

## Features

## Unregulated Converters

- 1kVDC Isolation
- Internal SMD Construction
- UL94V-0 Package Material
- Power Density 1.8W/cm<sup>3</sup>
- Toroidal Magnetics
- Efficiency to 85%

## Selection Guide

Part Number	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)
RSS**-xx1.8	1.8, 3.3, 5, 9, 12, 15, 24	1.8	555	70
RSS**-xx3.3	1.8, 3.3, 5, 9, 12, 15, 24	3.3	303	75
RSS**-xx05	1.8, 3.3, 5, 9, 12, 15, 24	5	200	70-78
RSS**-xx09	1.8, 3.3, 5, 9, 12, 15, 24	9	111	76-78
RSS**-xx12	1.8, 3.3, 5, 9, 12, 15, 24	12	84	78-80
RSS**-xx15	1.8, 3.3, 5, 9, 12, 15, 24	15	66	80-84
RSS**-xx24	1.8, 3.3, 5, 9, 12, 15, 24	24	42	74-85
RSD**-xx1.8	1.8, 3.3, 5, 9, 12, 15, 24	±1.8	±278	70
RSD**-xx3.3	1.8, 3.3, 5, 9, 12, 15, 24	±3.3	±152	70
RSD**-xx05	1.8, 3.3, 5, 9, 12, 15, 24	±5	±100	74-78
RSD**-xx09	1.8, 3.3, 5, 9, 12, 15, 24	±9	±56	76-80
RSD**-xx12	1.8, 3.3, 5, 9, 12, 15, 24	±12	±42	78-82
RSD**-xx15	1.8, 3.3, 5, 9, 12, 15, 24	±15	±33	78-82
RSD**-xx24	1.8, 3.3, 5, 9, 12, 15, 24	±24	±21	80-84

RSS\*\* : \*\* without marking denotes standard pinning  
 \*\* with marking **8** denotes with eight pins

RSD\*\* : \*\* without marking denotes standard pinning  
 \*\* with marking **10** denotes with ten pins

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 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		70% min. / 80% typ.
No Load Power Consumption	RSS & RSS8 types RSD & RSD10 types	101mW min. / 126mW typ. / 171mW max. 87mW min. / 130mW typ. / 190mW max.
Isolation Voltage	(tested for 1 second)	1.000VDC min.
Rated Working Voltage	(long term isolation)	see Application Notes
Isolation Capacitance		15pF min. / 70pF 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		230°C (10 sec)
Relative Humidity	MSL Level 1	95% RH
Package Weight	RSS & RSS8 types RSD & RSD10 types	1.5g 2.2g
MTBF (+25°C) (+85°C)	} Detailed information page 266	using MIL-HDBK 217F using MIL-HDBK 217F
		1045 x 10 <sup>3</sup> hours 183 x 10 <sup>3</sup> hours

## ECONOLINE

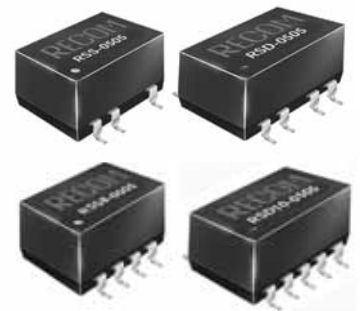
DC/DC-Converter

# RSS\*\* &

# RSD\*\*

# Series

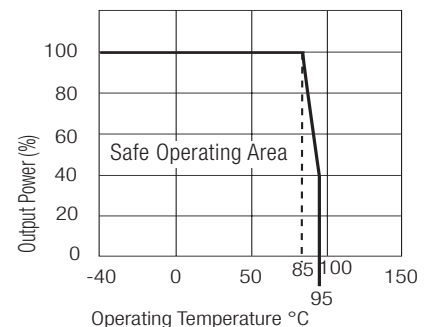
## 1 Watt SMD Single & Dual Output



# RECOM

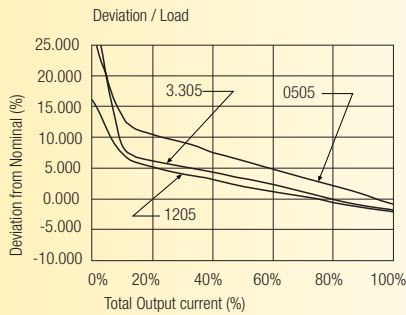
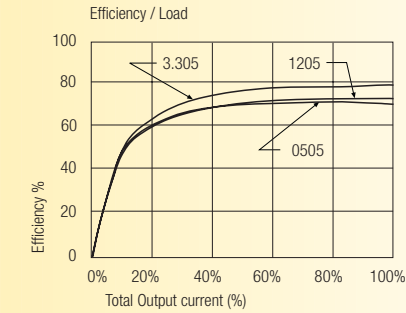
## Derating-Graph

(Ambient Temperature)

