Features

Unregulated Converters

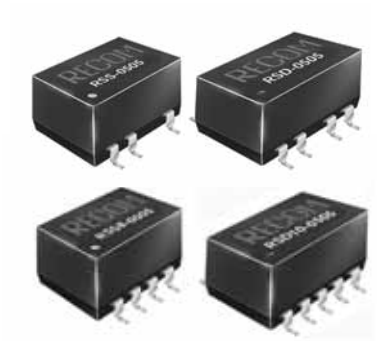
- 1kVDC Isolation
- Internal SMD Construction
- UL94V-0 Package Material
- Power Density 1.8W/cm³
- Toroidal Magnetics
- Efficiency to 85%

ECONOLINE

DC/DC-Converter

RSS** & RSD** Series

1 Watt SMD Single & Dual Output



Selection Guide

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

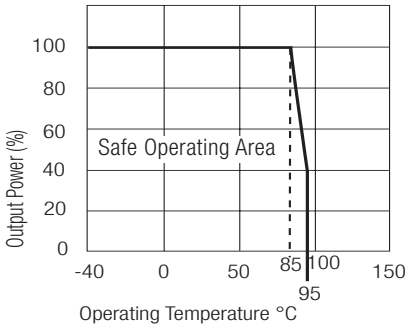
xx = Input Voltage

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	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			70% min. / 80% typ.
No Load Power Consumption	RSS & RSS8 types		101mW min. / 126mW typ. / 171mW max.
	RSD & RSD10 types		87mW min. / 130mW typ. / 190mW max.
Isolation Voltage		(tested for 1 second)	1.000VDC min.
	H-Suffix	(tested for 1 second)	3.000VDC 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 ROHS compliant (for more details see Application Notes)			245°C (30 sec) max.
Relative Humidity		MSL Level 1	95% RH
Package Weight	RSS & RSS8 types		1.5g
	RSD & RSD10 types		2.2g
MTBF (+25°C) } *Detailed Information see*		using MIL-HDBK 217F	1045 x 10³ hours
(+85°C) } *Application Notes chapter "MTBF"*		using MIL-HDBK 217F	183 x 10³ hours

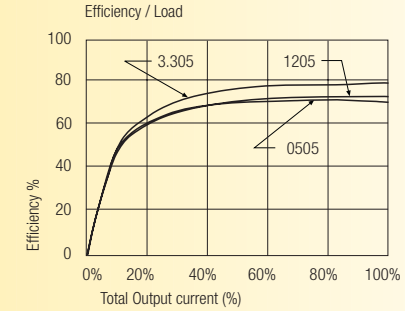
Derating-Graph

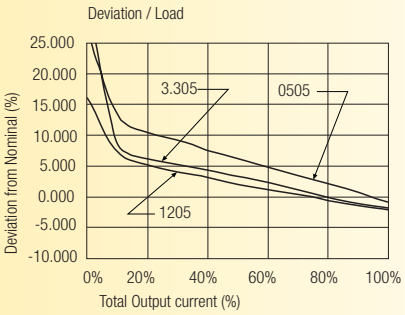
(Ambient Temperature)



