

# SPECIFICATION

Device Name : High Voltage Silicon Diode

Type Name : ESJA53-18A

Spec. No. : . . . . .

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Fuji Electric Co., Ltd.  
Matsumoto Factory

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|         | DATE | NAME | APPROVED |  | Fuji Electric Co., Ltd. |  |  |
| DRAWN   |      |      |          |  | DWG. NO.                |  |  |
| CHECKED |      |      |          |  |                         |  |  |
|         |      |      |          |  |                         |  |  |

## 1. SCOPE

This specification provide the ratings and the requirements for high voltage silicon diode ESJA53-18A made by FUJI ELECTRIC CO.,LTD.

## 2. OUT VIEW

Shape and dimensions are described in Fig.3.

## 3. IDENTIFICATION

The diode shall be marked with Cathode Mark and Lot No..

## 4. RATINGS AND CHARACTERISTICS

### 4.1 ABSOLUTE MAX. RATINGS. ( Ta=25 °C unless otherwise noted. )

| Items                                 | Conditions                     | Symbols   | Ratings | Units  |
|---------------------------------------|--------------------------------|-----------|---------|--------|
| Repetitive peak reverse voltage.      |                                | $V_{RRM}$ | 18      | kVpeak |
| Non-Repetitive peak forward current.  | 50Hz Sine-half wave peak value | $I_{FSM}$ | 0.5     | Apeak  |
| Average forward current.              | 50Hz Sine Wave                 | $I_{AV}$  | 5       | mA     |
| Allowable junction temperature.       |                                | $T_j$     | 120     | °C     |
| Storage temperature range.            |                                | $T_{stg}$ | -40~120 | °C     |
| Allowable operating case temperature. |                                | $T_c$     | 100     | °C     |

### 4.2 ELECTRICAL CHARACTERISTICS ( Ta=25 °C unless otherwise noted. )

| Items                         | Conditions               | Symbols  | Ratings | Units   |
|-------------------------------|--------------------------|----------|---------|---------|
| Maximum forward voltage drop  | $I_F=10mA$               | $V_F$    | 66      | V       |
| Maximum reverse current       | $V_R=18kV$               | $I_{R1}$ | 2       | $\mu A$ |
| Maximum reverse current       | $V_R=18kV, 100^{\circ}C$ | $I_{R2}$ | 5       | $\mu A$ |
| Maximum reverse recovery time | $I_F=2mA, I_R=4mA$       | $t_{rr}$ | 0.08    | $\mu S$ |
| Maximum junction capacitance  | $f=1MHz, V_R=0V$         | $C_j$    | 1       | pF      |

### 4.3 MECHANICAL CHARACTERISTICS

Weight : Ca. 0.3 gr.

Vibration proof : 5 G

**Fuji Electric Co.,Ltd.**

DWG.NO.

