



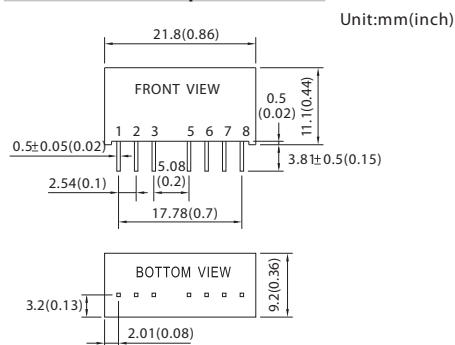
- Features :
  - 2:1 wide input range
  - 4:1 wide input range (Option)
  - 1000VDC I/O isolation
  - 3000VDC I/O isolation (Option)
  - Built-in remote ON/OFF control
  - Built-in EMI filter
  - Protections: Short circuit / Overload
  - Cooling by free air convection
  - Single in line package
  - 100%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



## 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			
	RATED POWER	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%	78%
	DC CURRENT	Full load E: 600mA A: 225mA B: 115mA C: 60mA No load E: 50mA A: 25mA B: 15mA C: 8mA											
	FILTER	Pi network											
PROTECTION (Note. 5)	OVERLOAD	150 ~ 250% 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.	-40 ~ +85°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	±0.05% / °C (0 ~ 50°C)											
	VIBRATION	10 ~ 500Hz, 2G 10min./1 cycle, period for 60min. each along X, Y, Z axes											
SAFETY	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	REMOTE CONTROL	Power ON : R.C. ~ +Vin < 1VDC or open ; Power OFF : R.C. ~ +Vin > 4VDC or short											
	MTBF	600Khrs min. MIL-HDBK-217F(25°C)											
	DIMENSION	21.8*9.2* 11.1mm or 0.86** 0.36* 0.44inch (L*W*H)											
	WEIGHT	4.8g											

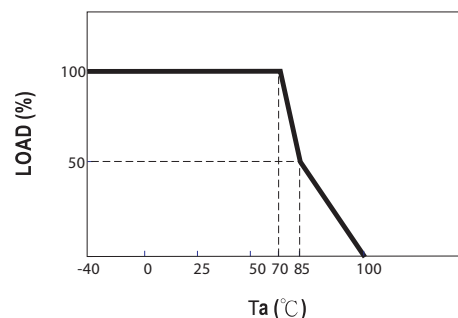
### Mechanical Specification



### 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
- 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.
  - Line regulation is measured from low line to high line at rated load.
  - 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.