

### SURFACE MOUNT SWITCHING DIODE

This device is an extremely fast switching diode housed in the ultra-small SOD-523 package. Ideal for applications

### FEATURES

- Extremely fast reverse recovery time to reduce switching losses
- · Very low capacitance for reduced insertion losses
- Reverse voltage rating of 80V
- Also available in lead-free plating (100% matte tin finish)
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std..(Halogen Free)

#### **MECHANICAL DATA**

- Case: SOD-523, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- · Polarity : Color band denotes cathode end
- Approx.Weight : 0.0014 ounces, 0.0001 grams
- Marking : 14

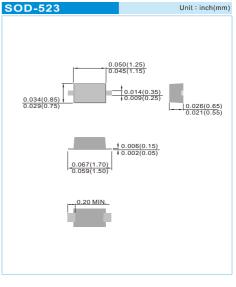
### MAXIMUM RATINGS $T_J = 25^{\circ}C$ UNLESS OTHERWISE NOTED

| PARAMETER  | SYMBOL           | LIMITS     | UNITS |
|--|------------------|------------|-------|
| Peak Reverse Voltage   | Vrm              | 90         | V     |
| Continuous Reverse Voltage                                     | VR               | 80         | V     |
| Continuous Forward Current                                     | ١F               | 225        | mA    |
| Non-repetitive Peak Forward Current , t = 0.001ms, Square Wave | I FSM            | 4          | А     |
| Total Power Dissipation (Note1)                                | P <sub>tot</sub> | 200        | mW    |
| Operating Junction and Storage Temperature Range               | Тј,Тѕтс          | -55 to 150 | °C    |

Note 1. FR-5 Board 1.0 x 0.75 x 0.062 in

#### THERMAL CHARACTERISTICS

| PARAMETER                               | SYMBOL           | LIMITS | UNITS  |
|---|------------------|--------|--------|
| Thermal Resistance, Junction to Ambient | Rθ <sub>JA</sub> | 625    | °C / W |
|   |                  |        |        |
|   |                  |        |        |
|   |                  |        |        |
|   |                  |        |        |
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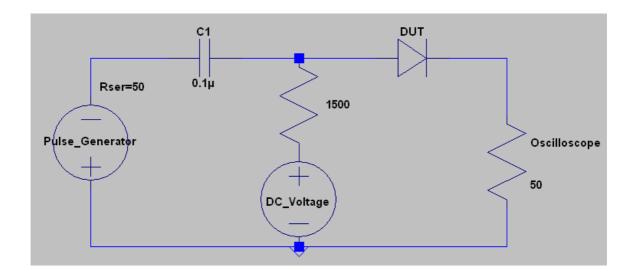




### ELECTRICAL CHARACTERISTICS $\,T_{\rm J}$ = 25°C UNLESS OTHERWISE NOTED

| PARAMETER                               | SYMBOL | TEST CONDITIONS  | MIN | TYP | MAX | UNITS |
|---|--------|--|-----|-----|-----|-------|
| Forward Voltage (Note 2)                | VF     | I F = 100mA  | -   | -   | 1.2 | V     |
| Reverse Leakage Current                 | Ir     | VR = 80V   | -   | -   | 0.1 | μΑ    |
| Junction Capacitnace                    | Ср     | 0Vdc Bias, f = 1MHz  | -   | 3   | -   | pF    |
| Reverse Recovery Time<br>(See Figure 1) | I II   | $I_F = 10mA$ , $I_R = 10mA$<br>$R_L = 100 Ohms;$<br>measured at I rrec = 1mA | -   | -   | 4.0 | ns    |