H04-004-03

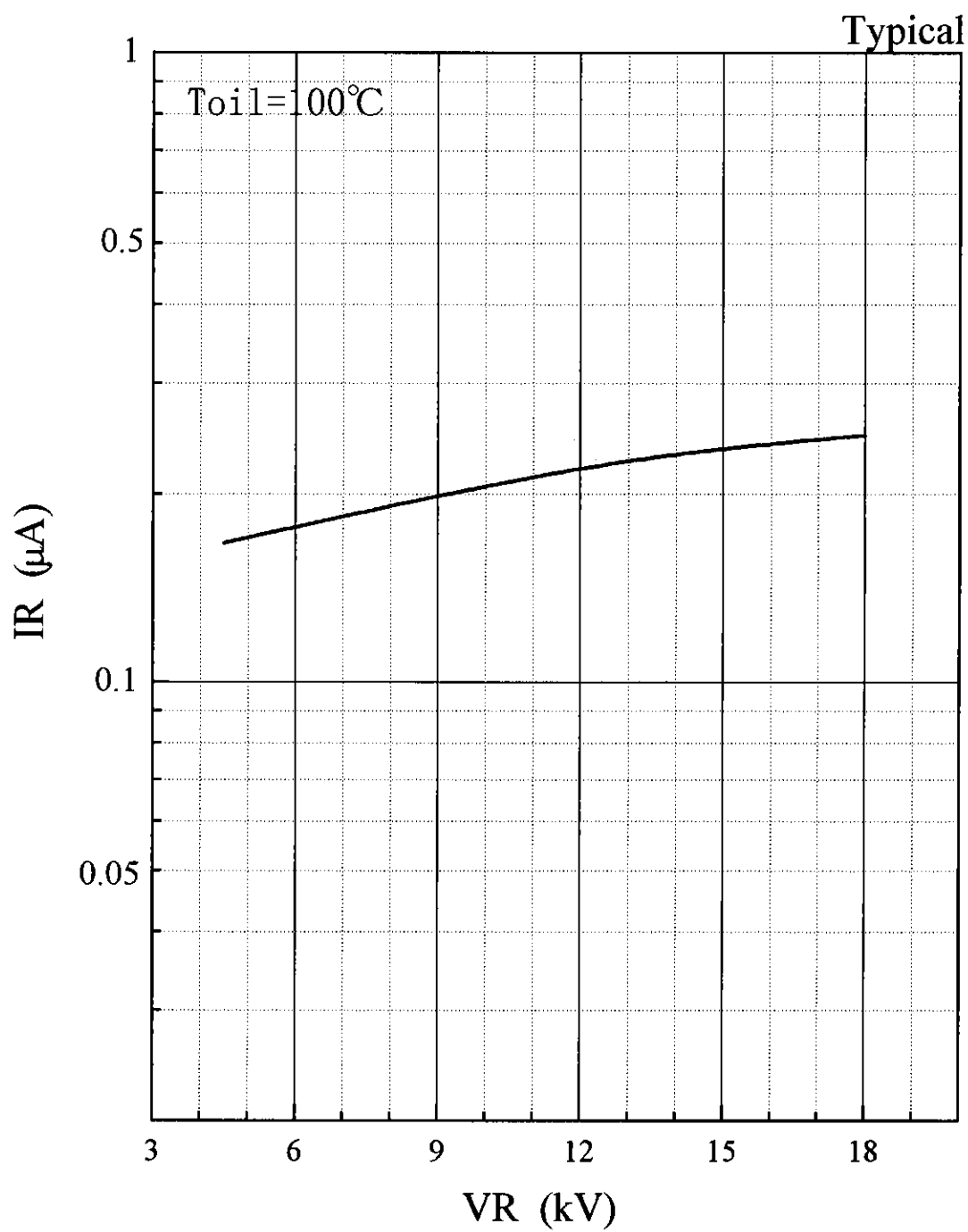


Fig.2 Reverse characteristic[VR-IR]

