

# RS31320 Dual eFuses for 5V and 12V rails

## Features

- Dual efuses for 5V and 12V in one chip
- Continuous current: 2.5A for 5V rail, 3.5A for 12V rail
- Low Ron resistance: 30mΩ
- Low operating quiescent current: 300uA
- Low shutdown current
- Fixed current limit: 3A for 5V rail, 4A for 12V rail
- Input UVP and OVP protection
- Latch-off thermal protection
- Small TSOT23-8L package
- RoHS compliant and Green

## Applications

- HDD and SSD drivers
- Multiple battery management
- Redundant and standby power system
- Power path management
- Surveillance system

## Description

The RS31320 device integrates two independent electronics fuses, one for 5V rail and the other for 12V. With the low Ron resistance, the 5V rail supports 2.5A continuous current, while the 12V rail supports 3.5A continuous current.

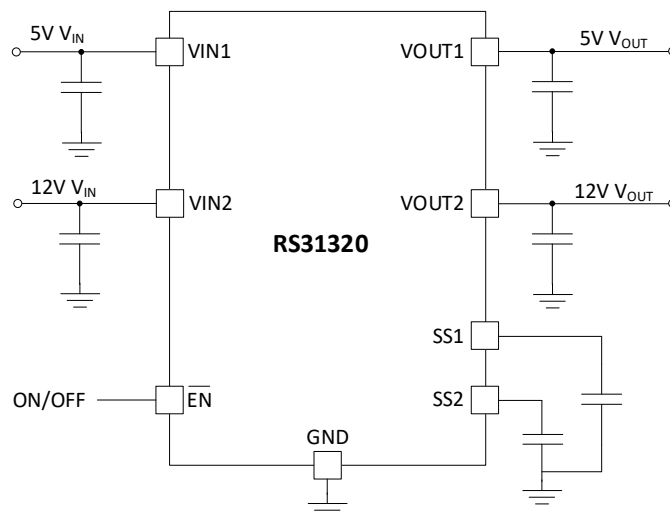
To regulate the input inrush current during startup, the output voltage rising slew rate of each rail can be configured individually.

The device also has fixed over-current protection, input UV and OV protection, and over-temperature protection.

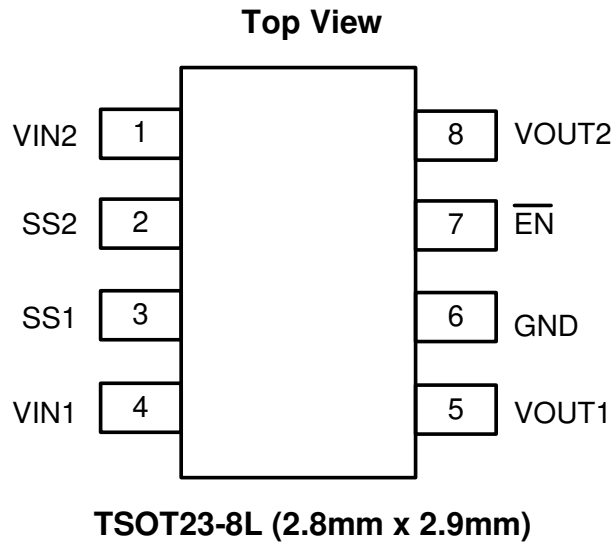
The device is available in TSOT23-8L, 2.8x2.9 mm package.

PART NUMBER	PACKAGE	BODY SIZE
RS31320	TSOT23-8L	2.8x2.9 mm

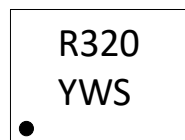
## Typical Application Circuit



## Package Reference



## Top Marking



### Line 1

- R: Prefix of Reed Semiconductor
- 320: Truncated part number

### Line 2

- Y: Year code
- W: Week code
- S: Assembly site code

## Pin Description

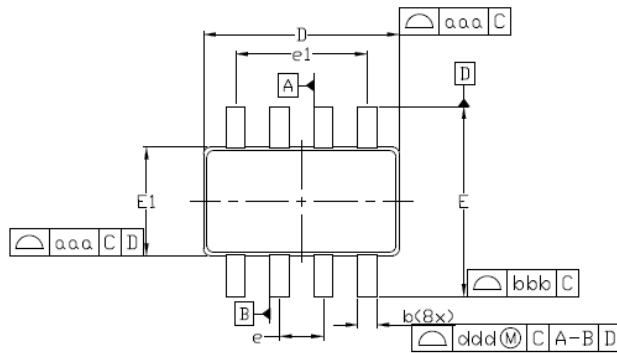
NAME	PIN	TYPE	Description
VIN2	1	I	Power input for 12V eFuse rail
SS2	2	I	Soft start pin for VIN2 rail. A capacitor between the pin and GND to configure the output voltage rising slew rate.
SS1	3	I	Soft start pin for VIN1 rail. A capacitor between the pin and GND to configure the output voltage rising slew rate.
VIN1	4	I	Power input for 5V eFuse rail
VOUT1	5	O	Output of 5V eFuse rail
GND	6	-	Device ground
$\overline{\text{EN}}$	7	I	ON/OFF control pin. Logic low to turn on the device, logic high to turn off the device. This pin is internally pulled down via 1 M $\Omega$ resistor.
VOUT2	8	O	Output of 12V eFuse rail

