

## Features

## Unregulated Converters

- Dual In-Line Package
- 1kVDC Isolation
- Internal Filtering
- No External Components Required
- 100% Burned In
- UL94V-0 Package Material
- Low Noise
- Efficiency to 87%

## ECONOLINE

DC/DC-Converter

# RAA Series

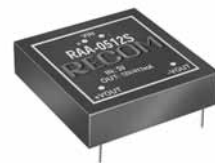
### Selection Guide

Part Number	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Input Current (mA)		Efficiency (%)
				Full Load	No Load	
DIP Package	(VDC)	(VDC)	(mA)	(mA)		(%)
RAA-0505S	5	5	1000	1250	80	80
RAA-0512S	5	12	417	1150	80	87
RAA-0515S	5	15	333	1150	80	87
RAA-1205S	12	5	1000	496	40	84
RAA-1212S	12	12	417	479	40	87
RAA-1215S	12	15	333	479	40	87
RAA-2405S	24	5	1000	261	20	83
RAA-2412S	24	12	417	245	20	85
RAA-2415S	24	15	333	239	20	87
RAA-0505D	5	±5	±500	1250	80	80
RAA-0512D	5	±12	±208	1150	80	87
RAA-0515D	5	±15	±167	1150	80	87
RAA-1205D	12	±5	±500	496	40	84
RAA-1212D	12	±12	±208	479	40	87
RAA-1215D	12	±15	±167	479	40	87
RAA-2405D	24	±5	±500	261	20	83
RAA-2412D	24	±12	±208	245	20	85
RAA-2415D	24	±15	±167	239	20	87

### Specifications (Core Operating Area)

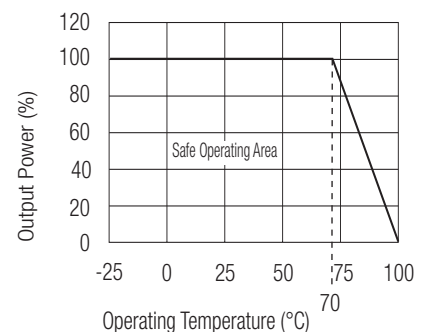
Voltage Setpoint Accuracy	±3% max.		
Temperature Coefficient	±0.03%/°C		
Ripple and Noise (20MHz BW)	100mVp-p max.		
Line Regulation (for 1% change in input voltage)	±1.2% max.		
Load Regulation (for output load current change from 20% to 100%)	±3% max.		
Short Circuit Protection	Short Term		
Input Voltage Range	±10% min.		
Efficiency	79% - 91%		
Isolation Voltage	(tested for 1 second)	1.000VDC min.	
Rated Working Voltage	(long term isolation)	see Application Notes	
Isolation Resistance	10 GΩ min.		
Switching Frequency	60kHz min.		
Isolation Capacitance	80pF max.		
Operating Temperature Range (free air convection)	-25°C to +70°C (see Graph)		
Storage Temperature	-55°C to +100°C		
Relative Humidity	MSL Level 1	95% RH	
Case Material	Non-Conductive Plastic		
Package Weight	19.2g		
MTBF (+25°C)	} Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F	1800 x 10 <sup>3</sup> hours
(+70°C)		using MIL-HDBK 217F	1440 x 10 <sup>3</sup> hours

**5 Watt**  
**25.00 x 23.50mm**  
**Single & Dual Output**



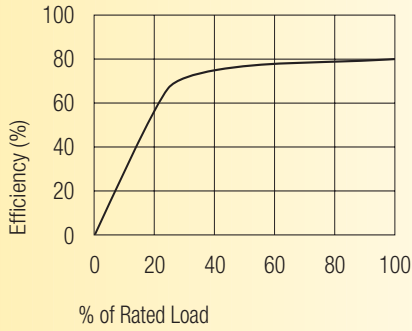
**RECOM**

## Derating-Graph (Ambient Temperature)

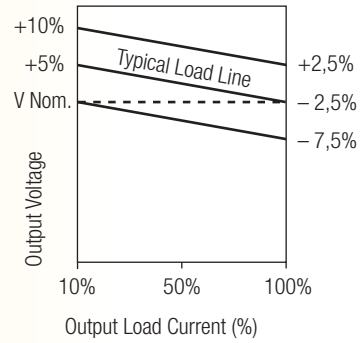


**Typical Characteristics**

**RAA types**

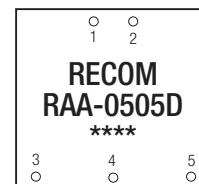
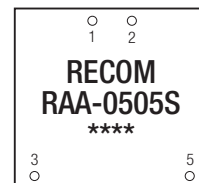
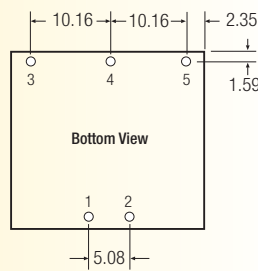
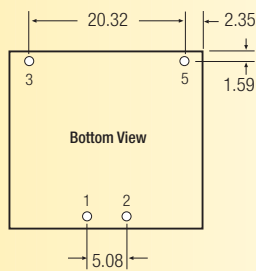
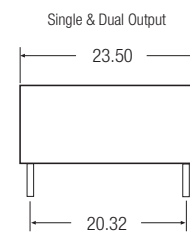
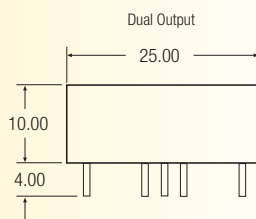
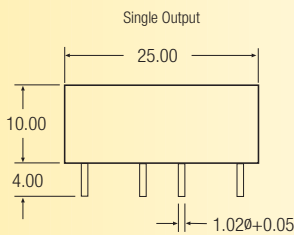


**Tolerance Envelope**

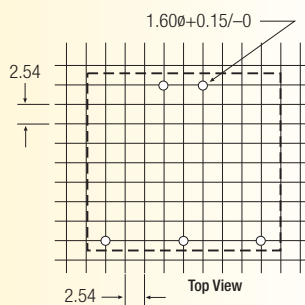
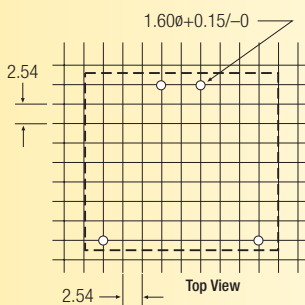


**Package Style and Pinning (mm)**

**DIP Package Style**



**Recommended Footprint Details**



**Pin Connections**

Pin #	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	No Pin	Com
5	-Vout	-Vout

XX.X ± 0.5 mm  
XX.XX ± 0.25 mm