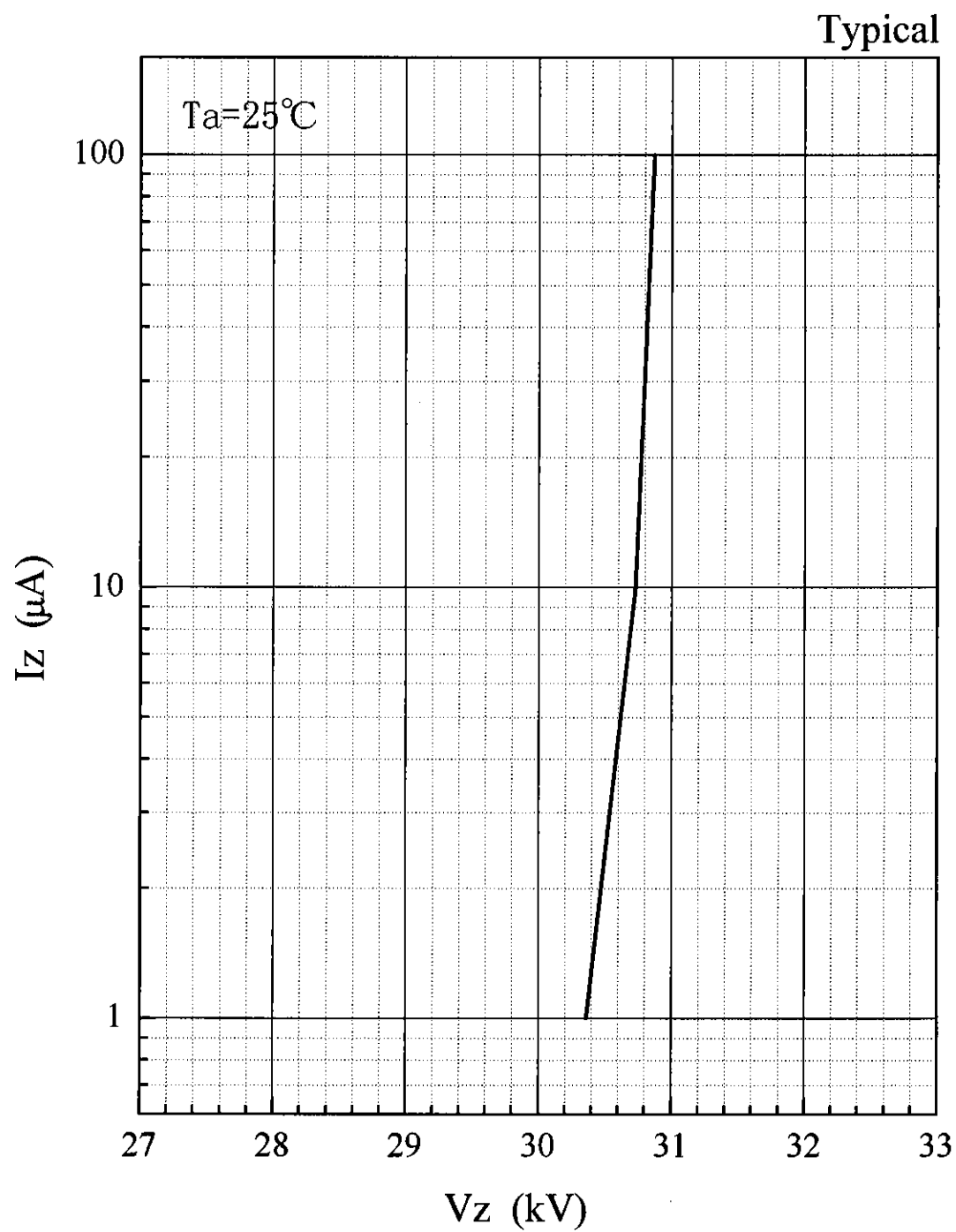


Fig.3 Avalanche characteristic [ $V_z$ - $I_z$ ]

