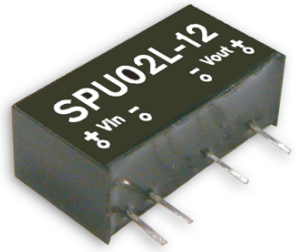
Jameco SKU Number: 2107864

2W DC-DC Unregulated Single Output Converter

SPU02 series



■ Features :

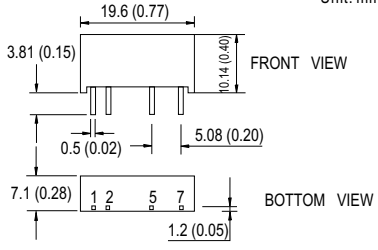
- 3000VDC I/O isolation
- Internal SMD technology
- Built-in EMI filter
- Protection: Short circuit
- Cooling by free air convection
- Non-conductive plastic case
- Single in line package
- 100% full load burn-in test
- Low cost / High reliability
- 2 years warranty

SPECIFICATION

ORDER NO.			SPU02L-05	SPU02M-05	SPU02N-05	SPU02L-12	SPU02M-12	SPU02N-12	SPU02L-15	SPU02M-15	SPU02N-15
OUTPUT	DC OUTPUT VOLTAGE		5V			12V			15V		
	CURRENT RANGE		0 ~ 400mA			0 ~ 167mA			0 ~ 133mA		
	EFFICIENCY (Typ.)		77%	79%	77%	80%	81%	80%	81%	83%	82%
	RATED POWER		2W								
	RIPPLE & NOISE (max.) Note.2		100mVp-p								
	LINE REGULATION Note.3		±1.2% for 1% input variation								
	LOAD REGULATION Note.4		±8.0%								
	VOLTAGE ACCURACY		±2.0%								
	SWITCHING FREQUENCY		100KHz min.								
INPUT	VOLTAGE RANGE		4.5 ~ 5.5V	10.8 ~ 13.2V	21.6 ~ 26.4V	4.5 ~ 5.5V	10.8 ~ 13.2V	21.6 ~ 26.4V	4.5 ~ 5.5V	10.8 ~ 13.2V	21.6 ~ 26.4V
	NORMAL VOLTAGE		5V	12V	24V	5V	12V	24V	5V	12V	24V
	INPUT CURRENT	Full load	520mA	214mA	107mA	520mA	214mA	107mA	520mA	214mA	107mA
		No load	60mA	20mA	15mA	60mA	20mA	15mA	60mA	20mA	15mA
	FILTER		Capacitor type								
	PROTECTION		Fuse recommended								
PROTECTION	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:3KVDC								
	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

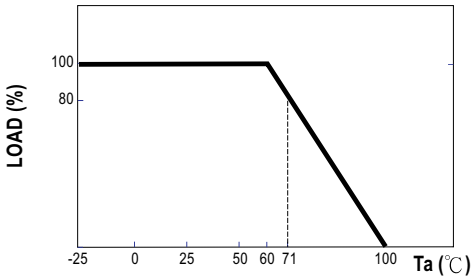
Unit: mm (inch)



■ Pin Configuration

Pin No.	Output
1	+Vin
2	-Vin
5	-Vout
7	+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.Line regulation is measured from low line to high line at rated load.
4.Load regulation is measured from 10% to 100% rated load.

Model : SPU02L-12 2W
12V / 167mA

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	VOLTAGE ACCURACY	-2%~+2%	I/P:5VDC O/P:FULL LOAD Ta:25℃	-1.77%	P
2	RIPPLE & NOISE	100mVp-p	I/P:5VDC O/P:FULL LOAD Ta:25℃	67mV	P
3	LINE REGULATION	-12%~+12%	I/P:4.5VDC~5.5VDC O/P:FULL LOAD Ta:25℃	-11.7%~+11.6%	P
4	LOAD REGULATION	-8%~+8%	I/P:5VDC O/P:20%~FULL LOAD Ta:25℃	-6.17%~+3.92%	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	EFFICIENCY	80% (Typ)	I/P:5VDC O/P:FULL LOAD Ta:25℃	81.1%	p
2	DC CURRENT	500mA FULL LOAD 45mA NO LOAD	I/P:5VDC O/P:FULL LOAD Ta:25℃	488.8 mA / FULL LOAD 43.0 mA / NO LOAD	P

ENVIRONMENT TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	TEMPERATURE RISE TEST	1. ROOM AMBIENT BURN-IN：3HRS I/P:5VDC O/P:FULL LOAD Ta=24.2℃ 2. HIGH AMBIENT BURN-IN：21HRS I/P:5VDC O/P:FULL LOAD Ta=77℃			P

Position	CENTER	1	2
CASE	SPU02L-12	50.5℃	99.6℃

SAFETY TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P:1KVDC/min	I/P-O/P:3KVDC/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:>100MΩ NO DAMAGE	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2007.3.7	SPU02L-12	PASS	PETER CHENG	MAX LIN