

FEATURES :

- 3PIN SIP Package
- Pin-out compatible with LM78XX Linear
- Efficiency up to 95%, Non isolated, no need for heatsinks
- UL94V-0 package material
- Operating temperature from -40°C to +85°C
- No-load input current as low as 0.3mA
- Short circuit protection
- UL/cUL/IEC/EN 62368-1 approved, CB-Report
- EMC Standard of EMI EN55032:2015 Approved
- EMC Standard of EMS EN55035:2017 Approved

YUAN DEAN SCIENTIFIC



DC-DC Converter

01DC-500 SERIES

Non-Isolated

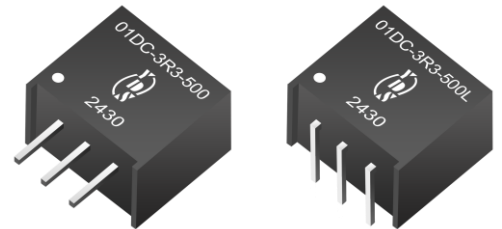
Single Output

0.45" * 0.3" * 0.4"

Specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified

Part Number	Input Range	Output Voltage	Output Current	Efficiency (%)		Capacitive Load
	Vdc	Vdc	mA	Min.Vin	Max.Vin	µF max
01DC-1R2-500(L)	4.75-36	1.2	500	74	62	1000
	4.75-25	-1.2	-400	62	60	470
01DC-1R5-500(L)	4.75-36	1.5	500	78	65	1000
	4.75-25	-1.5	-400	65	63	470
01DC-1R8-500(L)	4.75-36	1.8	500	82	69	1000
	4.75-25	-1.8	-400	69	68	470
01DC-2R5-500(L)	4.75-36	2.5	500	87	75	1000
	4.75-25	-2.5	-400	74	73	470
01DC-3R3-500(L)	4.75-36	3.3	500	90	78	1000
	4.75-25	-3.3	-400	75	78	470
01DC-05-500(L)	6.5-36	5.0	500	92	84	1000
	6.5-27	-5.0	-500	78	83	470
01DC-6R5-500(L)	9.0-36	6.5	500	93	86	1000
	6.5-25	-6.5	-300	82	84	470
01DC-09-500(L)	12-36	9.0	500	95	90	1000
	7.0-23	-9.0	-200	85	86	470
01DC-12-500(L)	15-36	12	500	95	92	1000
	7-20	-12	-200	83	87	470
01DC-15-500(L)	18-36	15	500	95	93	1000
	7-18	-15	-200	81	87	470

Note:(L) Add a suffix to bend the feet 90°, e.g, 01DC-05-500L

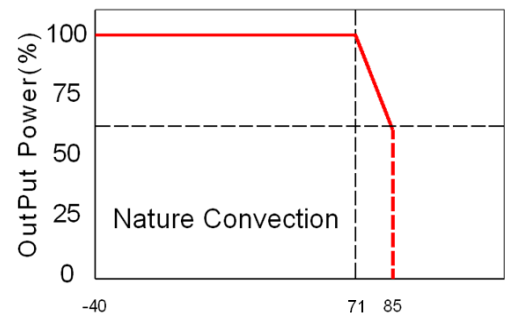


Output Specifications

Parameters	Conditions	Min	Typ	Max	Units
Voltage Tolerance			2	±3	%
Short Circuit Protection	Continuous, automatic recovery				
Line Regulation	1.2V to 1.5V			0.3	%
Line Regulation	1.8V to 15V			0.3	%
Load Regulation	1.2V to 1.5V (10% To 100% F.L)			0.6	%
Load Regulation	1.8 V to 15V (10% To 100% F.L)		0.4	0.6	%
Ripple & Noise (without Output Capacitor)	1.2V to 6.5V (BW=DC To 20MHz)			75	mVp-p
	9V to 15V (BW=DC To 20MHz)			100	mVp-p
Transient response setting time	50% load step change		250		us
Maximum operating altitude		5000M			



Temperature Derating Graph



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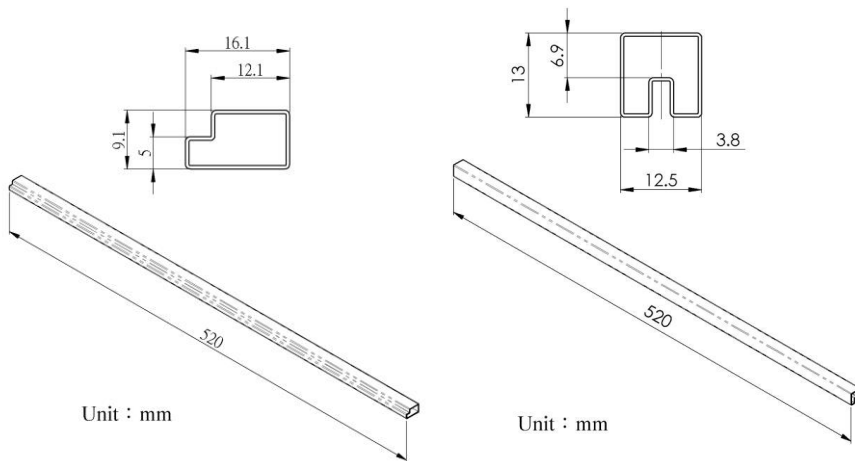
Electromagnetic Compatibility (EMC)