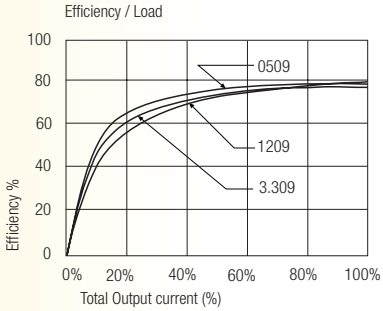
Typical Characteristics

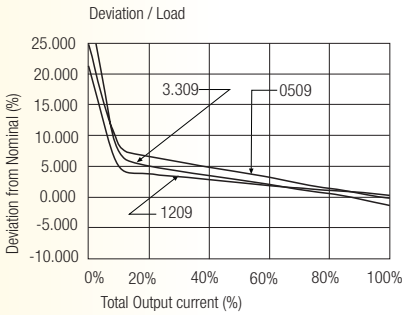
RSS**-xx05



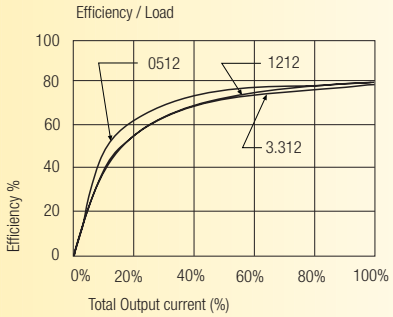


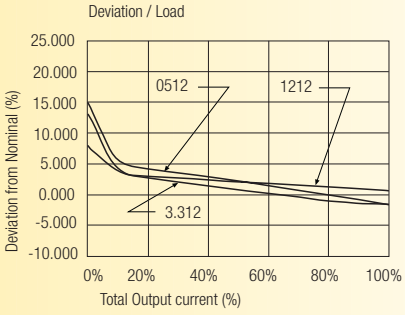
RSS**-xx09



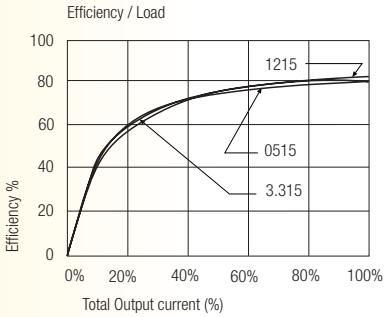


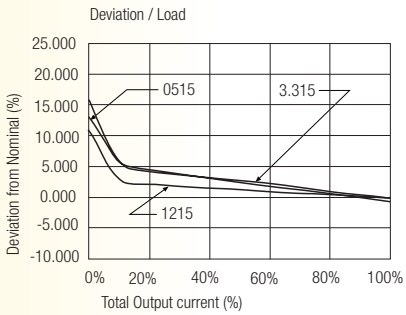
RSS**-xx12





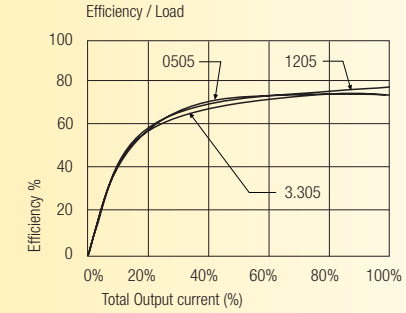
RSS**-xx15

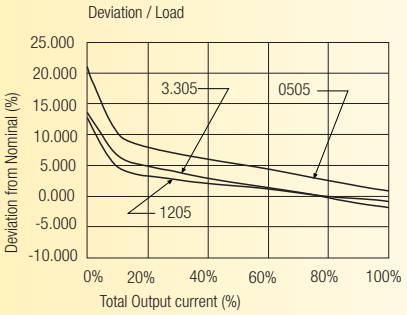




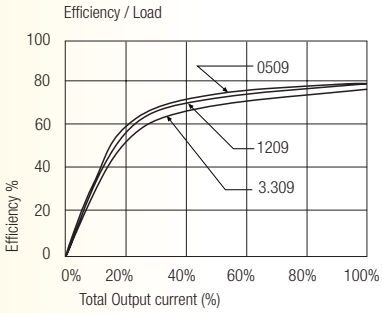
Typical Characteristics

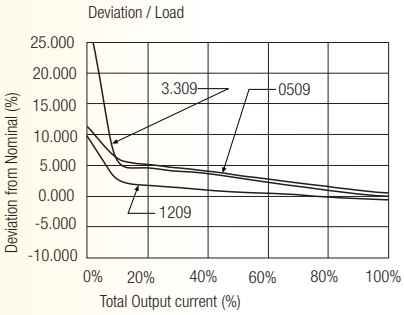
RSD**-xx05



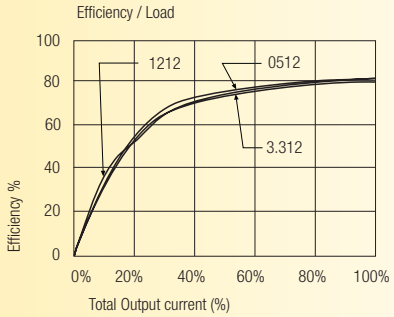


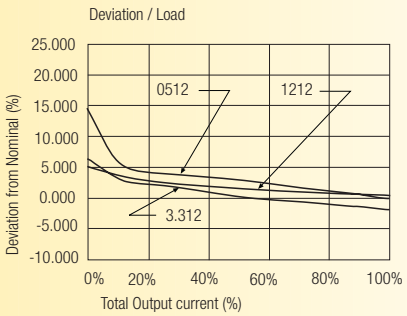
RSD**-xx09



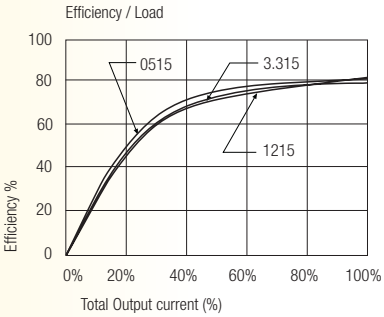


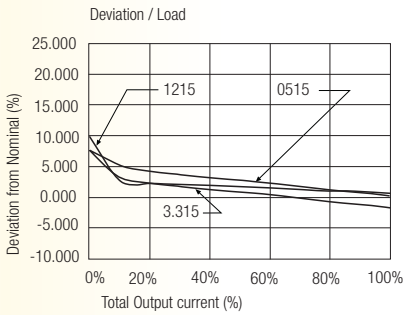
RSD**-xx12





RSD**-xx15



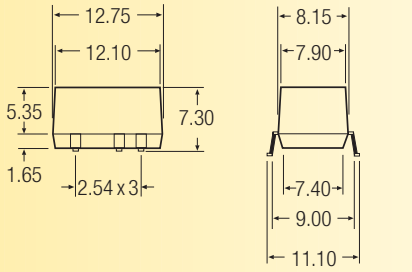


