

# Ultra high-speed rectifier diode

## 1SR159-200

### ●Applications

High frequency rectification  
For switching power supply.

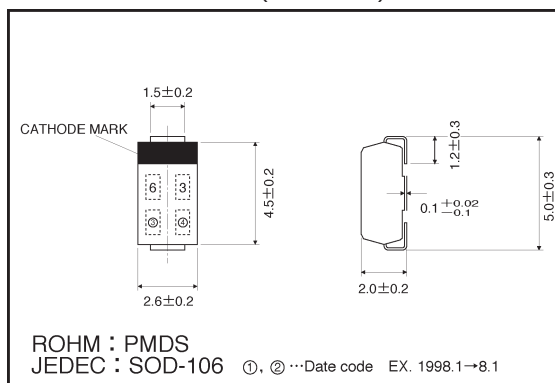
### ●Features

- 1) Small surface mounting type. (PMDS)
- 2) Low forward voltage. ( $V_F$ )
- 3) Reverse recovery time is very fast.  
(typical : 23ns)

### ●Construction

Silicon epitaxial planar

### ●External dimensions (Units: mm)



### ●Absolute maximum ratings ( $T_a = 25^\circ\text{C}$ )

| Parameter                     | Symbol    | Limits          | Unit             |
|-------------------------------|-----------|-----------------|------------------|
| Absolute peak reverse voltage | $V_{RSM}$ | 200             | V                |
| Peak reverse voltage          | $V_{RM}$  | 200             | V                |
| Mean rectifying current*1     | $I_O$     | 1               | A                |
| Peak forward surge current*2  | $I_{FSM}$ | 20              | A                |
| Junction temperature          | $T_j$     | 150             | $^\circ\text{C}$ |
| Storage temperature           | $T_{stg}$ | $-55 \sim +150$ | $^\circ\text{C}$ |

\*1 When mounted on an alumina PCB board \*2 60 Hz for 1 ms

### ●Electrical characteristics ( $T_a = 25^\circ\text{C}$ )

| Parameter             | Symbol   | Min. | Typ. | Max. | Unit          | Conditions                 |
|-----------------------|----------|------|------|------|---------------|----------------------------|
| Forward voltage       | $V_F$    | —    | 0.90 | 0.98 | V             | $I_F = 1.0\text{A}$        |
| Reverse current       | $I_R$    | —    | 0.6  | 10   | $\mu\text{A}$ | $V_R = 200\text{V}$        |
| Reverse recovery time | $t_{rr}$ | —    | 23   | 50   | ns            | $I_F = I_R = 100\text{mA}$ |

●Electrical characteristic curves (Ta = 25°C unless specified otherwise)

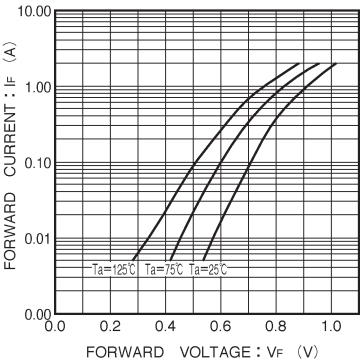


Fig. 1 Forward characteristics

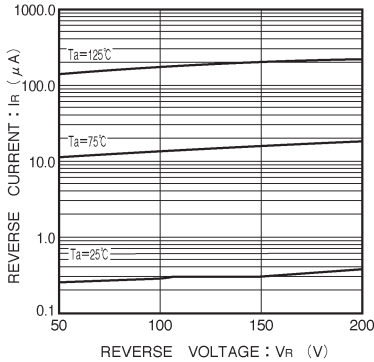


Fig. 2 Reverse characteristics

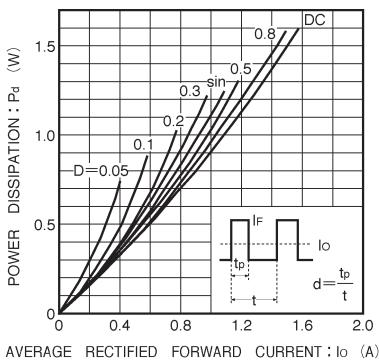


Fig. 3 Power dissipation curves

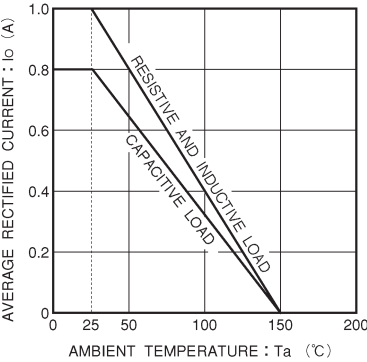


Fig. 4 Derating curve

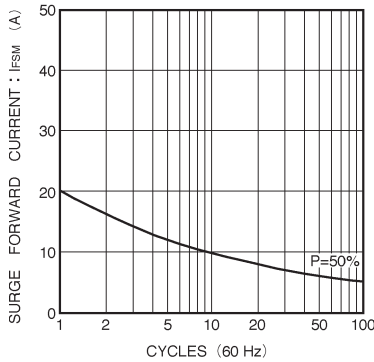


Fig. 5 Maximum peak forward surge current characteristics