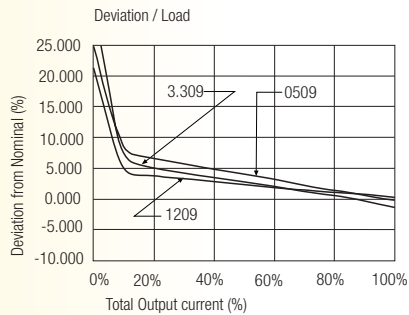
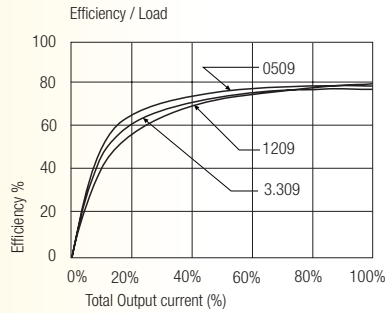


**Typical Characteristics**

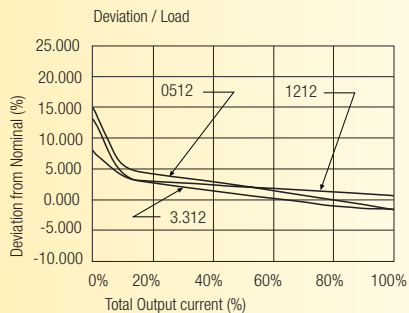
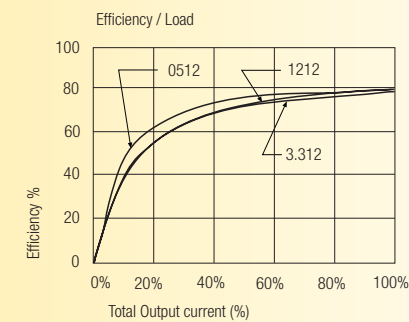
**RSS\*\*-xx05**



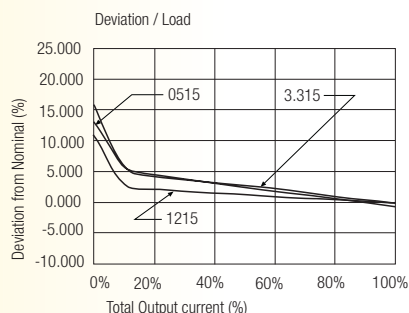
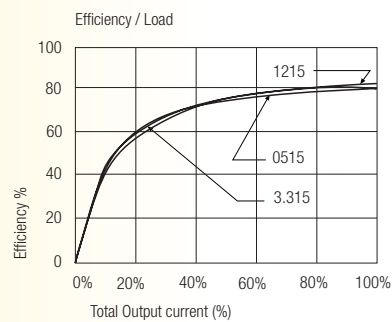
**RSS\*\*-xx09**



**RSS\*\*-xx12**

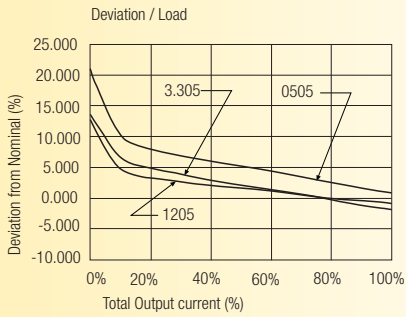
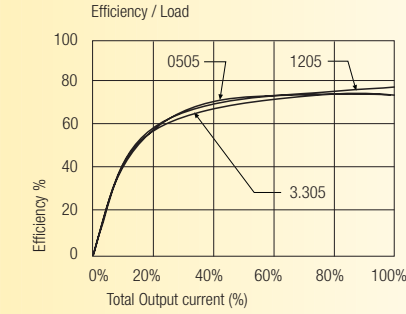


**RSS\*\*-xx15**

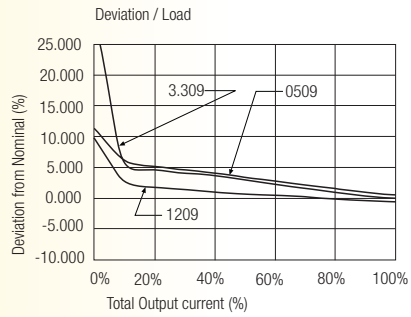
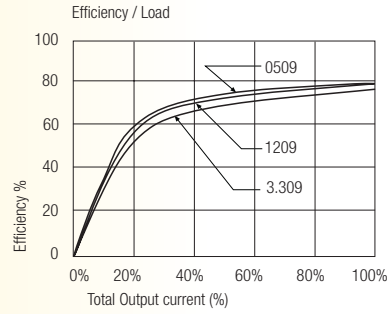