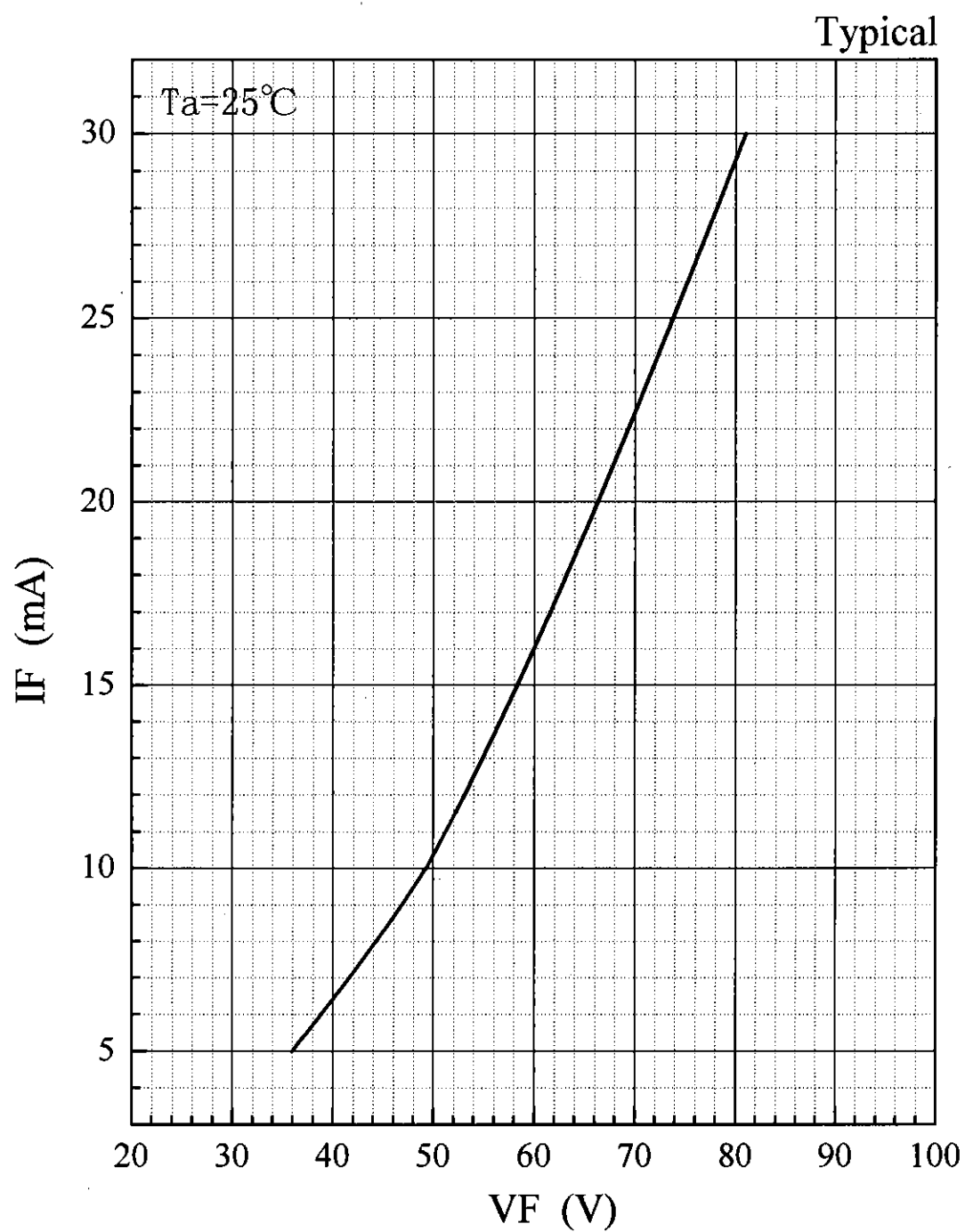


Fig.1 Forward characteristic[VF-IF]

