

Features

Unregulated Converters

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

ECONOLINE

DC/DC-Converter

RQS & RQD Series

0.25 Watt

SMD

Single & Dual Output



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

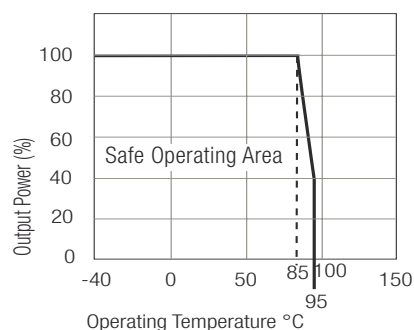
xx = Input Voltage

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

Specifications (Core Operating Area)

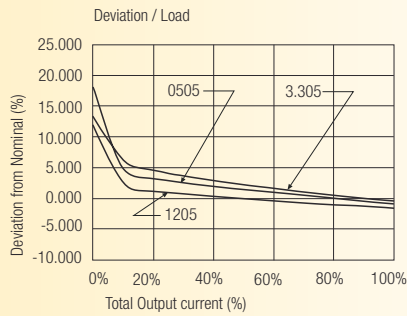
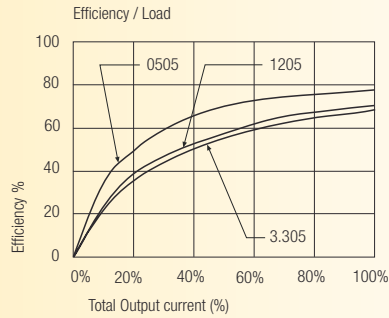
Input Voltage Range		±10%	
Output Voltage Accuracy		±5%	
Line Voltage Regulation		1.2%/1% of Vin typ.	
Load Voltage Regulation (10% to 100% full load)	1.8V, 3.3V output types 5V output type 9V, 12V, 15V, 24V output types	20% max. 15% max. 10% max.	
Output Ripple and Noise (20MHz limited)		100mVp-p max.	
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		1 Second	
P-Suffix		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 RQD types	1.5g 2.2g	
MTBF (+25°C)	} Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F	1345 x 10 ³ hours
(+85°C)		using MIL-HDBK 217F	310 x 10 ³ hours

Derating-Graph (Ambient Temperature)

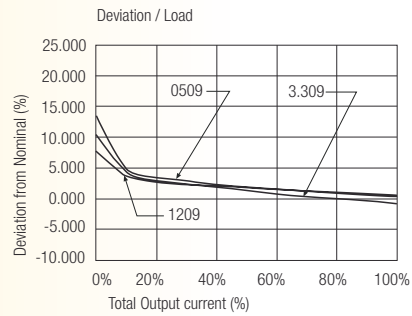
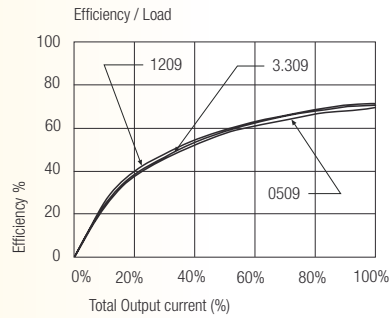


Typical Characteristics

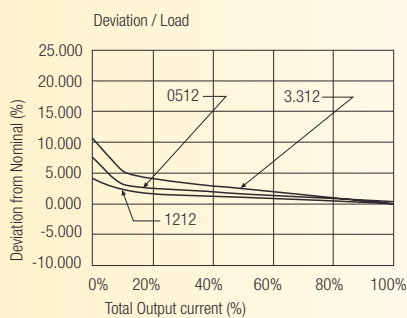
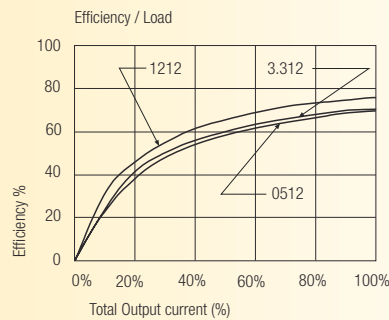
RQS/RQD-xx05



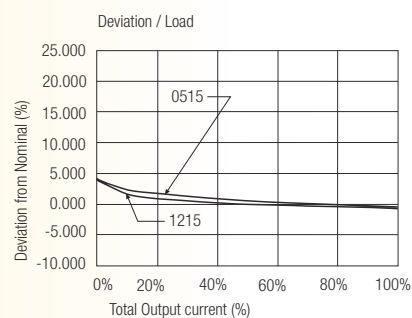
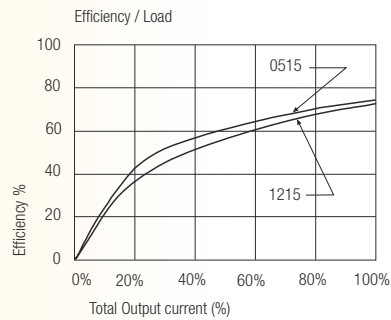
RQS/RQD-xx09



RQS/RQD-xx12



RQS/RQD-xx15

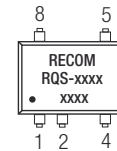
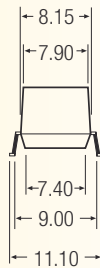
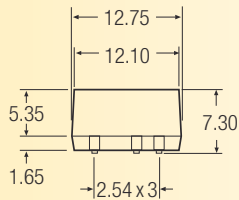


RQS & RQD Series

Package Style and Pinning (mm)

3rd angle projection 

8 PIN SMD Package

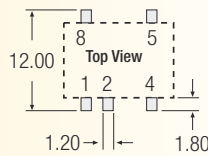
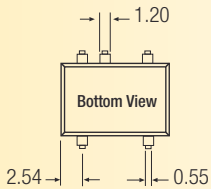


Pin Connections

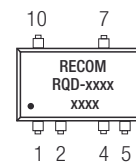
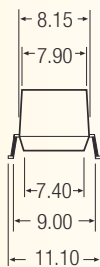
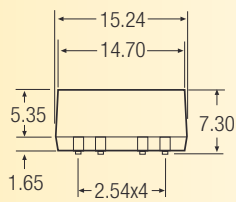
Pin #	Single
1	-Vin
2	+Vin
4	-Vout
5	+Vout
8	NC

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

