

High Voltage Rectifier Diodes

1 Handling precautions

Fuji Electric's high-voltage rectifier diodes were developed with emphasis on compactness. The diodes should be coated with an epoxy resin to maintain insulation during use. When handling the diodes, observe the following precautions at all times:

Precautions for use

- When installing a high-voltage rectifier diode in a product, keep the diode surface clean to ensure full contact with any coatings.
- Bubbles in the coating will cause the product insulation and reliability to deteriorate. Ensure that there are no bubbles around the surface area of the high-voltage rectifier diode.
- For coating, epoxy material is recommended. Ensure that expansion or contraction will not put stress on the coating.
- Do not touch the body of the diode directly with bare hands. If handling the component is necessary, put on nylon gloves or finger stalls as body oils left on the surface of the diode or sealing can compromise voltage withstand capability.
- Form lead wires 5mm or more away from the sealing. Limit stresses on the lead wires to within the range of 5N{0.5 kgf}.
- When a high-voltage rectifier diode is soldered, the heat applied to the leads may exceed the maximum rated storage temperature. To maintain the diode quality despite soldering heat, solder the leads under the following conditions:

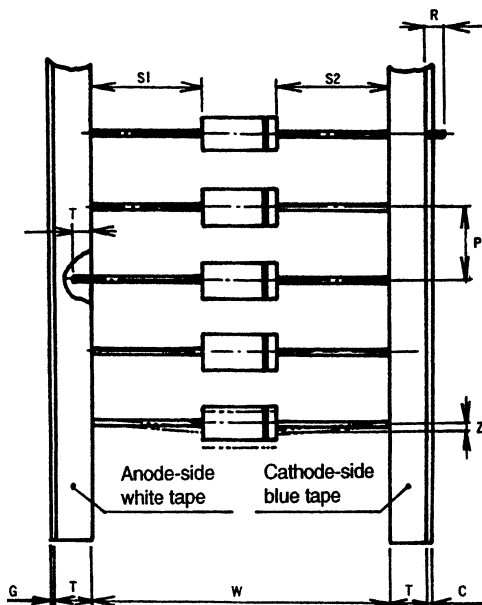
Soldering temperature: $350 \pm 10^\circ\text{C}$

Immersion time: 5s

Immersion depth: 10cm away from the diode body

2 Taping and packaging

■ Taping dimensions



Precautions for receiving test

- Characteristic check by remolding**
When preparing for a high-voltage rectifier diode test, secure a creepage distance for insulation and remold the diode with an epoxy resin of about 80x40mm by considering heat radiation at measurement. Then perform the characteristic or reliability test.
When molding a high-voltage rectifier diode, ensure full contact between the coating and the high-voltage diode.
- Characteristic check in insulating oil**
Without remolding, the characteristics of high-voltage rectifier diodes are generally checked in insulating oil (fluorinate or silicone oil). Fluorinate is volatile but silicone oil is not. Therefore, wash the diode well after testing. To ensure the product quality, it is not recommended that tested high-voltage diodes be installed in actual products.

Precautions for storage

- As a rule, store high-voltage rectifier diodes at average temperature and humidity (5 to 35°C, 70% RH or less). To avoid the influence of the ambient environment, it is recommended that diodes be installed immediately after they are unpacked.
- If a high-voltage rectifier diode is stored more than six months, place the diode in an environment of 110°C for a period of between 24 to 48 hours to eliminate any traces of moisture.
- A high-voltage rectifier diode is guaranteed for two years from the day of shipping.

Unit: mm

Classification	5-mm pitch taping	3.5-mm pitch
Taping symbol	T	T3.5
W	58.0±0.5	60.0±0.5
P	5.0±0.5	3.5±0.5
S1-S2	0±1.0	0±1.0
T	6.0±1.0	6.0±1.0
Z MAX	1.0	1.0
R MAX	0.5	0.5
t MIN	3.2	3.2
G MAX	1.0	1.0
Applicable product	ø2.0, ø2.5, ø3.0	ø2.0, ø2.5

High Voltage Rectifier Diodes

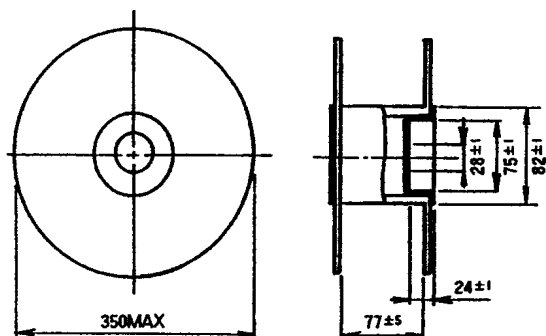
■ Reel packaging

- Reel-wound (maximum) quantities are shown in Table 1 in a reel.
- The diode lots are within two lots in a reel.
- Each wound reel is put in two step piling in an interior cardboard box.
- The label which describes the following is affixed on the side in the interior box.
 - 1) Component type number
 - 2) Lot No.
 - 3) Quantity
 - 4) Reel No.
 - 5) Shipping date

Table 1 Reel-wound quantity

Product nominal outside diameter (mm)	Wound quantity (pcs.)	Typical Product
ø2.0	6000	ESJA04-02A, ESJA04-03A
ø2.5	6000	ESJA58-08A, ESJA08-08
ø3.0	5000	ESJA52-12A, ESJA53-16A

Reel Dimensions, mm



Reel packaging box dimensions

375(W) x375(D) x210mm(H)

3 Minimum units of order and package

When ordering high-voltage rectifier diodes, Bulk and Tape & Reel parts are sold in quantities shown in the table below.

Product nominal outside diameter (mm)	Type	Minimum order unit = Minimum package unit (pcs.)	
		Bulk	Taping
ø2.0	ESJA04	500	6000
ø2.5	ESJA08 ESJA09 ESJA18 ESJA19 ESJA28 ESJA57 ESJA58 ESJA59 ESJA88 ESJA89	500	6000
ø3.0	ESJA52 ESJA53 ESJA54 ESJA56 ESJA82 ESJA83	500	5000
ø7.5	ESJC13	100	-
	ESJC30	100	1000
ø4.5	ESJC37	250	3500