RSS** & RSD** Series

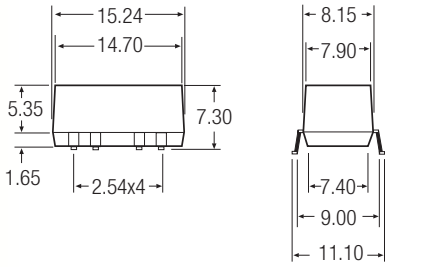
Package Style and Pinning (mm)

3rd angle projection

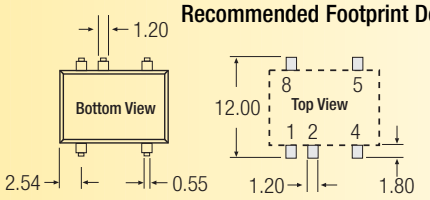
8 PIN Single SMD Package



10 PIN Dual SMD Package



Recommended Footprint Details

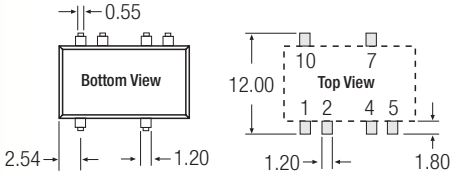


Pin Connections

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

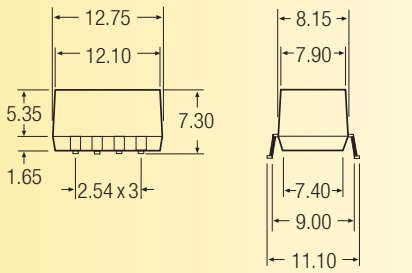
NC = No Connection
XX.X ± 0.5 mm
XX.XX ± 0.25 mm

Recommended Footprint Details



**) Package Style and Pinning (mm)

8 PIN Single SMD Package



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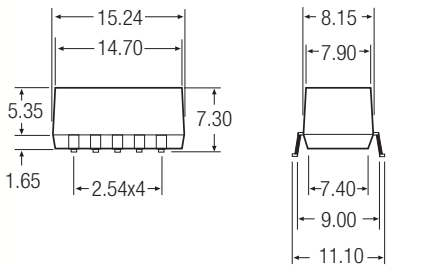
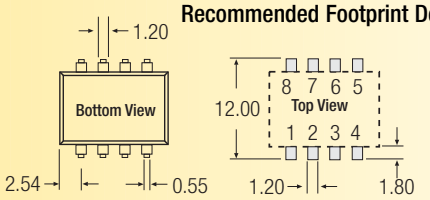


Recommended Footprint Details



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