

Features

Unregulated Converters

- 1kVDC Isolation
- Internal SMD Construction
- UL94V-0 Package Material
- Power Density 1.8W/cm³
- Optional Continuous Short Circuit Protected
- Efficiency to 85%

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

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

Specifications (Core Operating Area)

Input Voltage Range	±10%	
Output Voltage Accuracy	±5%	
Line Voltage Regulation	1.2%/1% of Vin typ.	
Load Voltage Regulation	1.8V, 3.3V output types	20% max.
(10% to 100% full load)	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. / 220mW max.
	RSD & RSD10 types	87mW min. / 130mW typ. / 230mW max.
Isolation Voltage	(tested for 1 second)	1000VDC min.
	H-Suffix (tested for 1 second)	3000VDC 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	
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 (for more details see Application Notes)	245°C (30 sec) max.
Relative Humidity	95% RH	

continued on next page

ECONOLINE

DC/DC-Converter

RSS** & RSD** Series

1 Watt SMD Single & Dual Output

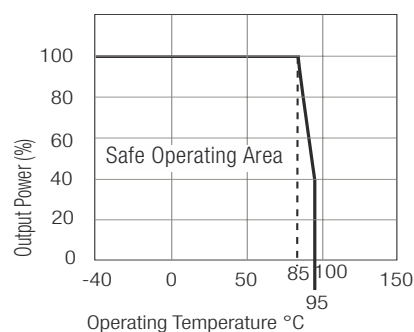


EN-60950-1 Certified

EN-60601-1 Certified (suffix H)



Derating-Graph (Ambient Temperature)

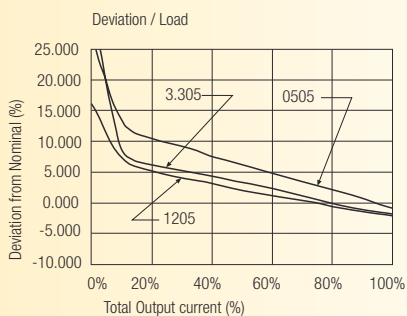
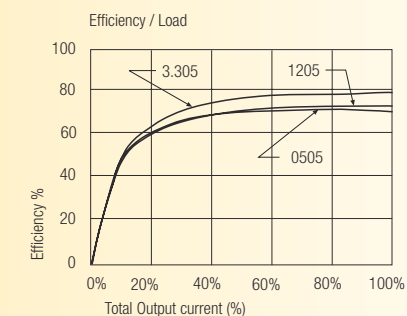


Specifications (Core Operating Area)

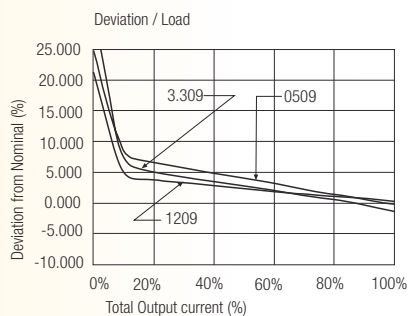
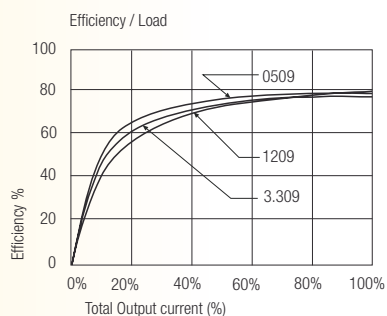
Package Weight	RSS & RSS8 types	1.5g
	RSD & RSD10 types	2.2g
MTBF (+25°C)	Detailed Information see Application Notes chapter "MTBF" using MIL-HDBK 217F	1045 x 10 ³ hours
(+85°C)		183 x 10 ³ hours

