

Features

- 1kVDC Isolation
- Internal SMD Construction
- UL94V-0 Package Material
- Optional Continuous Short Circuit Protected
- Efficiency to 80%

Unregulated Converters

ECONOLINE DC/DC-Converter

RQS & RQD Series

Selection Guide

Part Number	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)
RQS-xx1.8	1.8, 3.3, 5, 9, 12, 15, 24	1.8	139	70
RQS-xx3.3	1.8, 3.3, 5, 9, 12, 15, 24	3.3	76	65-70
RQS-xx05	1.8, 3.3, 5, 9, 12, 15, 24	5	50	66-72
RQS-xx09	1.8, 3.3, 5, 9, 12, 15, 24	9	28	70-72
RQS-xx12	1.8, 3.3, 5, 9, 12, 15, 24	12	21	70-72
RQS-xx15	1.8, 3.3, 5, 9, 12, 15, 24	15	17	70-76
RQS-xx24	1.8, 3.3, 5, 9, 12, 15, 24	24	10	70-80
RQD-xx1.8	1.8, 3.3, 5, 9, 12, 15, 24	±1.8	±70	70
RQD-xx3.3	1.8, 3.3, 5, 9, 12, 15, 24	±3.3	±38	65-70
RQD-xx05	1.8, 3.3, 5, 9, 12, 15, 24	±5	±25	66-72
RQD-xx09	1.8, 3.3, 5, 9, 12, 15, 24	±9	±14	70-72
RQD-xx12	1.8, 3.3, 5, 9, 12, 15, 24	±12	±11	70-72
RQD-xx15	1.8, 3.3, 5, 9, 12, 15, 24	±15	±9	70-76
RQD-xx24	1.8, 3.3, 5, 9, 12, 15, 24	±24	±5	70-80

xx = Input Voltage

* add Suffix "P" for Continuous Short Circuit Protection, e.g. RQS-051.8/P, RQD-051.8/P

0.25 Watt SMD Single & Dual Output

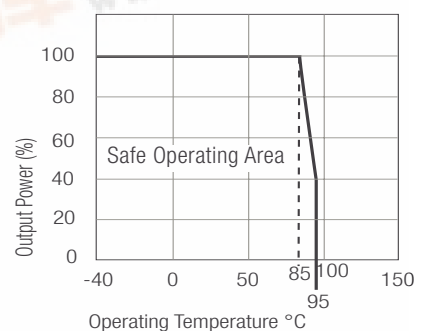


Specifications (Core Operating Area)

Input Voltage Range	±10%	
Output Voltage Accuracy	±5%	
Line Voltage Regulation	1.2%/1% of Vin typ.	
Load Voltage Regulation (10% to 100% full load)	1.8V, 3.3V output types	20% max.
	5V output type	15% max.
	9V, 12V, 15V, 24V output types	10% max.
Output Ripple and Noise (20MHz limited)	100mVp-p max.	
Operating Frequency	50kHz min. / 100kHz typ. / 105kHz max.	
Efficiency at Full Load	65% min. / 75% typ.	
No Load Power Consumption	45mW min. / 75mW typ. / 105mW max.	
Isolation Voltage (tested for 1 second)	1000VDC min.	
Rated Working Voltage (long term isolation)	see Application Notes	
Isolation Capacitance	25pF min. / 82pF max.	
Isolation Resistance	10 GΩ min.	
Short Circuit Protection P-Suffix	1 Second Continuous	
Operating Temperature Range (free air convection)	-40°C to +85°C (see Graph)	
Storage Temperature Range	-55°C to +125°C	
Reflow Temperature	ROHS compliant	245°C (30 sec) max.
	(for more details see Application Notes)	
Relative Humidity	95% RH	
Package Weight	RQS types	1.5g
	RQD types	2.2g
Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F	1345 x 10 ³ hours
	using MIL-HDBK 217F	310 x 10 ³ hours

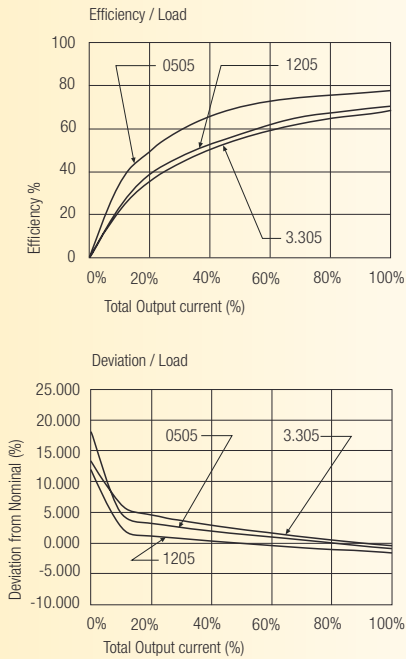


Derating-Graph (Ambient Temperature)

