Jameco Part Number 1953241

5W DC-DC Regulated Dual Output Converter

DCW05 series

Features :

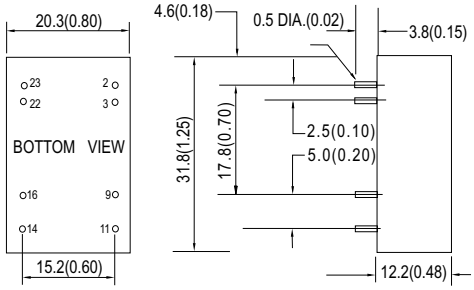
- 2:1 wide input range
- 4:1 wide input range(option)
- 1000VDC I/O isolation
- 3000VDC I/O isolation(option)
- Input Pi network filter
- Protections: Short circuit / Overload
- Cooling by free air convection
- Five-sided shield metal case
- 100% burn-in test
- Low cost / High reliability
- Approvals: FCC / CE
- 1 year warranty

SPECIFICATION

ORDER NO.		DCW05A-05	DCW05B-05	DCW05C-05	DCW05A-12	DCW05B-12	DCW05C-12	DCW05A-15	DCW05B-15	DCW05C-15
OUTPUT	DC VOLTAGE	±5V			±12V			±15V		
	CURRENT RANGE	±50 ~ ±500mA			±23 ~ ±230mA			±19 ~ ±190mA		
	RATED POWER	5W			5.5W			5.7W		
	RIPPLE & NOISE (max.) Note.2	50mVp-p			60mVp-p			60mVp-p		
	LINE REGULATION Note.3	±0.5%								
	LOAD REGULATION Note.4	±0.5%								
	VOLTAGE ACCURACY	±2.0%								
	SWITCHING FREQUENCY	50KHz min.								
INPUT	VOLTAGE RANGE	A: 9 ~ 18VDC	B: 18 ~ 36VDC	C: 36 ~ 72VDC						
	EFFICIENCY (Typ.)	75%	77%	77%	80%	82%	83%	81%	83%	85%
	DC CURRENT	Full load	A: 586mA	B: 286mA	C: 139mA					
		No load	A: 41mA	B: 21mA	C: 12mA					
	FILTER	Pi network								
PROTECTION	OVERLOAD	150 ~ 250% rated output load								
		Protection type : Shunt down o/p voltage, re-power on to recover								
	SHORT CIRCUIT	All output equipped with over current protection								
		Protection type : Shun down o/p voltage, re-power on to recover								
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./1cycle, period for 60min. each along X, Y, Z axes								
SAFETY & EMC (Note. 5)	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	900khrs min. MIL-HDBK-217F (25℃)								
	DIMENSION	31.8*20.3*12.2mm (L*W*H) or 1.25"*0.80"*0.48" inch (L*W*H)								
	PACKING	15g								

Mechanical Specification

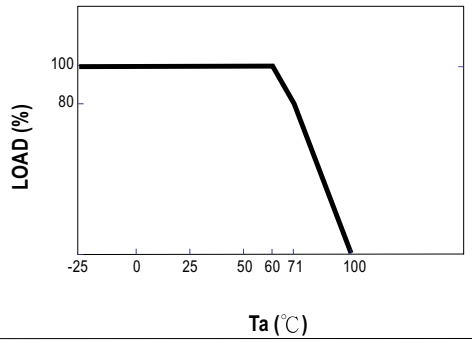
Unit:mm(inch)



Pin Configuration

Pin No.	Output
2 & 3	-Vin
9	COM
11	-Vout
14	+Vout
16	COM
22 & 23	+Vin

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.
5.The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.

Model : DCW05A-12 5.5W DC-DC Dual Output Converter
V1 : +12V / 23~230mA
V2 : -12V / 23~230mA

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OUTPUT VOLTAGE ACCURACY	V1:-2%~+2% (Max) V2:-2%~+2% (Max)	I/P: 12VDC O/P:50% LOAD Ta:25℃	V1:-0.66% V2:-0.76%	P
2	RIPPLE & NOISE	V1:100mVp-p (Max) V2:100mVp-p (Max)	I/P:12VDC O/P:FULL LOAD Ta:25℃	V1:30mVp-p V2:30mVp-p	P
3	LINE REGULATION	V1:-0.2%~+0.2% (Max) V2:-0.2%~+0.2% (Max)	I/P:9VDC ~18VDC O/P:FULL LOAD Ta:25℃	V1: -0.01%~+0.01% V2: -0.01%~+0.01%	P
4	LOAD REGULATION	V1:-0.2%~+0.2% (Max) V2:-0.2%~+0.2% (Max)	I/P:12VDC O/P:FULL ~MIN LOAD Ta:25℃	V1: -0.05%~+0.04% V2: -0.06%~+0.06%	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	9VDC~18VDC (Typ)	I/P:TESTING O/P:FULL LOAD Ta:25℃	7.0V~18Vdc	P
2	EFFICIENCY	80% (TYP)	I/P:12VDC O/P:FULL LOAD Ta:25℃	79.7%	P
3	INPUT CURRENT	572mA (Max.) FULL LOAD 40mA (Typ.) NO LOAD	I/P:12VDC O/P:TEST Ta:25℃	572mA / FULL LOAD 28.8mA / NO LOAD	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℃	189% HICCUP MODE AUTO-RECOVER	P
2	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P:18VDC O/P:FULL LOAD Ta:25℃	NO DAMAGE HICCUP MODE AUTO-RECOVER	P

ENVIRONMENT TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	TEMPERATURE RISE TEST	1. ROOM AMBIENT BURN-IN：16HRS I/P:12VDC O/P: FULL LOAD Ta= 28℃ Position / P/N / TEMP Ta=28℃ CASE / CENTER / 48.6℃			P
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 1.5 HOURS	I/P:12VDC O/P: 100% LOAD Ta= -40℃	TEST：OK	P
3	HIGH TEMPERATURE BURN IN TEST	CONTROL Ta=71℃ NO DAMAGE	I/P:12VDC O/P:FULL LOAD Ta=71℃	TEST：OK	P

SAFETY TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P:1000 VDC/min	I/P-O/P:1000 VDC/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:500 VDC Ta:25℃	I/P-O/P>100MΩ NO DAMAGE	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2004.4.27	DCW05A-12	PASS	T.K.CHENG	MAX LIN