

Features

Regulated Converters

- Regulated Output
- Continuous Short Circuit Protection
- Auto-Restarting
- Wide Input 2:1 & 4:1
- UL94V-0 Package Material
- Cost Effective
- 100% Burned In
- Efficiency to 86%

ECONOLINE

DC/DC-Converter

REC3-S_DRW/H1 Series

**3 Watt
DIP24 / SMD
Single &
Dual Output**

Selection Guide

Part Number	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)
REC3-xx3.3SRW/H1	4.5 - 9, 9 - 18, 18 - 36, 36 - 72	3.3	900	66-76
REC3-xx05SRW/H1	4.5 - 9, 9 - 18, 18 - 36, 36 - 72	5	600	71-79
REC3-xx09SRW/H1	4.5 - 9, 9 - 18, 18 - 36, 36 - 72	9	330	74-83
REC3-xx12SRW/H1	4.5 - 9, 9 - 18, 18 - 36, 36 - 72	12	250	75-85
REC3-xx15SRW/H1	4.5 - 9, 9 - 18, 18 - 36, 36 - 72	15	200	75-86
REC3-xx05DRW/H1	4.5 - 9, 9 - 18, 18 - 36, 36 - 72	±5	±300	74-83
REC3-xx12DRW/H1	4.5 - 9, 9 - 18, 18 - 36, 36 - 72	±12	±125	75-85
REC3-xx15DRW/H1	4.5 - 9, 9 - 18, 18 - 36, 36 - 72	±15	±100	75-86
REC3-xx3.3SRWZ/H1	9 - 36, 18 - 72	3.3	850	77-79
REC3-xx05SRWZ/H1	9 - 36, 18 - 72	5	600	78-80
REC3-xx09SRWZ/H1	9 - 36, 18 - 72	9	330	80-83
REC3-xx12SRWZ/H1	9 - 36, 18 - 72	12	250	83-85
REC3-xx15SRWZ/H1	9 - 36, 18 - 72	15	200	83-85
REC3-xx05DRWZ/H1	9 - 36, 18 - 72	±5	±300	77-80
REC3-xx12DRWZ/H1	9 - 36, 18 - 72	±12	±125	83-85
REC3-xx15DRWZ/H1	9 - 36, 18 - 72	±15	±100	83-85

2:1 Input

(REC3-S/DRW/H1)

xx = 4.5-9Vin = 05

xx = 9-18Vin = 12

xx = 18-36Vin = 24

xx = 36-72Vin = 48

4:1 Input

(REC3-S/DRWZ/H1)

xx = 9-36Vin = 24

xx = 18-72Vin = 48

* add suffix "/A", "/B" or "/C" for Pinning, see next page

* add suffix "/M" for metal case

e.g. REC3-2412SRW/H1/AM = 1kVDC isol.

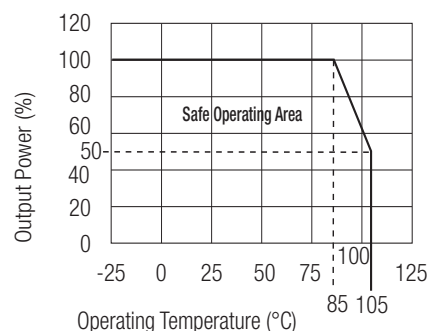
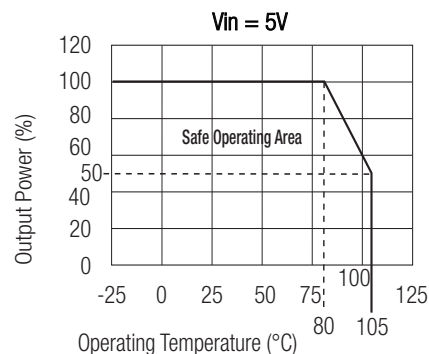
/ Pinout "A" / metal case



Specifications (Core Operating Area)

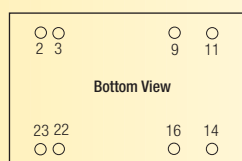
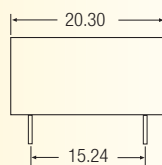
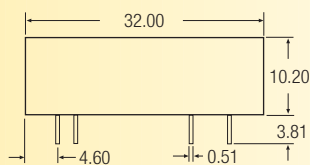
Input Voltage Range	2:1 & 4:1	
Output Voltage Accuracy	±2% max.	
Line Regulation (HL-LL)	2:1 Input types	±0.3% max.
	4:1 Input types	±0.3% max.
Load Regulation (for output load current change from 20% to 100%)	±0.6% max.	
Output Ripple and Noise (0,1µF capacitor on output, 20MHz BW)	50mVp-p max.	
Switching Frequency at Full Load and nominal Input Voltage	2:1 Input types	90kHz min. / 150kHz max.
	4:1 Input types	120kHz min. / 180kHz max.
Input Filter	Pi Network	
Efficiency at Full Load	see above	
Isolation Voltage SMD Pinout and metal case (see note1) (tested for 1 second)	1.000VDC min.	
Rated Working Voltage	(long term isolation)	see Application Notes
Isolation Voltage H1 types	(tested for 1 second)	1.000VDC min.
	(long term isolation)	see Application Notes
Rated Working Voltage	2:1 Input types	20pF min. / 60pF max.
	4:1 Input types	40pF min. / 80pF max.
Isolation Capacitance		
Isolation Resistance	1 GΩ min.	
Short Circuit Protection	Continuous, Auto Restart	
Operating Temperature Range (free air convection)	5V input types	-25°C to +80°C (see Graph)
	others	-25°C to +85°C (see Graph)
Storage Temperature Range	-55°C to +125°C	
Relative Humidity	MSL Level 1	95% RH
Case Material	Non-Conductive Plastic	
Thermal Impedance	Natural convection	20°C/W for metal case
Package Weight	12 g	
MTBF (+25°C) (+85°C)	Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F 1043 x 10 ³ hours
		using MIL-HDBK 217F 186 x 10 ³ hours