Typical Characteristics

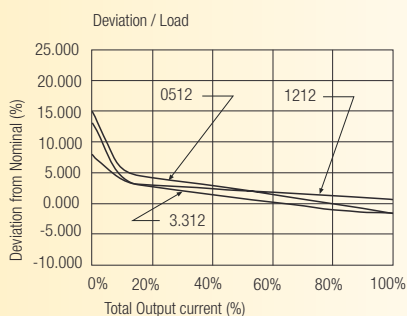
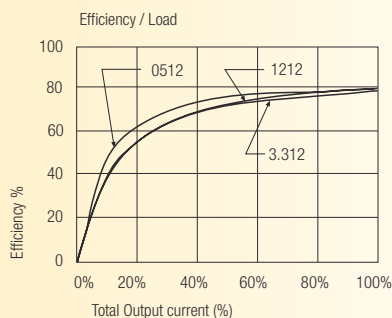
RSS**-xx05



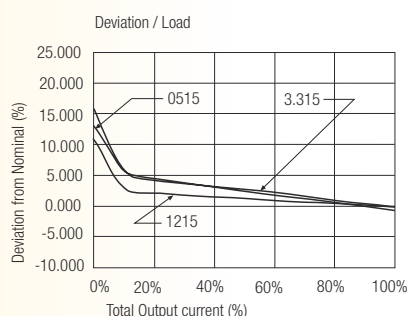
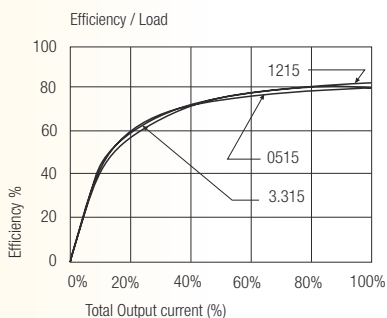
RSS**-xx09



