

## Features

### Unregulated Converters

- 1kVDC Isolation
- Internal SMD Construction
- UL94V-0 Package Material
- Toroidal Magnetics
- Efficiency to 80%

**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

### Specifications (Core Operating Area)

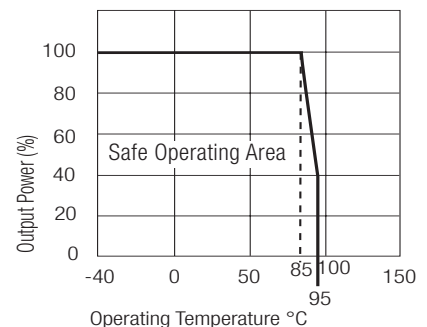
Input Voltage Range	±10%		
Output Voltage Accuracy	±5%		
Line Voltage Regulation	1.2%/1% of Vin max.		
Load Voltage Regulation (10% to 100% full load)	1.8V, 3.3V output types	20% max.	
	5V output type	15% max.	
	9V, 12V, 15V, 24V output types	10% max.	
Output Ripple and Noise (20MHz limited)	100mVp-p 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)	1.000VDC 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		
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	MSL Level 1	95% RH	
Package Weight	RQS types	1.5g	
	RQD types	2.2g	
MTBF (+25°C)	} Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F	1345 x 10³ hours
(+85°C)		using MIL-HDBK 217F	310 x 10³ hours

**0.25 Watt  
SMD  
Single &  
Dual Output**



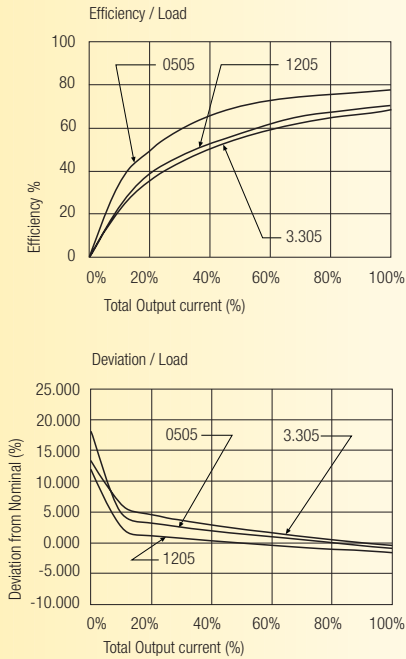
**RECOM**

### Derating-Graph (Ambient Temperature)

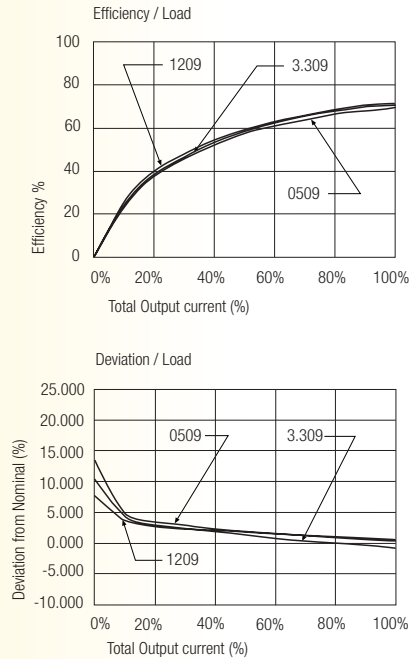


## Typical Characteristics

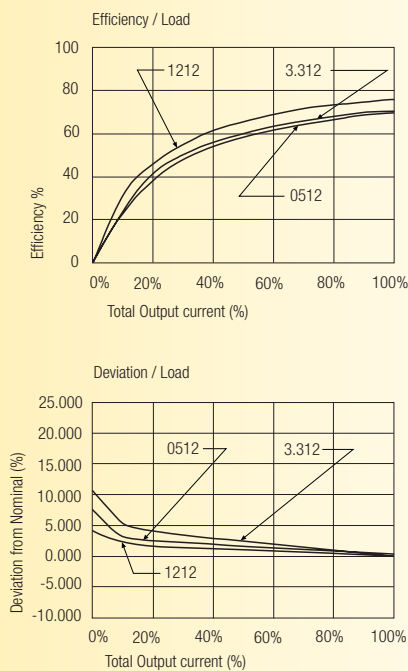
### RQS/RQD-xx05



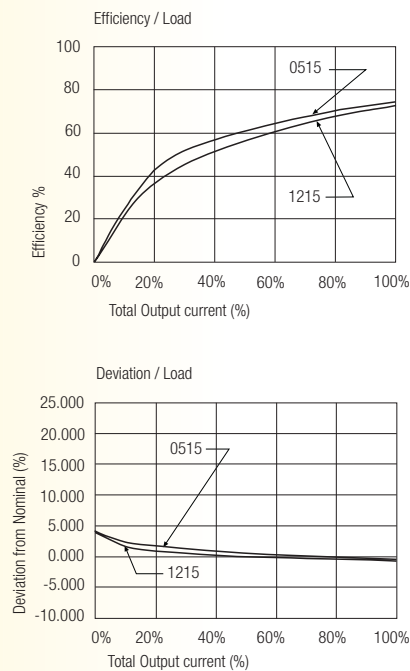
### RQS/RQD-xx09



### RQS/RQD-xx12



### RQS/RQD-xx15

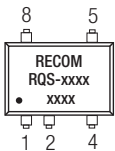
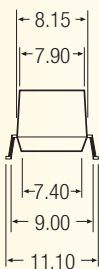
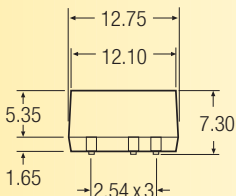


# RQS & RQD Series

## Package Style and Pinning (mm)

8 PIN SMD Package

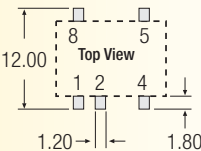
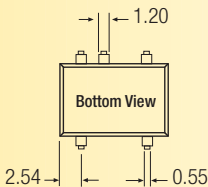
3rd angle projection



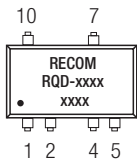
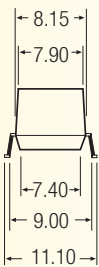
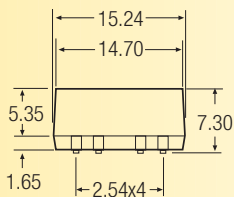
Pin Connections

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

