Communication Line – MAA11 Series

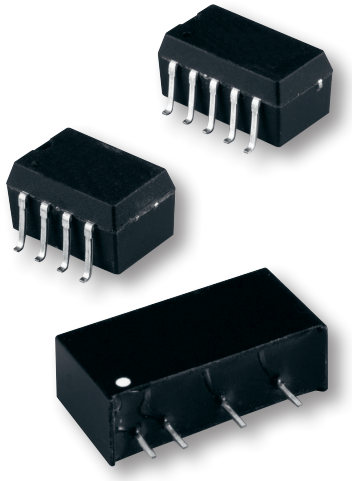
1W SINGLE & DUAL OUTPUT DC/DC CONVERTERS

Specifications

INPUT		
Voltage range	±10%.	
Efficiency	See table.	
Input surge voltage (100ms max.)	5V	9Vdc max
	12V	18Vdc max
	24V	30Vdc max.
Input filter	Capacitive.	
OUTPUT		
Voltage accuracy	±3% max.	
Ripple and noise	SIP models:	75mV p-p max, 20MHz BW.
	SMD models:	120mV p-p max, 20MHz BW.
Temperature coefficient	±0.05%/°C max.	
Short circuit protection	Momentary 1 sec max.	
Line regulation[1)]	±1.2% max.	
Load regulation[2)]	±10% max.	
ENVIRONMENTAL		
Operating temperature	–40°C to +85°C.	
Derating above 85°C	Linearly to Zero power at 100°C.	
Case temperature[5)]	+100°C max.	
Cooling	Natural convection.	
Storage temperature	–55°C to +125°C	
Humidity	95% RH max, non-condensing.	
GENERAL		
Efficiency	See table.	
Isolation voltage	1000VDC min.	
Isolation resistance	10^9 ohms, min.	
Isolation capacitance	10pF typ.	
Switching frequency	100KHz typ. 24Vin 75KHz typ.	
MTBF	1.5M hrs min, MIL-STD-217F, GB.	
Dimensions	SIP models: 19.5 x 6.1 x 10.2 mm.	
	SIP models (24Vin): 19.5 x 7.2 x 10.2 mm.	
	SMD models (single): 12.7 x 8.0 x 6.8mm.	
	SMD models (dual): 15.24 x 8.0 x 6.8mm.	
Case material	SIP models: Non-conductive black plastic.	
	SMD models: Epoxy molding compound.	
Weight	1.8g. 24Vin 2.7g.	

Notes:

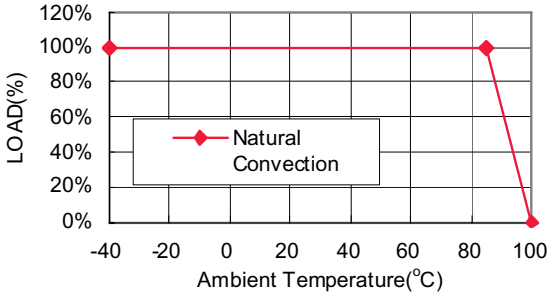
1. Line regulation is per 1.0% change in input voltage.
2. Load regulation is for load change from 100% to 20%
3. The output noise is measured with 0.33uF ceramic capacitor.
4. Suffix "S" to the model number with SMD packages, 5&12Vin models only.
5. Maximum case temperature under any operating condition should not be exceeded 100 .
6. The EC1SA2XN input terminal need to parallel with 4.7uF ceramic capacitor.



Features

- Industry standard SIP and SMD packages
- Efficiency up to 83%
- 1000VDC isolation
- Low cost
- Unregulated outputs
- Low ripple and noise
- No Tantalum capacitors inside

