JAMECO ELECTRONICS
Jameco SKU Number: 2107768



■ 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 packge 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%

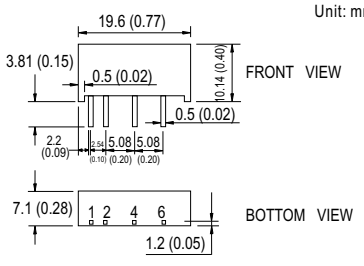
ORDER NO.	SPR01L-12	SPR01M-12	SPR01N-12	SPR01O-12	SPR01L-15	SPR01M-15	SPR01N-15	SPR01O-15
DC OUTPUT VOLTAGE	12V				15V			
OUTPUT CURRENT RANGE	0 ~ 84mA				0 ~ 67mA			
EFFICIENCY	58%	60%	60%	58%	60%	62%	60%	58%

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		Momentary						
			Protection type : Broken						
	SHORT CIRCUIT		Momentary						
			Protection type : Broken						
ENVIRONMENT	WORKING TEMP.		-25 ~ +71℃ (Refer to output load derating curve)						
	WORKING HUMIDITY		20% ~ 90% RH non-condensing						
	STORAGE TEMP., HUMIDITY		-25 ~ +105℃, 10 ~ 95% RH						
	TEMP. COEFFICIENT		±0.03% / ℃ (0 ~ 50℃)						
	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℃ / 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℃)						
	DIMENSION		19.6*7.1*10.2mm or 0.77"*0.28"*0.40" inch (L*W*H)						
	WEIGHT		2.3g						

■ Mechanical Specification

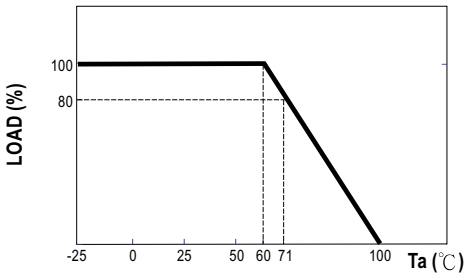
Unit: mm (inch)



■ 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℃ 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 : SPR01M-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:12VDC O/P:50% LOAD Ta:25℃	+0.3%	P
2	RIPPLE & NOISE	100mVp-p (Max)	I/P:12VDC O/P:FULL LOAD Ta:25℃	10mV	P
3	LINE REGULATION	-1%~+1% (Max)	I/P:10.8VDC~13.2VDC O/P:FULL LOAD Ta:25℃	-0.6%~+0.1%	P
4	LOAD REGULATION	-1%~+1% (Max)	I/P:12VDC O/P:MIN~FULL LOAD Ta:25℃	-0.1%~+0%	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	DC VOLTAGE RANGE	10.8VDC~13.2VDC (Typ)	I/P:TESTING O/P:FULL LOAD Ta:25℃	9.9V~13.2V	P
2	EFFICIENCY	62% (Typ)	I/P:12VDC O/P:FULL LOAD Ta:25℃	63.2%	P
3	DC CURRENT	141mA (Max)	I/P:12VDC O/P:FULL LOAD Ta:25℃	134mA	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	YES	I/P:12VDC O/P:TESTING Ta:25℃	162% Hiccup Mode Reset Auto Recovery	P
2	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P:12VDC O/P:FULL LOAD Ta:25℃	NO DAMAGE Hiccup Mode Reset Auto Recovery	P

ENVIRONMENT TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	TEMPERATURE RISE TEST	1. ROOM AMBIENT BURN-IN：12HRS I/P:12VDC O/P:FULL LOAD Ta=25℃			P

Position	P/N	TEMP Ta=25℃
CASE	SPR01M-12	43.2℃

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
2003.7.23	SPR01M-12	PASS	FRANK.CHEN	MAX LIN