.5% | | | | | | | | | | |
| | LOAD REGULATION Note.4 | ±0.5% | | | | | | | | | | |
| | VOLTAGE ACCURACY | ±2.0% | | | | | | | | | | |
| INPUT | SWITCHING FREQUENCY | 100KHz min. | | | | | | | | | | |
| | VOLTAGE RANGE | E: 4.5 ~ 9VDC | A: 9 ~ 18VDC | B: 18 ~ 36VDC | C: 36 ~ 72VDC | | | | | | | |
| | EFFICIENCY (Typ.) | 71% | 76% | 76% | 74% | 74% | 80% | 80% | 82% | 76% | 80% | 80% |
| | DC CURRENT | Full load | E: 600mA | A: 225mA | B: 115mA | C: 60mA | | | | | | |
| | | No load | E: 50mA | A: 25mA | B: 15mA | C: 8mA | | | | | | |
| | FILTER | Capacitor Type | | | | | | | | | | |
| | REMOTE CONTROL | Power ON : R.C. ~ -Vin < 1VDC or open ; Power OFF : R.C. ~ -Vin > 4VDC | | | | | | | | | | |
| PROTECTION (Note. 5) | PROTECTION | Fuse recommended | | | | | | | | | | |
| | OVERLOAD | 150 ~ 250% rated output power | | | | | | | | | | |
| | | Protection type : Recovers automatically after fault condition is removed | | | | | | | | | | |
| ENVIRONMENT | SHORT CIRCUIT | All output equipped with short circuit | | | | | | | | | | |
| | | Protection type : Recovers automatically after fault condition is removed | | | | | | | | | | |
| SAFETY | WORKING TEMP. | -40 ~ +85°C (Refer to "Derating Curve") | | | | | | | | | | |
| | WORKING HUMIDITY | 20% ~ 90% RH non-condensing | | | | | | | | | | |
| | STORAGE TEMP., HUMIDITY | -40 ~ +105°C, 10 ~ 95% RH | | | | | | | | | | |
| | TEMP. COEFFICIENT | ±0.05% / °C (0 ~ 50°C) | | | | | | | | | | |
| OTHERS | VIBRATION | 10 ~ 500Hz, 2G 10min./1 cycle, period for 60min. each along X, Y, Z axes | | | | | | | | | | |
| | SAFETY STANDARDS | EAC TP TC 004 approved | | | | | | | | | | |
| | WITHSTAND VOLTAGE | I/P-O/P:1KVDC | | | | | | | | | | |
| ISOLATION RESISTANCE | ISOLATION RESISTANCE | I/P-O/P: 100M Ohms / 500VDC / 25°C / 70% RH | | | | | | | | | | |
| | ISOLATION CAPACITANCE | 80pF max. | | | | | | | | | | |
| EMC EMISSION | EMC EMISSION | Compliance to EN55032 Class B, FCC part 15 Class B, EAC TP TC 020 | | | | | | | | | | |
| | EMC IMMUNITY | Compliance to EN61000-4-2,3,4,5,6,8 light industry level, criteria A, EAC TP TC 020 | | | | | | | | | | |
| MTBF | MTBF | 600Khrs min. MIL-HDBK-217F(25°C) | | | | | | | | | | |
| | DIMENSION | 21.8*9.2*11.1mm or 0.86*0.36*0.44" inch (L*W*H) | | | | | | | | | | |
| WEIGHT | | 4.8g | | | | | | | | | | |

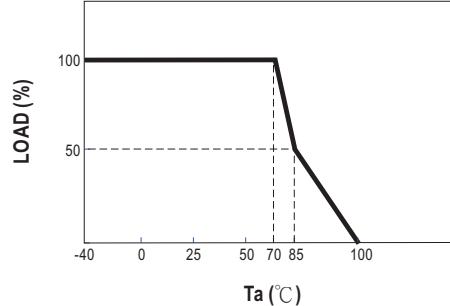
■ Mechanical Specification



■ Pin Configuration

| Pin No. | Output |
|---------|--------|
| 1 | -Vin |
| 2 | +Vin |
| 3 | R.C. |
| 5 | N.C. |
| 6 | +Vout |
| 7 | -Vout |
| 8 | N.C. |

■ 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.

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