**Typical Characteristics**

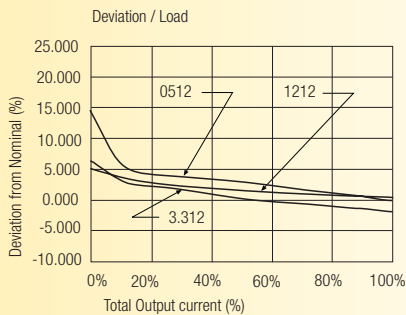
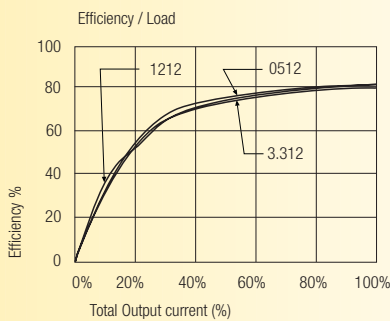
**RSD\*\*-xx05**



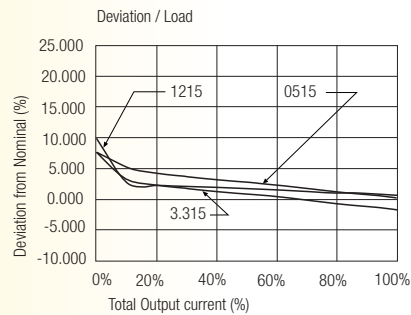
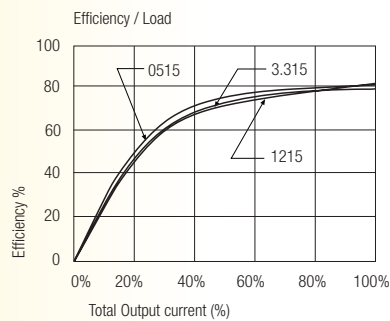
**RSD\*\*-xx09**



**RSD\*\*-xx12**

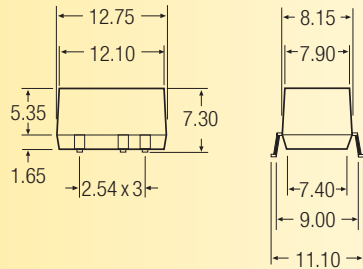


**RSD\*\*-xx15**

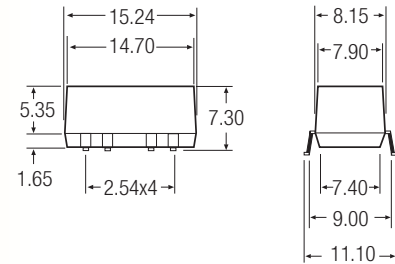


**Package Style and Pinning (mm)**

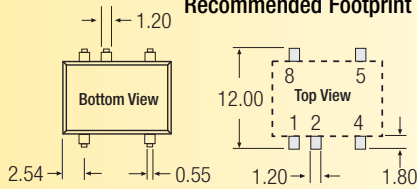
8 PIN Single SMD Package



10 PIN Dual SMD Package



Recommended Footprint Details

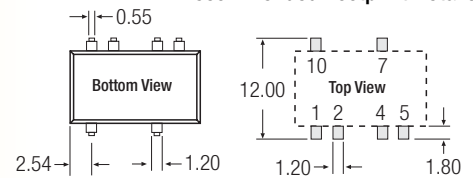


Pin Connections

Pin #	Single	Dual
1	-Vin	-Vin
2	+Vin	+Vin
4	-Vout	Com
5	+Vout	-Vout
7	No Pin	+Vout
8	NC	No Pin
10	No Pin	NC

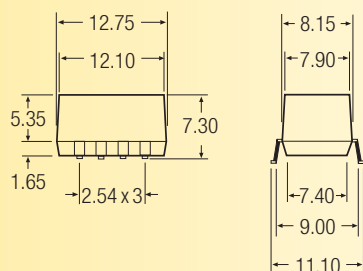
NC = No Connection  
XX.X ± 0.5 mm  
XX.XX ± 0.25 mm

Recommended Footprint Details

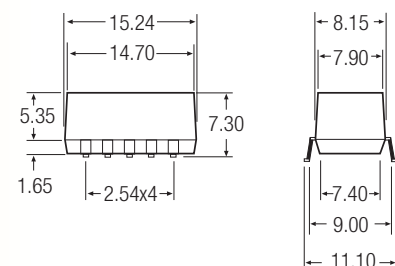


**\*\* Package Style and Pinning (mm)**

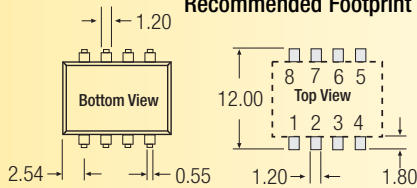
8 PIN Single SMD Package



10 PIN Dual SMD Package



Recommended Footprint Details



Pin Connections

Pin #	Single	Dual
1	-Vin	-Vin
2	+Vin	+Vin
3	NC	NC
4	-Vout	Com
5	+Vout	-Vout
6	NC	NC
7	NC	+Vout
8	NC	NC
9	-	NC
10	-	NC

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

Recommended Footprint Details