Derating-Graph (Ambient Temperature)

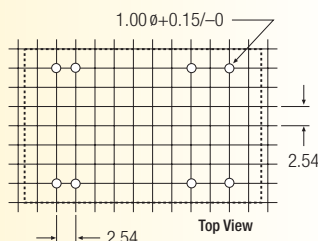


Package Style and Pinning (mm) DIP 24 , Wide Input 2:1 & 4:1

Package A



Recommended Footprint Details



Pin Connections

Pin #	Single	Dual
2	-Vin	-Vin
3	-Vin	-Vin
9	NC	Com
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Com
22	+Vin	+Vin
23	+Vin	+Vin

NC = No Connection

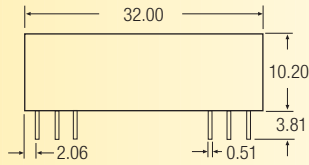
XX.X ± 0.5 mm

XX.XX ± 0.25 mm

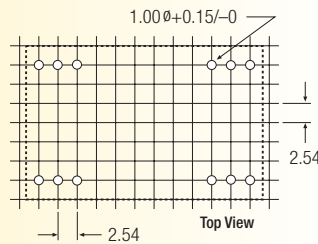
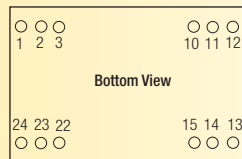
Package Style and Pinning (mm) DIP 24 , Wide Input 2:1 & 4:1



Package B



Recommended Footprint Details

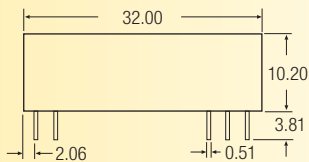


Pin Connections

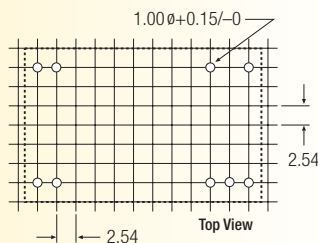
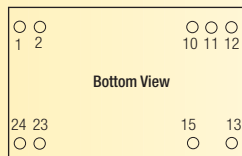
Pin #	Single	Dual
1	+Vin	+Vin
2	No Pin	-Vout
3	No Pin	Com
10	-Vout	Com
11	+Vout	+Vout
12	-Vin	-Vin
13	-Vin	-Vin
14	+Vout	+Vout
15	-Vout	Com
22	No Pin	Com
23	No Pin	-Vout
24	+Vin	+Vin

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

Package C



Recommended Footprint Details

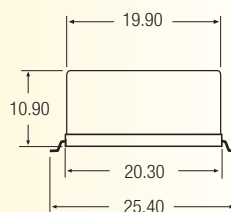
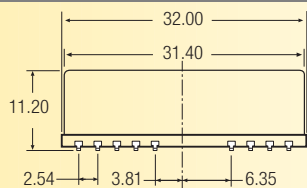


Pin Connections

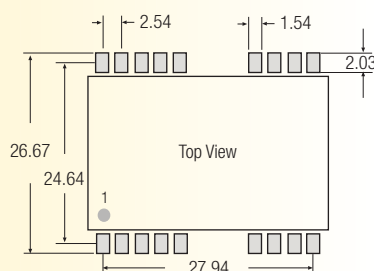
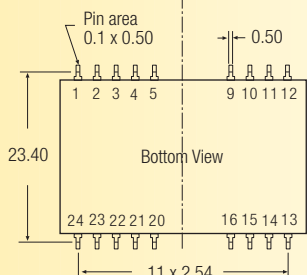
Pin #	Single	Dual
1	+Vin	+Vin
2	+Vin	+Vin
10	NC	Com
11	NC	Com
12	-Vout	NC
13	+Vout	-Vout
15	NC	+Vout
23	-Vin	-Vin
24	-Vin	-Vin

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

Mechanical drawings of DIP24 SMD case



Recommended Footprint Details



Tol.: ± 0.35 mm

length of plastic case is 31,8mm, length of metal case 32.0mm