

Features

Unregulated Converters

- 1kVDC Isolation
- Internal SMD Construction
- UL94V-O Package Material
- Power Density 1.8W/cm³
- Toroidal Magnetics
- 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

xx = Input Voltage

** with marking 8 denotes with eight pins

RSD**: ** without marking denotes standard pinning

** with marking 10 denotes with ten pins

Specifications (Core Operating Area)

Input Voltage Range	±10%	
Output Voltage Accuracy	±5%	
Line Voltage Regulation	1.2%/1% of Vin max.	
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. / 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
(+85°C)	Application Notes chapter "MTBF"	using MIL-HDBK 217F
		1045 x 10 ³ hours
		183 x 10 ³ hours

ECONOLINE

DC/DC-Converter

RSS** &

RSD**

Series

1 Watt

SMD

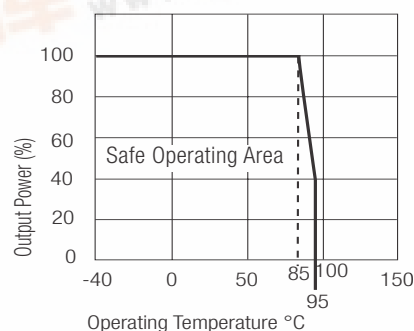
Single &

Dual Output



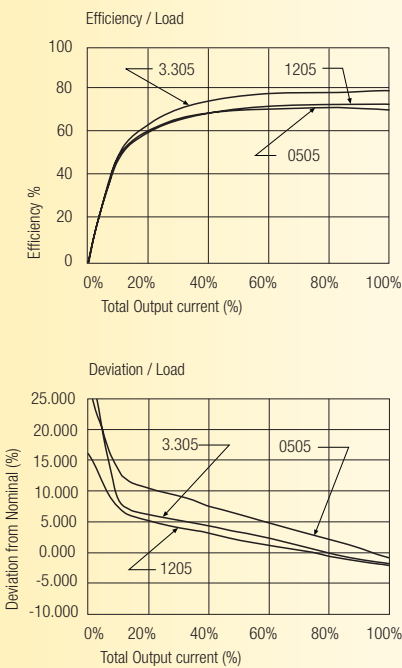
Derating-Graph

(Ambient Temperature)

