SL-051509SH6

SCHMID-M

ISSUE DATE : 14.MAR,2019   Rev.0
1.0 W   Dual Output   Non-Regulated DC/DC Converter

Note: This data sheet only for reference.

ALL SPECIFICATIONS ARE TYPICAL AT 25°C, NOMINAL INPUT AND FULL LOAD UNLESS OTHERWISE NOTED.

OUTPUT SPECIFICATIONS

Output Voltage	+15Vdc / -9 Vdc, ±5%
Output Current	+33.33mA / -55.55 mA, max.
Line Regulation	±1.2% / Per 1% Vin Change
Load Regulation	(From 20% to 100% Load) ±8%
Ripple&Noise (20 Mhz bandwidth)(1)	±100mVpk-pk,max.
Short Circuit Protection	Continuous
Temperature Coefficient	±0.03%/°C
Capacitive Load(2)	±100µF, max.

INPUT SPECIFICATIONS

Input Voltage Range	5Vdc,±10%
Input Current(No-Load)	40mA, max.
Input Current(Full-Load)	263.15mA, typ.
Input Filter	Capacitors
Input Reflected Ripple Current(3)	20mApk-pk

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40°C ~ +85°C
Maximum Case Temperature	100°C
Storage Temperature	-40°C ~ +125°C
Cooling	Nature Convection

ABSOLUTE SPECIFICATIONS(4)

These are stress ratings. Exposure of devices to any of these conditions may adversely affect long-term reliability.

Input Surge Voltage(100mS)	7 Vdc, max.
Soldering Temperature	260°C, max.
(1.5mm from case 10sec max.)	

EMC CHARACTERISTICS

Conducted Emissions (6)	EN55032	CLASS B
Radiated Emissions	EN55032	CLASS B
ESD	IEC 61000-4-2	Perf. Criteria A
RS	IEC 61000-4-3	Perf. Criteria A
EFT(7)	IEC 61000-4-4	Perf. Criteria A
CS	IEC 61000-4-6	Perf. Criteria A
PFMF	IEC 61000-4-8	Perf. Criteria A

PHYSICAL SPECIFICATIONS

Clearance Distance	(Input to Output) 2.5 mm
Case Material	Non-conductive Black Plastic(UL94V-0 rated)
Pin Material	0.5mm Alloy42 Solder-coated
Potting Material	Epoxy (UL94V-0 rated)
Weight	4.3g
Dimensions	0.77"x0.39"x0.49"

GENERAL SPECIFICATIONS

|	
Efficiency	76%, min.
I/O Isolation Voltage(60sec)	6000 Vdc
I/O Isolation Resistance	1000 MΩ, min.
I/O Isolation Capacitance	10 pF, typ.
Switching Frequency	30kHz, typ.
Humidity	95% rel H
Reliability Calculated MTBF(MIL-HDBK-217 F)	>2.390 Mhrs
Safety Standard(designed to meet)	IEC 60950-1

NOTE

1. Ripple/Noise measured with 20MHz bandwidth.
2. Tested by minimal Vin and constant resistive load.
3. Measured Input reflected ripple current with a simulated source inductance of 12uH And a source capacitor Cin(47µF, ESR<1.0Ω at 100kHz).
4. Exceeding the absolute ratings of the unit could cause damage. It is not allowed for continuous operating.
5. Operation under no-load conditions will not damage these devices, however they may not meet all listed specifications.
6. Input filter components are be required to help meet conducted emission class B, which application refer to the EMI Filter of design & feature configuration.
7. An external filter capacitor is required if the module has to meet IEC61000-4-4. The filter capacitor SCHMID-M suggest: Nippon - chemi - con KY series, 470µF/100V.

Derating Curve
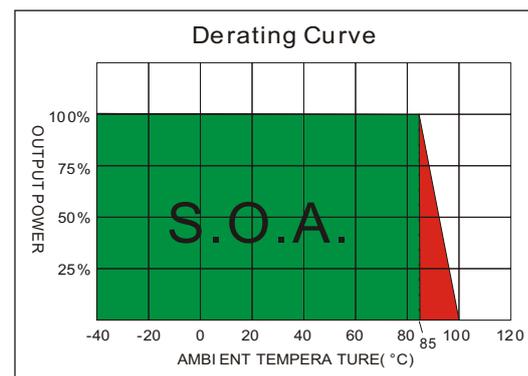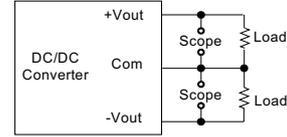
Input Reflected Ripple Current Test Step

Input reflected ripple current is measured through a source inductor Lin(12µH) and a source capacitor Cin(47µF, ESR<1.0Ω at 100KHz) at nominal input and full load.
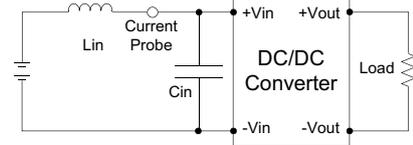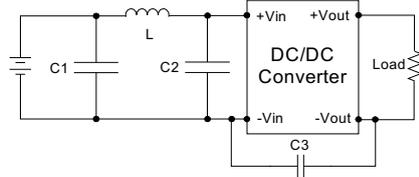
Output Ripple & Noise Measurement Test
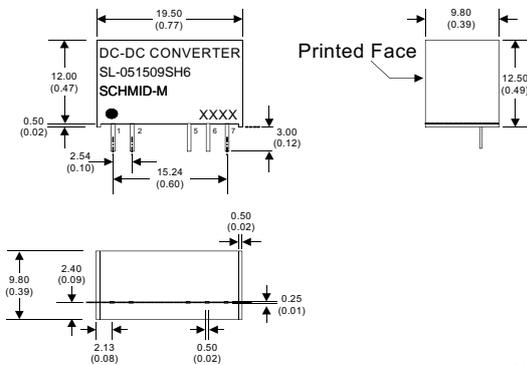
The Scope measurement bandwidth is 20MHz .

EMI Filter

Input filter components (C1, L) are used to help meet conducted emissions requirement for the module. These components should be mounted as close as possible to the module; and all leads should be minimized to decrease radiated noise.

	C1	L	C2	C3
SL-05XXXXX	1210, 2.2uF/100V	18uH		
SL-09XXXXX	1210, 2.2uF/100V	18uH		
SL-12XXXXX	1210, 2.2uF/100V	18uH		
SL-15XXXXX	1210, 2.2uF/100V	18uH		
SL-24XXXXX	1210, 2.2uF/100V	18uH	1210, 2.2uF/100V	1206, 470pF/2KV

DC-DC CONVERTER
SL-051509SH6
SCHMID-M
XXXX

19.50 (0.77)
12.00 (0.47)
0.50 (0.02)
2.54 (0.10)
15.24 (0.60)
3.00 (0.12)
9.80 (0.39)
12.50 (0.49)
Printed Face

2.40 (0.09)
9.80 (0.39)
0.50 (0.02)
0.25 (0.01)
2.13 (0.08)
0.50 (0.02)

Pin	CONNECTIONS
#	DUAL
1	+V Input
2	-V Input
5	-V Output
6	Common
7	+V Output

7 Pin SIL Package

Notes : All dimensions are typical in millimeters (inches).
1. Pin diameter: 0.5±0.05 (0.02±0.002)
2. Pin pitch   and length tolerance: ±0.35 (±0.014)
3. Case Tolerance: ±0.5 (±0.02)