RS1001FL~RS1010FL

SMALL SURFACE MOUNT FAST DIODES

## VOLTAGE 100 to 1000 Volt CURRENT 1 Ampere

## FEATURES

- For surface mounted applications in order to optimize board space
- Ideal for automated placement
- Glass Passivated Chip Junction
- High temperature soldering: $260^{\circ} \mathrm{C} / 10$ seconds at terminals
- Ultra thin profile package for space constrained utilization
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard


## MECHANICAL DATA

- Case : JEDEC SOD-123FL, Molded plastic over passivated junction
- Terminals : Solderable per MIL-STD-750, Method 2026
- Standard Packaging : 8mm tape (EIA-481)
- Apporx. Weight : 0.0006 ounces, 0.0173 grams
- Polarity : Color band cathode




## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at $25^{\circ} \mathrm{C}$ ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz , resistive or inductive load.
For capacitive load, derate current by $20 \%$

| Rating | $\begin{gathered} \text { Test } \\ \text { condition } \end{gathered}$ | Symbol | RS1001FL | RS1002FL | RS1004FL | RS1006FL | RS1008FL | RS1010FL | Units |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Marking code |  | - | R1B | R1D | R1G | R1J | R1K | R1M | - |
| Maximum repetitve peak reverse voltage |  | $\mathrm{V}_{\text {RRM }}$ | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum rms voltage |  | $\mathrm{V}_{\text {RMS }}$ | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum dc blocking voltage |  | $\mathrm{V}_{\mathrm{DC}}$ | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum average forward rectified current Derate above $\mathrm{T}_{\mathrm{c}}=110^{\circ} \mathrm{C}$ |  | $\mathrm{I}_{\text {F(AV) }}$ | 1 |  |  |  |  |  | A |
| Maximum instantaneous forward voltage | $\begin{gathered} 0.7 \mathrm{~A} \\ 1 \mathrm{~A} \end{gathered}$ | $V_{F}$ | $\begin{gathered} 1.15 \\ 1.3 \end{gathered}$ |  |  |  |  |  | V |
| Peak forward surge current : 8.3 ms single half sine-wave superimposed on rated load |  | $\mathrm{I}_{\text {FSM }}$ | 30 |  |  |  |  |  | A |
| Maximum dc reverse current at rated dc blocking voltage | $\begin{gathered} \mathrm{T}_{\mathrm{J}}=25^{\circ} \mathrm{C} \\ \mathrm{~T}_{3}=125^{\circ} \mathrm{C} \end{gathered}$ | $I_{\text {R }}$ | $\begin{gathered} 1 \\ 50 \end{gathered}$ |  |  |  |  |  | $\mu \mathrm{A}$ |
| Typical capacitance | 4V,1MHz | C ${ }$ | 9 |  |  |  |  |  | pF |
| Reverse recovery time | $\begin{aligned} & \mathrm{I}_{\mathrm{F}}=0.5 \mathrm{~A} \\ & \mathrm{I}_{\mathrm{R}}=-1 \mathrm{~A} \\ & \mathrm{I}_{\mathrm{H}}=-0.25 \mathrm{~A} \end{aligned}$ | $\mathrm{t}_{\text {r }}$ |  | 150 |  | 250 |  |  | nS |
| Typical thermal resistance junction to ambient (Note1) |  | $\mathrm{R}_{\text {өJA }}$ | 200 |  |  |  |  |  | ${ }^{\circ} \mathrm{C} / \mathrm{W}$ |
| Operating junction and storage temperature range |  | $\mathrm{T}_{\mathrm{J}}, \mathrm{T}_{\text {StG }}$ | -55 to +150 |  |  |  |  |  | ${ }^{\circ} \mathrm{C}$ |

Note: 1. Mounted on a FR4 PCB, single-sided copper, mini pad.

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Fig.1-TYPICAL FORWARD CHARACTERISTICS


Fig.3-FORWARD CURRENT DERATING CURVE



NUMBER OF CYCLES AT 60Hz
Fig.4-MAXIMUM NON-REPEITIVE SURGE CURRENT

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MOUNTING PAD LAYOUT
SOD-123FL Unit : inch(mm)


## ORDER INFORMATION

- Packing information

T/R - 10K per 13" plastic Reel
T/R - 3K per 7" plastic Reel

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## Part No_packing code_Version

RS1001FL_R1_00001
RS1001FL_R2_00001

## For example :

RB500V-40_R2_00001

| $\square$Serial number <br> Part No. <br>  <br>  <br>  <br> Version code means HF <br> Packing size code means 13" |
| :--- |
| Packing type means T/R |


| Packing Code XX |  |  |  | Version Code |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Packing type | $1^{\text {st }}$ Code | Packing size code | $2^{\text {nd }}$ Code | HF or RoHS | $1^{\text {st }}$ Code | $2^{\text {nd }} \sim 5^{\text {th }}$ Code |
| Tape and Ammunition Box (T/B) | A | N/A | 0 | HF | 0 | serial number |
| Tape and Reel (T/R) | R | 7" | 1 | RoHS | 1 | serial number |
| Bulk Packing (B/P) | B | 13 " | 2 |  |  |  |
| Tube Packing (T/P) | T | 26 mm | X |  |  |  |
| Tape and Reel (Right Oriented) (TRR) | S | 52 mm | Y |  |  |  |
| Tape and Reel (Left Oriented) (TRL) | L | PANASERT T/B CATHODE UP (PBCU) | U |  |  |  |
| FORMING | F | PANASERT T/B CATHODE DOWN (PBCD) | D |  |  |  |

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