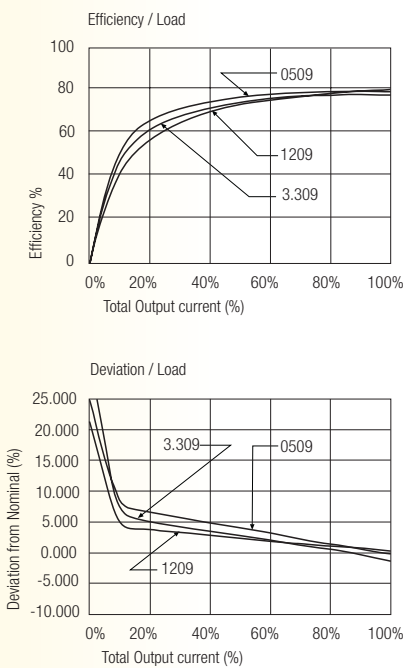


Typical Characteristics

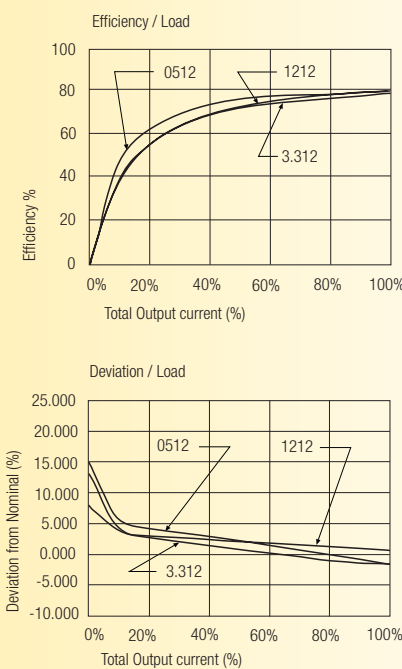
RSS-xx05**



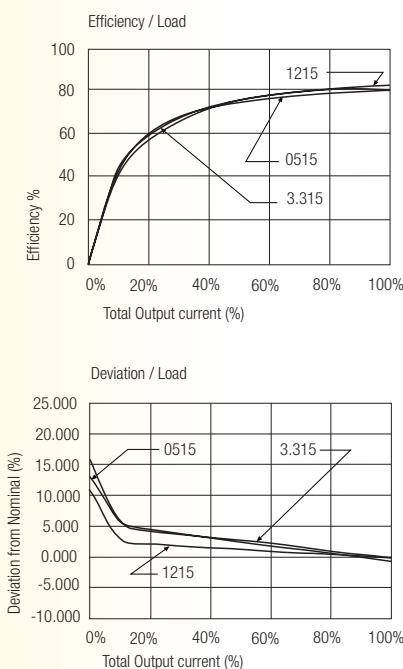
RSS-xx09**



RSS-xx12**

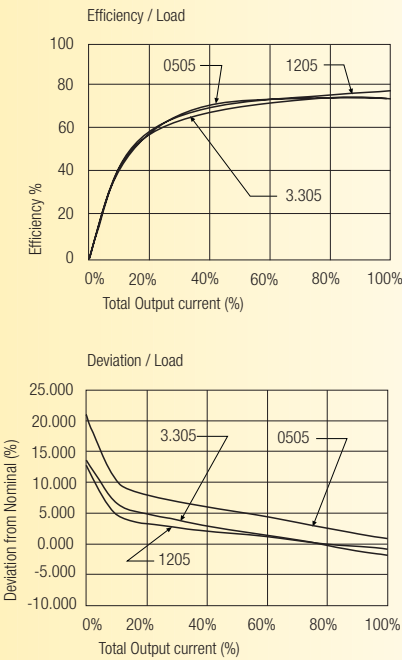


RSS-xx15**

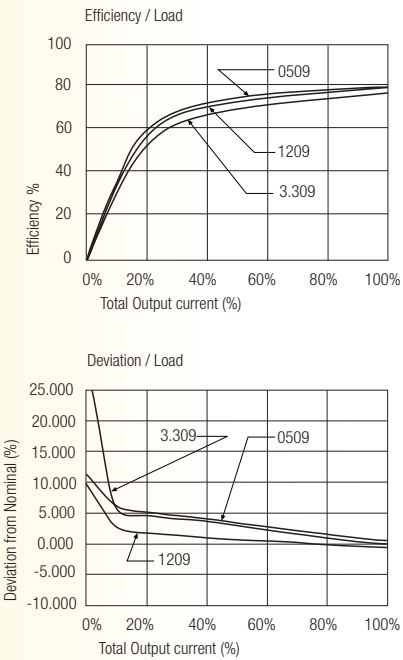


Typical Characteristics

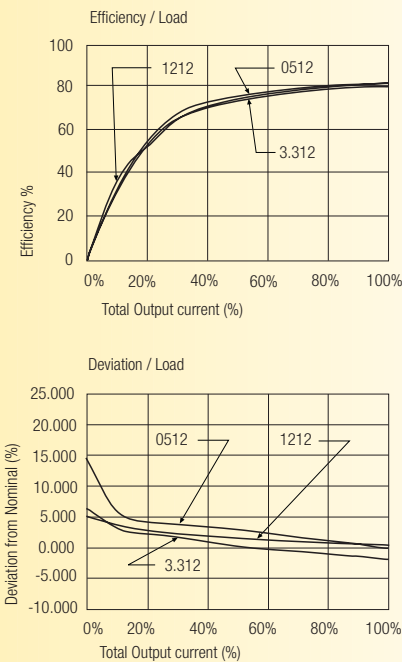
RSD**-xx05



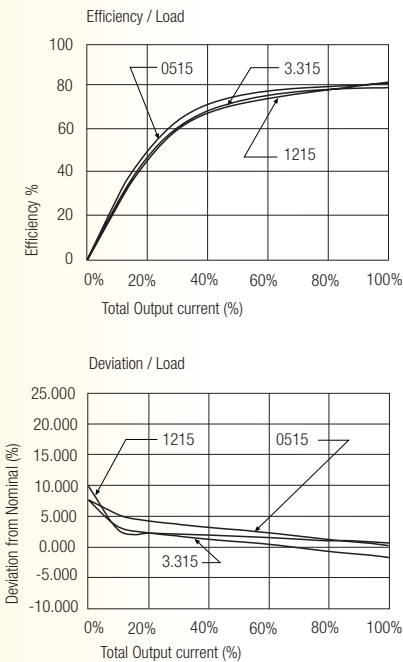
RSD**-xx09



RSD**-xx12

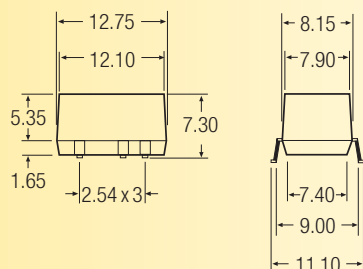


RSD**-xx15

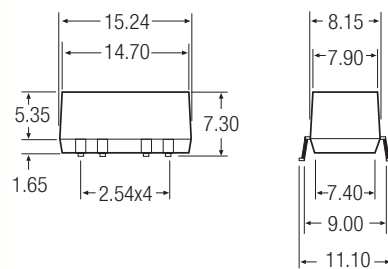


Package Style and Pinning (mm)

8 PIN Single SMD Package

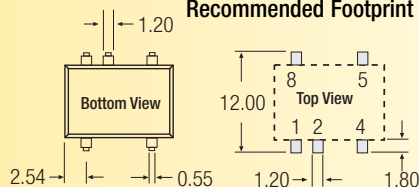


10 PIN Dual SMD Package



3rd angle projection

Recommended Footprint Details

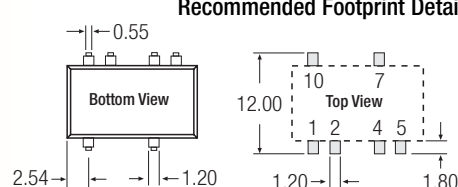


Pin Connections

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

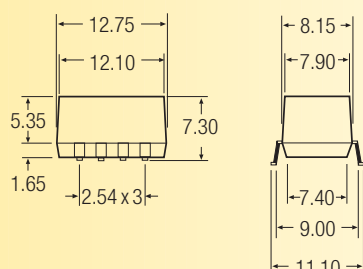
NC = No Connection
XX.X ± 0.5 mm
XX.XX ± 0.25 mm

Recommended Footprint Details

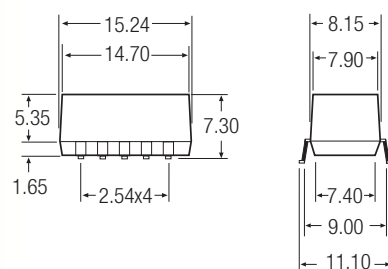


** Package Style and Pinning (mm)

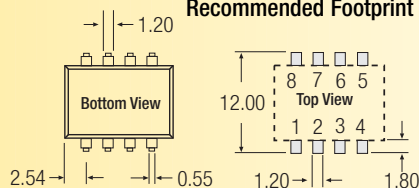
8 PIN Single SMD Package



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