Derating Curve



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MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUPUT CURRENT	INPUT CURRENT NO LOAD	INPUT CURRENT FULL LOAD	EFFICIENCY	CAPACITOR LOAD MAX
MAA 11 016	5VDC	5VDC	200mA	40mA	253mA	79%	220uF
MAA 11 031	5VDC	12VDC	84mA	40mA	255mA	79%	220UF
MAA 11 037	5VDC	15VDC	67mA	40mA	254mA	79%	220uF
MAA 11 246	5VDC	±12VDC	42mA	40mA	258mA	78%	100uF
MAA 11 255	5VDC	±15VDC	33mA	40mA	254mA	78%	100uF
MAA 11 202	5VDC	±5VDC	100mA	40mA	270mA	74%	100uF
MAA 11 017	12VDC	5VDC	200mA	15mA	104mA	80%	220uF
MAA 11 032	12VDC	12VDC	84mA	15mA	104mA	81%	220uF
MAA 11 038	12VDC	15VDC	67mA	15mA	103mA	81%	220uF
MAA 11 247	12VDC	±12VDC	42mA	15mA	105mA	80%	100uF
MAA 11 256	12VDC	±15VDC	33mA	15mA	102mA	81%	100uF
MAA 11 203	12VDC	±5VDC	100mA	15mA	108mA	77%	100uF
MAA 11 018	24VDC	5VDC	84mA	7mA	51mA	83%	220uF
MAA 11 033	24VDC	12VDC	67mA	7mA	52mA	81%	220uF
MAA 11 039	24VDC	15VDC	42mA	7mA	52mA	81%	100uF
MAA 11 248	24VDC	±12VDC	33mA	7mA	50mA	82%	100uF
MAA 11 257	24VDC	±15VDC	100mA	7mA	53mA	79%	100uF
MAA 11 204	24VDC	±5VDC	200mA	7mA	52mA	80%	220uF

Note:

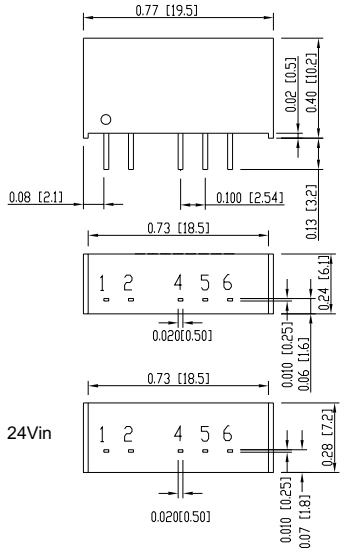
Nominal input voltage 5, 12 or 24VDC.

Mechanical

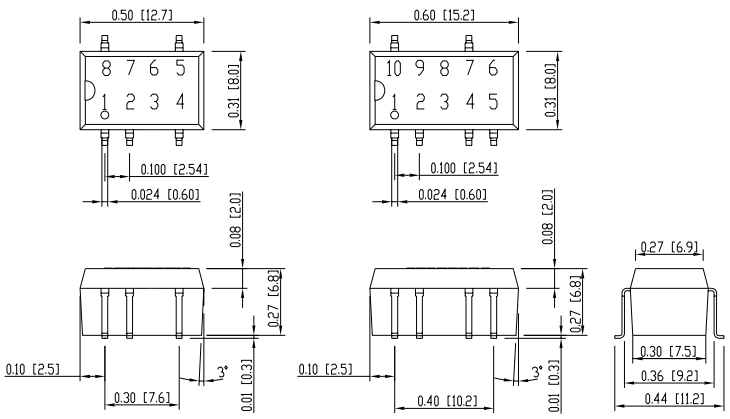
All Dimensions In Inches(mm)

Tolerance	Inches	Millimeters
	X.XX±0.01	X.X±0.25
	X.XXX±0.005	X.XX±0.13
Pin	±0.002	±0.05

SIP PACKAGES



SMD PACKAGES



PIN CONNECTION PIN	SINGLE OUTPUT	DUAL OUTPUT
1	+Vin	+Vin
2	–Vin	–Vin
4	–Vout	–Vout
5	No Pin	Common
6	+Vout	+Vout

PIN CONNECTION PIN	SINGLE OUTPUT
1	–Vin
2	+Vin
3	No Pin
4	–Vout
5	+Vout
6	No Pin
7	No Pin
8	NA

NA: Not available for electrical connection.

PIN CONNECTION PIN	DUAL OUTPUT
1	–Vin
2	+Vin
3	No Pin
4	Common
5	–Vout
6	No Pin
7	+Vout
8	No Pin
9	No Pin
10	NA