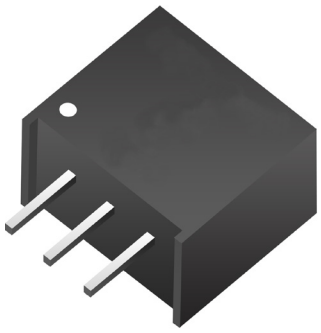
Non Isolated DC DC Converter

multicomp PRO

RoHS Compliant



Features

- 3PIN SIP Package
- Efficiency up to 95%,Non isolated, no need for heatsinks
- UL94V-0 package material
- Operating temperature from -40°to +85°
- 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

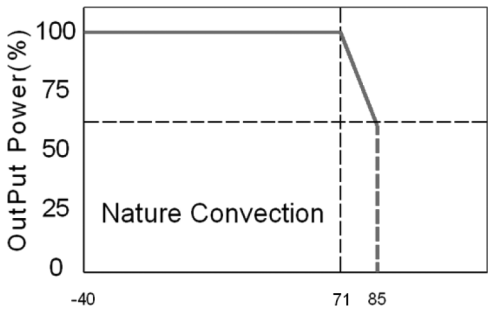
Specification Table

Typical @ T_A=25°C, nominal input voltage and rated output current unless otherwise specified

Part Number	Input Range	Output Voltage	Output Current	Efficiency (%)		Capacitive Load
	V DC	V DC	mA	Min. Vin	Max. Vin	μF max
MP016989	6.5-36	5	1000	92	84	680
MP016990	12-36	9		95	90	
MP016991	15-36	12			92	470
MP016992	18-36	15			93	
MP016993	4.75-36	1.2		74	62	680
MP016994		1.5		78	65	
MP016995		1.8		82	69	
MP016996		2.5		87	75	
MP016997		3.3		90	78	
MP016998	9.0-36	6.5		93	86	

Note:(L) Add a suffix to bend the feet 90°

Temperature Derating Graph



Dimensions : Millimetres

Newark.com/multicomp-pro
Farnell.com/multicomp-pro
sg.element14.com/b/multicomp-pro

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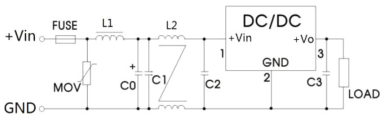
Output Specifications

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	%
	1.8V to 15V				
Load Regulation	1.2V to 1.5V (10% to 100% F.L)			0.6	
	1.8V to 15V (10% to 100% F.L.)		0.4		
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	
Transient response setting time	50% load step change		250		us

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

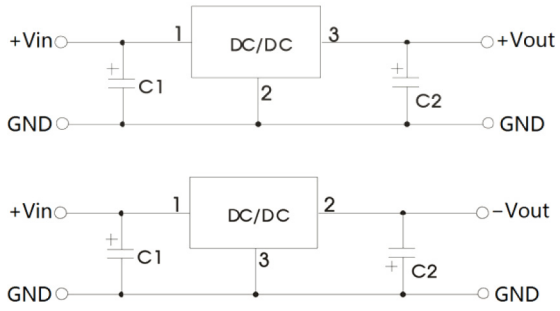
EMC (Class B) Compliance Circuit



General Specifications

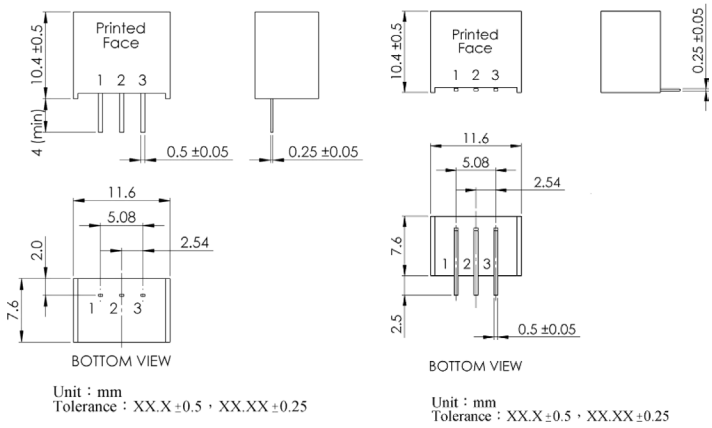
Parameters	Conditions	Min	Typ	Max	Units
Switching Frequency			440		KHz
Operating Temperature		-40		85	°C
Storage Temperature		-55		125	
Humidity	Non Condensing			95	%
Cooling	Free air Convection				
Case material	Non-ConductiveBlack Plastic				
Weight			2		g
Dimensions			11.6 × 7.6 × 10.4		mm
MTBF(+25°)	using MIL-HDBK 217F		5000×10^3		hours
MTBF(+71°)			1000×10^3		

Recommended Test Circuit



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

Markings and Dimensions



PIN Connection			
PIN	1	2	3
Single	+Vin	GND	+Vout

Part Number Table

Description	Part Number
DC to DC Converter, Non Isolated, 1A, 5V	MP016989
DC to DC Converter, Non Isolated, 1A, 9V	MP016990
DC to DC Converter, Non Isolated, 1A, 12V	MP016991
DC to DC Converter, Non Isolated, 1A, 15V	MP016992
DC to DC Converter, Non Isolated, 1A, 1.2V	MP016993
DC to DC Converter, Non Isolated, 1A, 1.5V	MP016994
DC to DC Converter, Non Isolated, 1A, 1.8V	MP016995
DC to DC Converter, Non Isolated, 1A, 2.5V	MP016996
DC to DC Converter, Non Isolated, 1A, 3.3V	MP016997
DC to DC Converter, Non Isolated, 1A, 6.5V	MP016998