

# High-speed rectifier diode

## 1SR124-400A

### ●Applications

High speed rectification

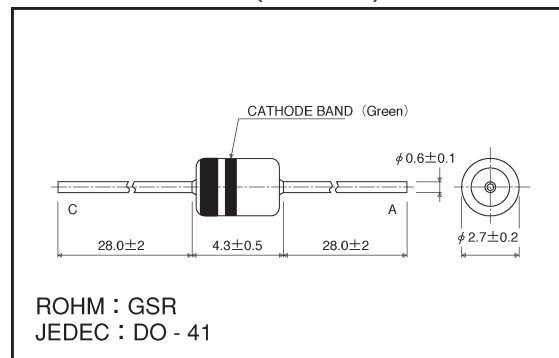
### ●Features

- 1) Glass sealed envelope. (JEDEC: DO-41)
- 2) High speed. ( $t_{rr}=0.4\mu\text{s}$  Max.)
- 3) Assures 400V while maintaining high speed.

### ●Construction

Silicon diffusion junction

### ●External dimensions (Units: mm)



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

| Parameter                     | Symbol    | Limits          | Unit             |
|-------------------------------|-----------|-----------------|------------------|
| Absolute peak reverse voltage | $V_{RSM}$ | 500             | V                |
| Peak reverse voltage          | $V_{RM}$  | 400             | V                |
| Mean rectifying current       | $I_O$     | 1               | A                |
| Peak forward surge current *  | $I_{FSM}$ | 30              | A                |
| Junction temperature          | $T_j$     | 150             | $^\circ\text{C}$ |
| Storage temperature           | $T_{stg}$ | $-65 \sim +175$ | $^\circ\text{C}$ |

\*60 Hz for 1  $\varnothing$

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

| Parameter             | Symbol   | Min. | Typ. | Max. | Unit          | Conditions                                        |
|-----------------------|----------|------|------|------|---------------|---------------------------------------------------|
| Forward voltage       | $V_F$    | —    | 1.14 | 1.3  | V             | $I_F = 1\text{A}$                                 |
| Reverse current       | $I_R$    | —    | 0.20 | 10   | $\mu\text{A}$ | $V_R = 400\text{V}$                               |
| Reverse recovery time | $t_{rr}$ | —    | 0.2  | 0.4  | $\mu\text{s}$ | $I_F = I_R = 10\text{mA}$ , $I_{rr} = 1\text{mA}$ |

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

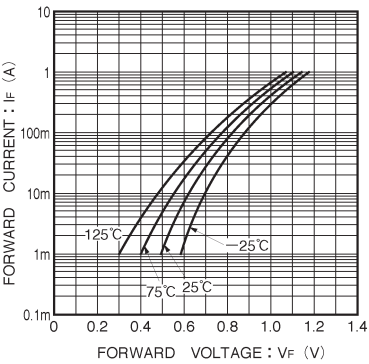


Fig. 1 Forward characteristics

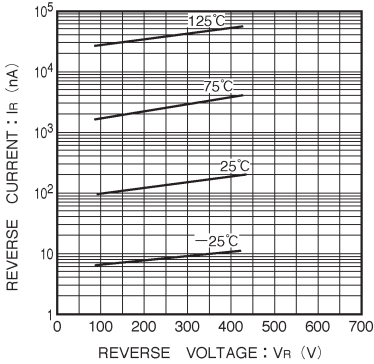


Fig. 2 Reverse characteristics

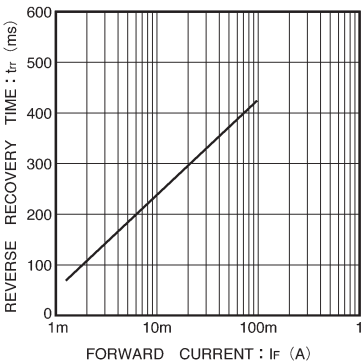


Fig. 3 Reverse recovery time characteristics

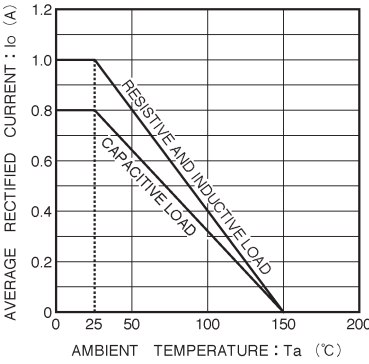


Fig. 4 Derating curve

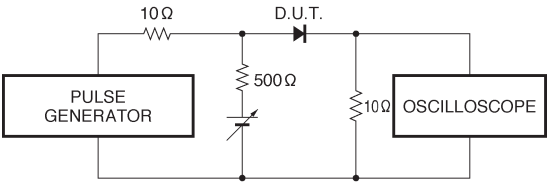


Fig. 5 Reverse recovery time ( $t_{rr}$ ) measurement circuit