RSS**-xx12

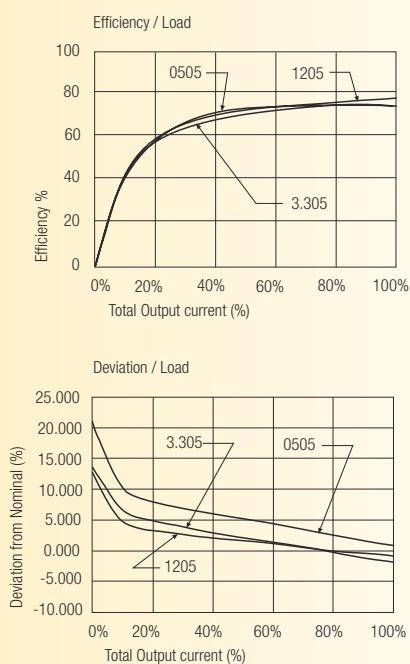


RSS**-xx15

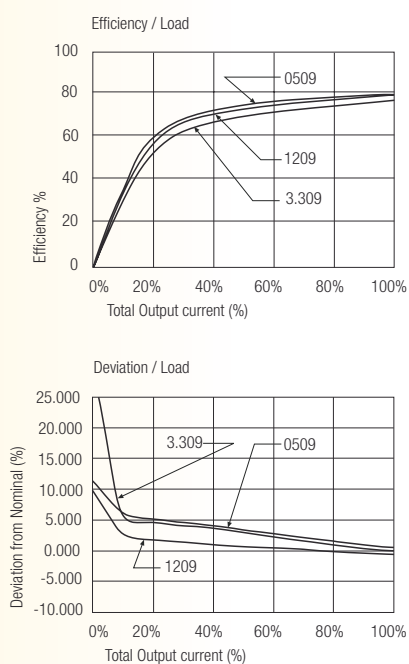


Typical Characteristics

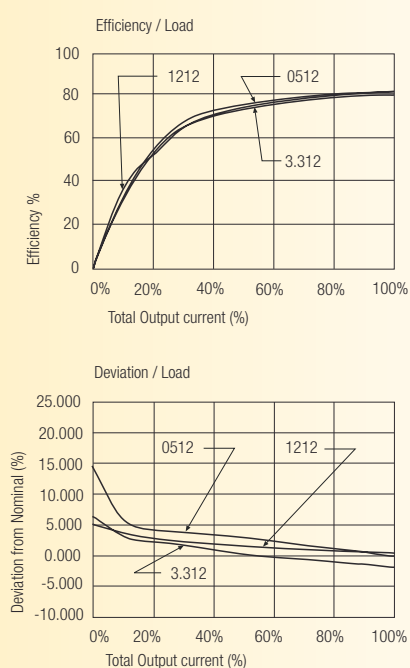
RSD**-xx05



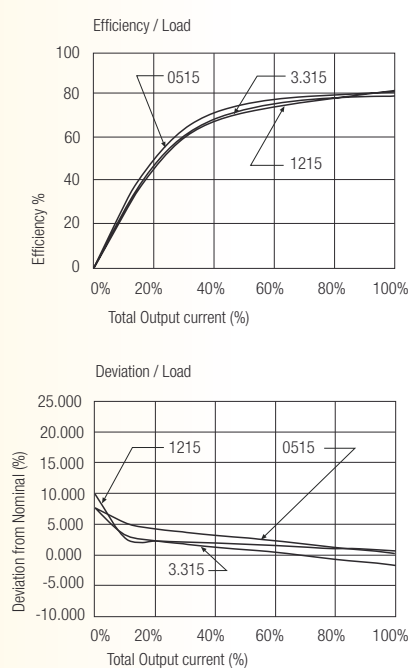
RSD**-xx09



RSD**-xx12

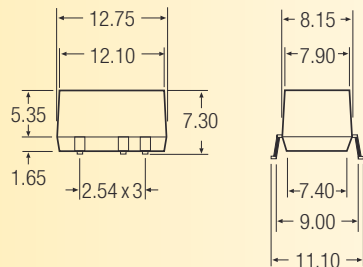


RSD**-xx15

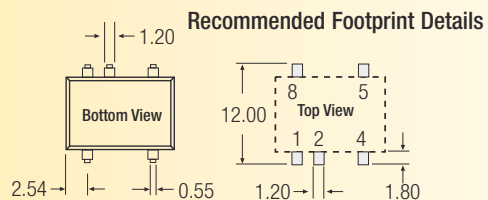
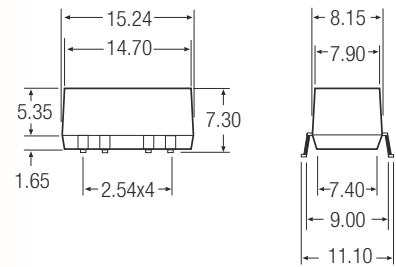


Package Style and Pinning (mm)

8 PIN Single SMD Package



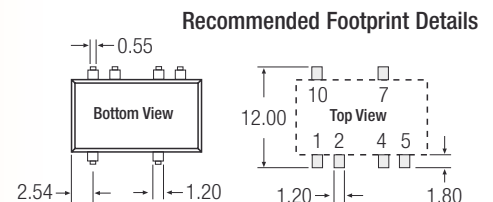
10 PIN Dual SMD Package



Pin Connections

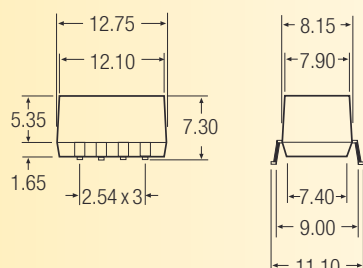
Pin #	Single	Dual
1	-Vin	-Vin
2	+Vin	+Vin
4	-Vout	Com
5	+Vout	-Vout
7	No Pin	+Vout
8	NC	No Pin
10	No Pin	NC

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

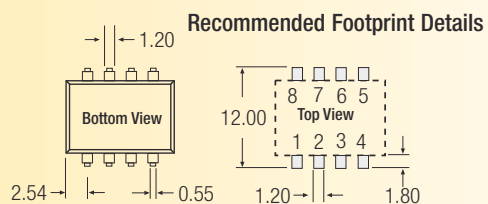
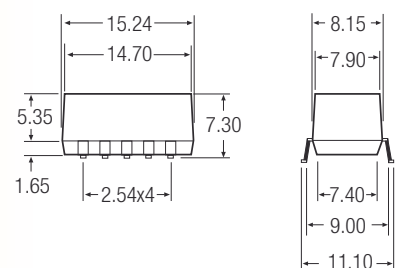


** Package Style and Pinning (mm)

8 PIN Single SMD Package



10 PIN Dual SMD Package



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