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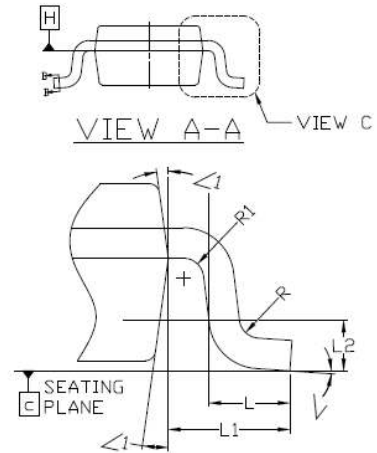
**Order Information**

Part Number	Package	Size	MSL	Shipping Method	Package Marking
RS31320T	TSOT23-8L	2.8x2.9 mm	Level-3	250u Tape & Reel	R320
RS31320R	TSOT23-8L	2.8x2.9 mm	Level-3	3000u Tape & Reel	R320

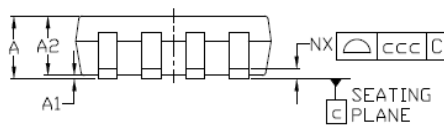
### PACKAGE DIMENSION



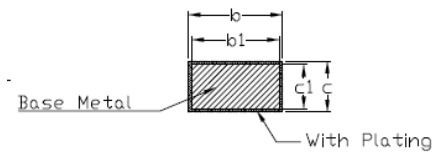
TOP VIEW



BOTTOM VIEW



SIDE VIEW

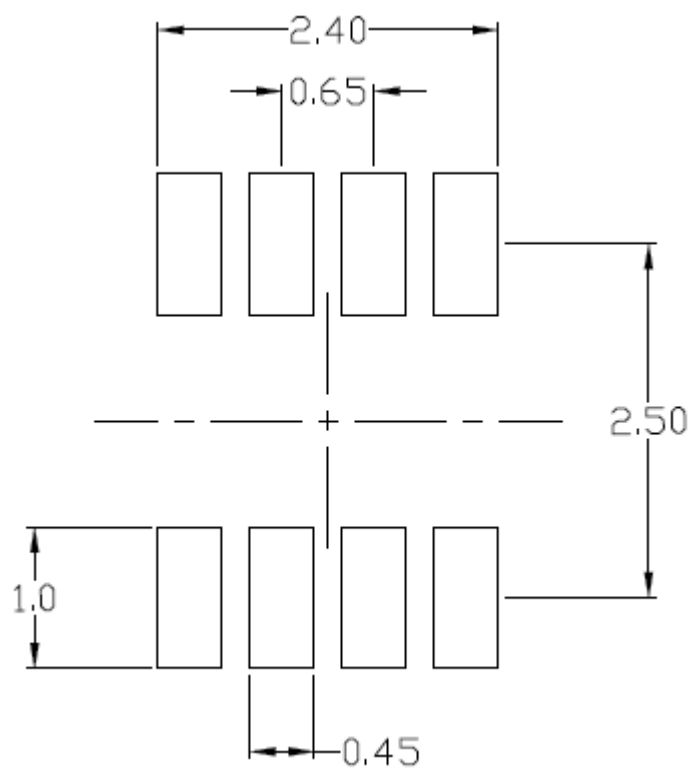


SECTION B-B

Dimensional Ref.			
REF.	Min.	Nom.	Max.
A	---	---	1.000
A1	0.01	0.05	0.10
A2	0.84	0.87	0.90
D	2.90BSC		
E	2.80BSC		
E1	1.60BSC		
b	0.22	---	0.36
b1	0.22	0.26	0.30
c	0.12	0.15	0.20
c1	0.10	0.13	0.16
e	0.65BSC		
e1	1.95BSC		
L	0.30	0.40	0.50
L1	0.60BSC		
L2	0.25BSC		
R	0.1	---	---
R1	0.1	---	0.25
$\angle$	0	4°	8°
$\angle 1$	4°	10°	12°
Tol. of Form&Position			
aaa	0.15		
bbb	0.25		
ccc	0.10		
ddd	0.13		