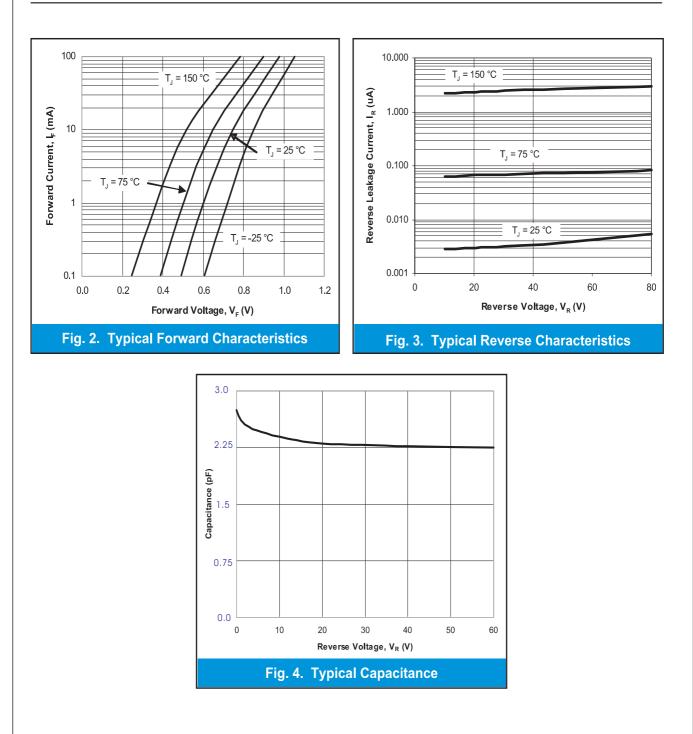
#### Note 2. Short duration pulse test to avoid self-heating effect



### Figure 1. Reverse Recovery Time Equivalent Test Circuit



### **TYPICAL CHARACTERISTIC CURVES**

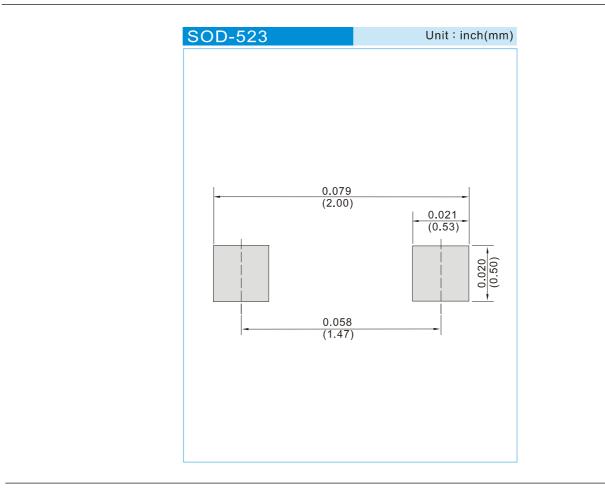


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#### MOUNTING PAD LAYOUT



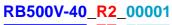
#### **ORDER INFORMATION**

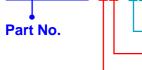
- Packing information
  - T/R 12K per 13" plastic Reel
  - T/R 5K per 7" plastic Reel





### For example :





- Serial number

Version code means HF

- Packing size code means 13"
- Packing type means T/R

| Packing Code XX                         |                      |                                     | Version Code XXXXX   |            |                      |                                       |
|---|----------------------|-------------------------------------|----------------------|------------|----------------------|---------------------------------------|
| Packing type                            | 1 <sup>st</sup> Code | Packing size code                   | 2 <sup>nd</sup> Code | HF or RoHS | 1 <sup>st</sup> Code | 2 <sup>nd</sup> ~5 <sup>th</sup> Code |
| Tape and Ammunition Box<br>(T/B)        | A                    | N/A                                 | 0                    | HF         | 0                    | serial number                         |
| Tape and Reel<br>(T/R)                  | R                    | 7"                                  | 1                    | RoHS       | 1                    | serial number                         |
| Bulk Packing<br>(B/P)                   | В                    | 13"                                 | 2                    |            |                      |                                       |
| Tube Packing<br>(T/P)                   | т                    | 26mm                                | X                    |            |                      |                                       |
| Tape and Reel (Right Oriented)<br>(TRR) | S                    | 52mm                                | Y                    |            |                      |                                       |
| Tape and Reel (Left Oriented)<br>(TRL)  | L                    | PANASERT T/B CATHODE UP<br>(PBCU)   | U                    |            |                      |                                       |
| FORMING                                 | F                    | PANASERT T/B CATHODE DOWN<br>(PBCD) | D                    |            |                      |                                       |





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