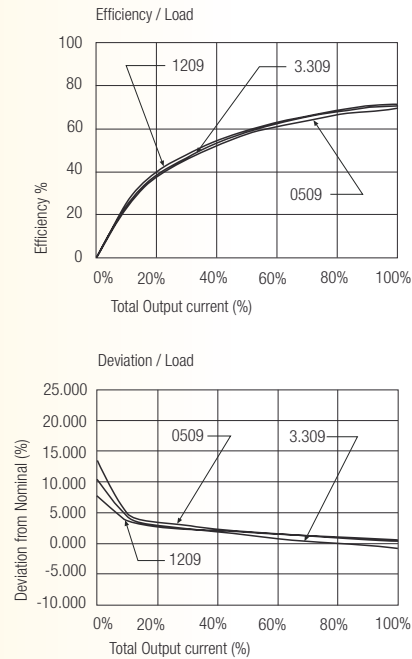


Typical Characteristics

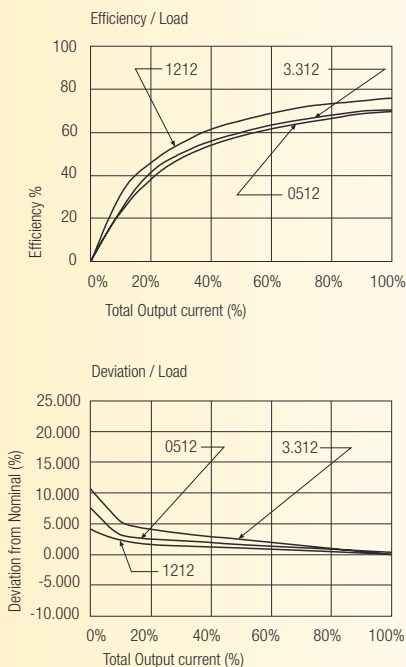
RQS/RQD-xx05



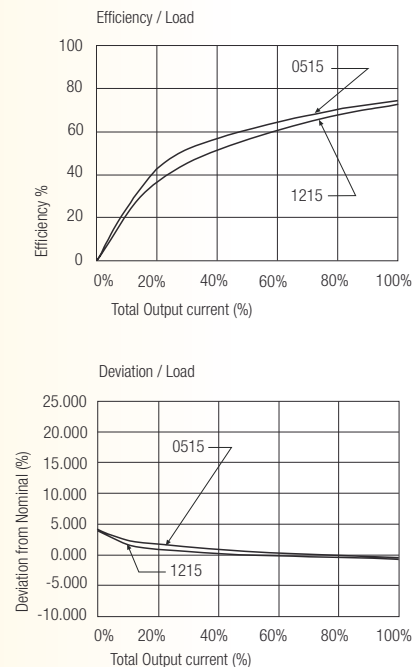
RQS/RQD-xx09



RQS/RQD-xx12



RQS/RQD-xx15

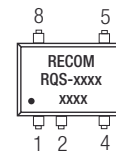
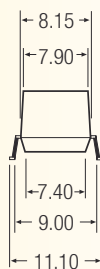
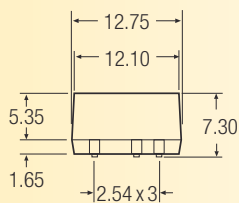


RQS & RQD Series

Package Style and Pinning (mm)

3rd angle projection 

8 PIN SMD Package

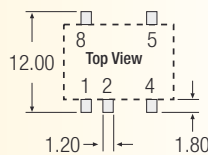
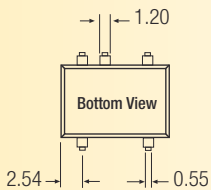


Pin Connections

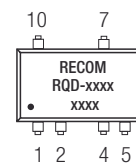
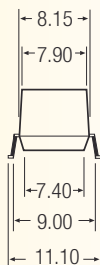
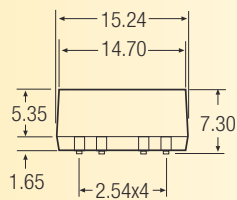
Pin #	Single
1	-Vin
2	+Vin
4	-Vout
5	+Vout
8	NC

NC = No Connection
 XX.X ± 0.5 mm
 XX.XX ± 0.25 mm

Recommended Footprint Details



10 PIN SMD Package



Pin Connections

Pin #	Dual
1 {	-Vin
2	+Vin
4	Com
5	-Vout
7	+Vout
10	NC

NC = No Connection
 XX.X ± 0.5 mm
 XX.XX ± 0.25 mm

Recommended Footprint Details