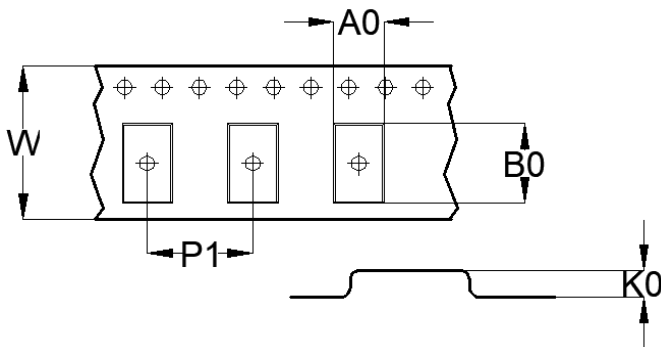
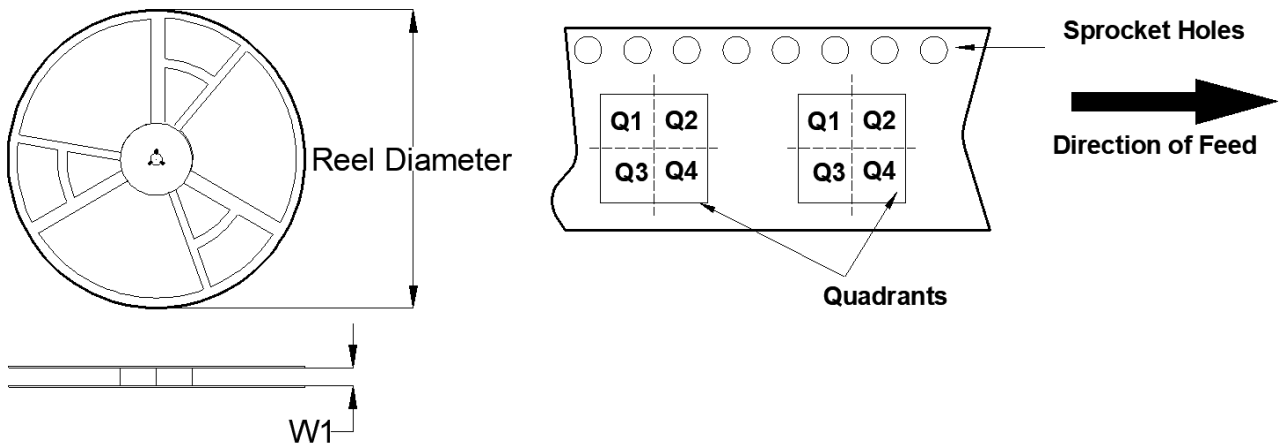
**Note:**

1. ALL DIMENSIONS ARE IN MILLIMETERS

**RECOMMENDED LAND PATTERN****Note:**

1. All dimensions are in millimeters
2. Drawing is not to scale.

**TAPE AND REEL INFORMATION**

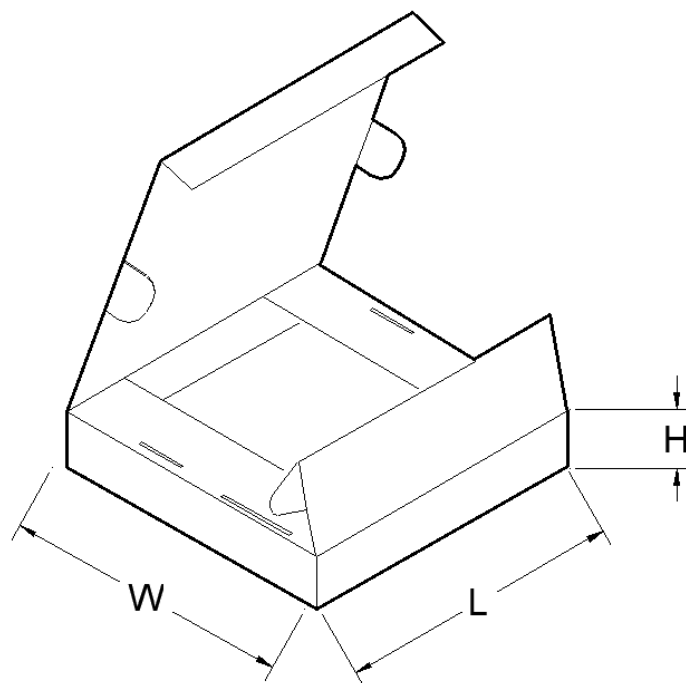


A0	Pocket width
B0	Pocket length
K0	Pocket thickness
W1	Reel Width
W	Inner width of the carrier tape
P1	Pitch between pocket centers

PKG type (mm)	Reel Diameter (mm)	Reel Width W1(mm)	A0(mm)	B0(mm)	K0(mm)	P1(mm)	W(mm)	Quad
2.8x2.9	178	9.5	3.2	3.1	1.5	4.0	8.0	Q3

Note: All the data is nominal

**PIZZA BOX DIMENSION**



PKG type (mm)	Units/box	Length(mm)	Width(mm)	Height(mm)
2.8x2.9	3000	205	200	25

Note: All the data is nominal