

Distributed by:

JAMECO[®]
ELECTRONICS

www.Jameco.com ♦ 1-800-831-4242

The content and copyrights of the attached
material are the property of its owner.

Jameco Part Number 216831


Features :

- 1000VDC I/O isolation
- Internal SMD technology
- Input filter: Capacitor type
- Non-conductive plastic case
- Single in line package
- DIP packge is available
- 100% burn-in test
- Low cost / High reliability
- Approvals: FCC / CE
- 1 year warranty

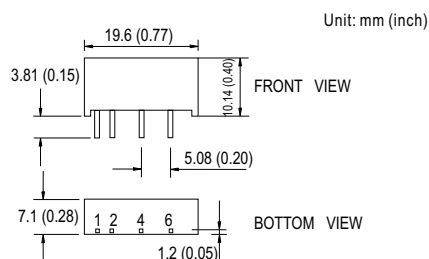

SELECTION GUIDE

ORDER NO.	SPR01L-05	SPR01M-05	SPR01N-05	SPR01O-05	SPR01L-09	SPR01M-09	SPR01N-09	SPR01O-09
DC OUTPUT VOLTAGE	5V				9V			
INPUT CURRENT RANGE	0 ~ 200mA				0 ~ 100mA			
EFFICIENCY	57%	59%	62%	62%	58%	60%	60%	60%

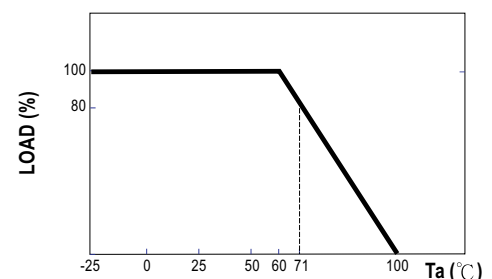
ORDER NO.	SPR01L-12	SPR01M-12	SPR01N-12	SPR01O-12	SPR01L-15	SPR01M-15	SPR01N-15	SPR01O-15
DC OUTPUT VOLTAGE	12V				15V			
INPUT CURRENT RANGE	0 ~ 84mA				0 ~ 67mA			
EFFICIENCY	61%	62%	63%	63%	62%	63%	63%	63%

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%							
	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
		No load	32mA	15mA	10mA	6mA	32mA	15mA	10mA
	FILTER	Capacitor type							
PROTECTION (Note. 4)	OVERLOAD	Momentary							
		Protection type : Hiccup mode, recovers automatically after fault condition is removed							
	SHORT CIRCUIT	Momentary							
		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

- 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.Load regulation is measured from 10% to 100% rated load.
- 4.Please prevent the converter from operating in overload or short circuit condition for more than 30 seconds.

Model : SPR01L-12 1W DC-DC Single Output Converter
V1 : 12V / 0~84mA

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	VOLTAGE ACCURACY	-2%~+2% (Max)	I/P:5VDC O/P:50% LOAD Ta:25°C	+0.9%	P
2	RIPPLE & NOISE	100mVp-p (Max)	I/P:5VDC O/P:FULL LOAD Ta:25°C	10mV	P
3	LINE REGULATION	-1%~+1% (Max)	I/P:4.5VDC~5.5VDC O/P:FULL LOAD Ta:25°C	-0.2%~+0.4%	P
4	LOAD REGULATION	-1%~+1% (Max)	I/P:5VDC O/P:MIN~FULL LOAD Ta:25°C	-0%~+0%	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	DC VOLTAGE RANGE	4.5VDC~5.5VDC (Typ)	I/P:TESTING O/P:FULL LOAD Ta:25°C	4.1~5.5V	P
2	EFFICIENCY	58% (Typ)	I/P:5 VDC O/P:FULL LOAD Ta:25°C	58.5%	P
3	DC CURRENT	350mA (Max)	I/P:5VDC O/P:FULL LOAD Ta:25°C	349mA	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	YES	I/P:5VDC O/P:TESTING Ta:25°C	136% Hiccup Mode Reset Auto Recovery	P
2	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P:5VDC O/P:FULL LOAD Ta:25°C	NO DAMAGE Hiccup Mode Reset Auto Recovery	P

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	TEMPERATURE RISE TEST	1. ROOM AMBIENT BURN-IN : 4HRS I/P:5VDC O/P:FULL LOAD Ta=25°C			P
		Position	P/N	TEMP Ta=25°C	
		CASE	SPR01L-12	44.6°C	

SAFETY TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P:1KVDC/min	I/P-O/P:1KVDC/min Ta:25℃	I/P-O/P:0.02mA NO DAMAGE	P
2	ISOLATION RESISTANCE	I/P-O/P:500VDC>100MΩ	I/P-O/P:500VDC Ta:25℃	I/P-O/P:30GΩ NO DAMAGE	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2003.7.21	SPR01L-12	PASS	FRANK.CHEN	MAX LIN