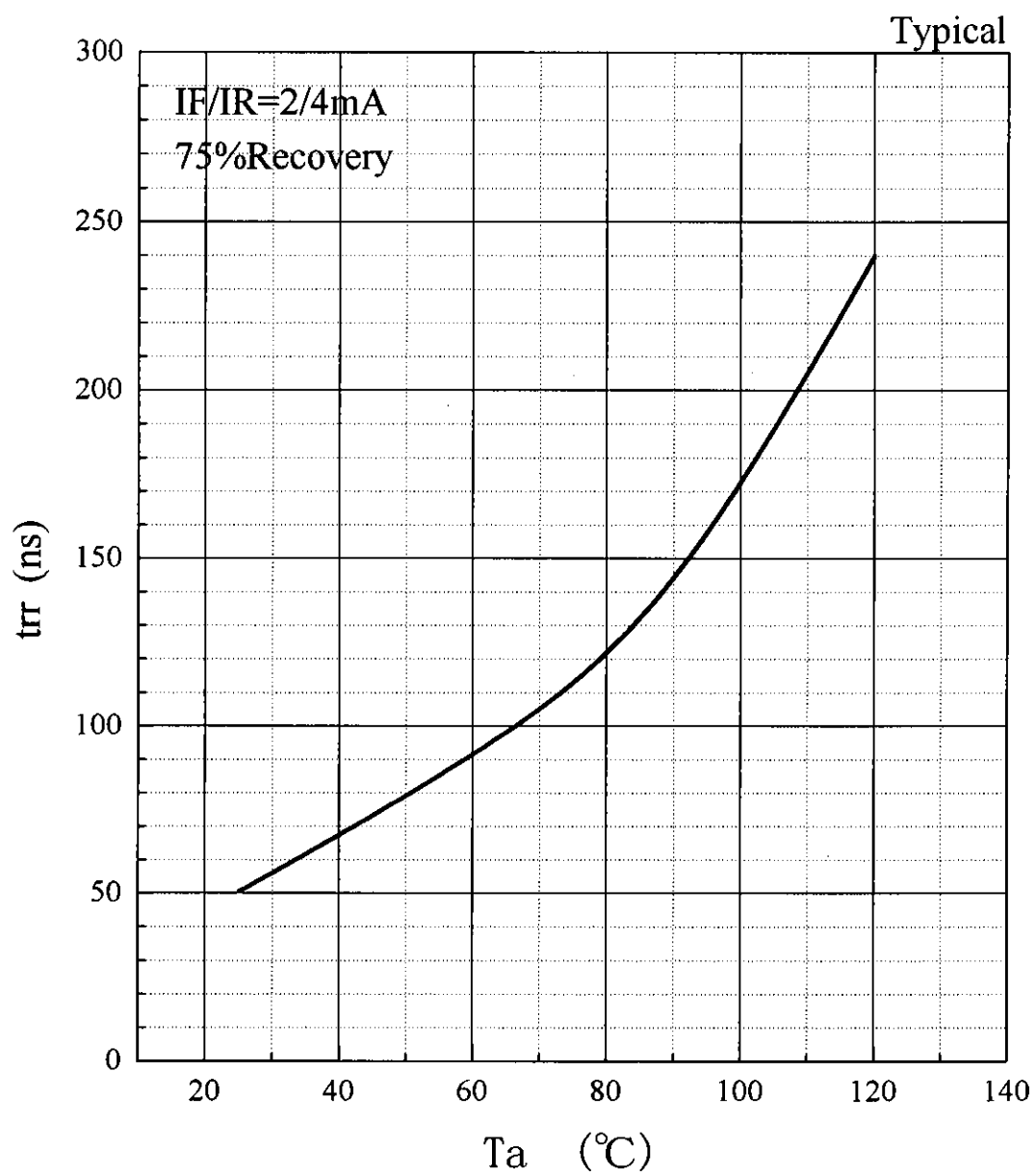
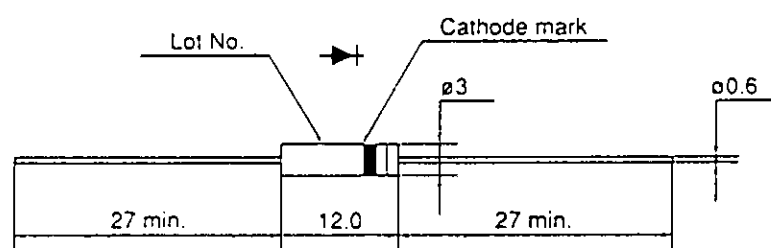


Fig.4 Reverse recovery time characteristic[ $T_a$ - $t_{rr}$ ]

Dimensions

Unit : mm

ESJA53-□□A



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