EMI	CE	CISPR32/EN55032 CLASS B (see Fig. 1 for recommended circuit)		
	RE	CISPR32/EN55032 CLASS B (see Fig. 1 for recommended circuit)		
EMS	ESD	IEC/EN61000-4-2	Contact ±4kV	perf. Criteria B
	RS	IEC/EN 61000-4-3	10V/m	perf. Criteria A
	EFT	IEC/EN 61000-4-4	±1kV	perf. Criteria B
	Surge	IEC/EN 61000-4-5	line to line ±1kV	perf. Criteria B
	CS	IEC/EN 61000-4-6	3Vr.m.s	perf. Criteria A

General Specifications

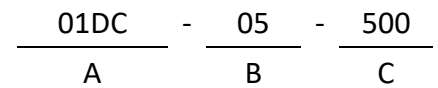
Parameters	Conditions	Min	Typ	Max	Units
Switching Frequency			440		KHz
Operating Temperature		-40		85	°C
Storage Temperature		-55		125	°C
Humidity	Non Condensing			95	%
Cooling	Free air Convection				
Case material	Non-Conductive Black Plastic				
Weight			2.0		g
Dimensions			11.6x7.6x10.4		mm
MTBF(+25°C)	using MIL-HDBK 217F		5000x10 ³		hours
MTBF(+71°C)	using MIL-HDBK 217F		1000x10 ³		hours

Packing Formation



Weight	:	2.0 grams/pcs
Tube	:	43 pcs

Part Number



- A: Series
- B: Output Voltage
- C: Output Current

EMC (CLASS B) Compliance Circuit

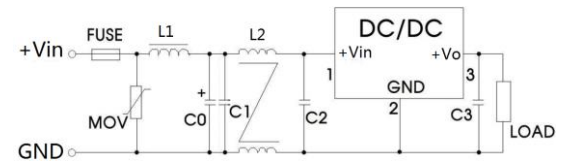
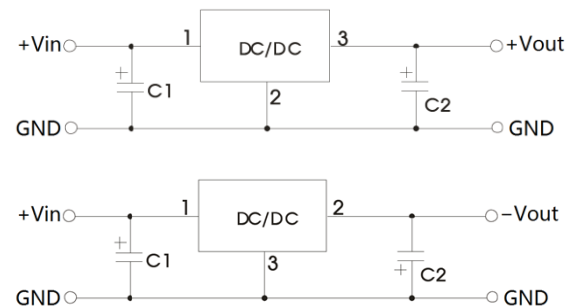


Fig.1

FUSE	Select fuse value according to actual input current
MOV	S20K30
L1	82µH
C0	680µF /50V
L2	4.7mH
C1,C3,C4	4.7µF /50V
C2	10µF /50V

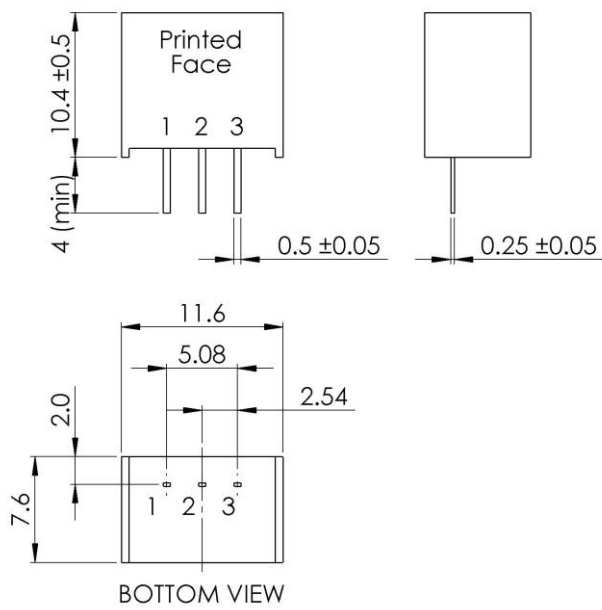
Recommended Test Circuit



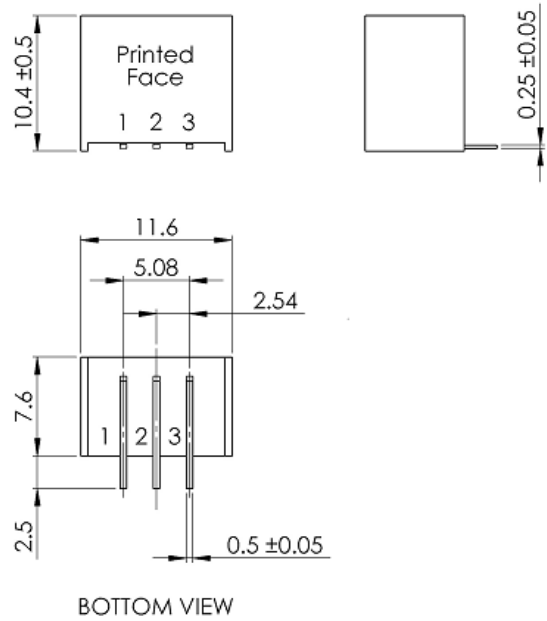
Vout	C1	C2
1.2	10µF/50V	22µF/10V
1.5		22µF/10V
1.8		22µF/10V
2.5		22µF/10V
3.3		22µF/10V
5		22µF/10V
6.5		22µF/16V
9		22µF/16V
12		22µF/25V
15		22µF/25V



Markings and Dimensions



Unit : mm
Tolerance : XX.X ± 0.5 , XX.XX ± 0.25



Unit : mm
Tolerance : XX.X ± 0.5 , XX.XX ± 0.25

PIN Connection

PIN	1	2	3
SINGLE	+Vin	GND	+Vout