

## 4-3 Ultrafast Recovery Diodes

### ●Surface-Mount

| V <sub>RM</sub><br>(V) | I <sub>F</sub> (AV)<br>(A)<br><small>Values in parentheses<br/>are for the products<br/>with heatsinks</small> | Package                           | Part<br>Number | I <sub>FSM</sub><br>(A)       | T <sub>j</sub><br>(°C) | T <sub>stg</sub><br>(°C) | V <sub>F</sub><br>(V)<br>max | I <sub>F</sub><br>(A) | I <sub>R</sub><br>(μA)                 | I <sub>R</sub> (H)<br>(mA)             | T <sub>j</sub><br>(°C) | trr <sup>(1)</sup><br>(ns) | I <sub>F</sub> /I <sub>RP</sub><br>(mA) | trr <sup>(2)</sup><br>(ns) | I <sub>F</sub> /I <sub>RP</sub><br>(mA) | R <sub>th(j-l)</sub><br>(°C/W) | Mass<br>(g) |
|------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------|-------------------------------|------------------------|--------------------------|------------------------------|-----------------------|----------------------------------------|----------------------------------------|------------------------|----------------------------|-----------------------------------------|----------------------------|-----------------------------------------|--------------------------------|-------------|
|                        |                                                                                                                |                                   |                | 50Hz<br>Single Half Sine Wave |                        |                          |                              |                       | V <sub>R</sub> =V <sub>RM</sub><br>max | V <sub>R</sub> =V <sub>RM</sub><br>max |                        |                            |                                         |                            |                                         |                                |             |
| 200                    | 1.0                                                                                                            | Surface-Mount (SJP)               | SJPL-D2        | 25                            | -40 to +150            |                          | 0.98                         | 1.0                   | 25                                     | 1.0                                    | 150                    | 50                         | 100/100                                 | 35                         | 100/200                                 | 20                             | 0.072       |
|                        | 1.5                                                                                                            | Surface-Mount (SJP)               | SJPX-F2        | 30                            | -40 to +150            |                          | 0.98                         | 1.5                   | 10                                     | 2.0                                    | 150                    | 30                         | 100/100                                 | 25                         | 100/200                                 | 20                             | 0.072       |
|                        | 2.0                                                                                                            | Surface-Mount (SJP)               | SJPL-H2        | 25                            | -40 to +150            |                          | 0.98                         | 2.0                   | 50                                     | 0.2                                    | 150                    | 50                         | 100/100                                 | 35                         | 100/200                                 | 20                             | 0.072       |
|                        | 3.0                                                                                                            | Surface-Mount (SJP)               | SJPL-L2        | 60                            | -40 to +150            |                          | 0.98                         | 3.0                   | 50                                     | 0.3                                    | 150                    | 50                         | 100/100                                 | 35                         | 100/200                                 | 20                             | 0.072       |
|                        | 3.0                                                                                                            | Surface-Mount (D pack)            | SPX-G32S       | 80                            | -40 to +150            |                          | 0.98                         | 3.0                   | 50                                     | 10                                     | 100(Ta)                | 30                         | 100/100                                 | 25                         | 100/200                                 | 5.0                            | 0.41        |
|                        | 6.0                                                                                                            | Surface-Mount (D pack)/Center-tap | SPX-62S        | 80                            | -40 to +150            |                          | 0.98                         | 3.0                   | 50                                     | 10                                     | 150                    | 30                         | 100/100                                 | 25                         | 100/200                                 | 5.0                            | 0.41        |
| 300                    | 1.0                                                                                                            | Surface-Mount (TO220S)            | MPL-102S       | 65                            | -40 to +150            |                          | 0.98                         | 5.0                   | 100                                    | 0.2                                    | 150(Ta)                | 40                         | 100/100                                 | 30                         | 100/200                                 | 2.5                            | 1.4         |
|                        | 2.0                                                                                                            | Surface-Mount (SJP)               | SJPX-H3        | 20                            | -40 to +150            |                          | 1.3                          | 2.0                   | 50                                     | 3.0                                    | 150                    | 30                         | 100/100                                 | 25                         | 100/200                                 | 20                             | 0.072       |
| 400                    | 1.5                                                                                                            | Surface-Mount(SJP)                | SJPL-F4        | 25                            | -40 to +150            |                          | 1.3                          | 1.5                   | 10                                     | 0.05                                   | 150(Ta)                | 50                         | 100/100                                 | 35                         | 100/200                                 | 20                             | 0.072       |
|                        | 3.0                                                                                                            | Surface-Mount(SJP)                | SJPL-L4        | 30                            | -40 to +150            |                          | 1.3                          | 3.0                   | 50                                     | 0.1                                    | 150                    | 50                         | 100/100                                 | 35                         | 100/200                                 | 20                             | 0.072       |
| 500                    | 1.0                                                                                                            | Surface-Mount(SJP)                | SJPD-D5*       | 20                            | -40 to +150            |                          | 1.4                          | 1.0                   | 10                                     | 0.1                                    | 150                    | 40                         | 100/100                                 | 30                         | 100/200                                 | 20                             | 0.072       |
|                        | 3.0                                                                                                            | Surface-Mount(SJP)                | SJPD-L5        | 50                            | -40 to +150            |                          | 1.4                          | 3.0                   | 15                                     | 0.15                                   | 150                    | 50                         | 100/100                                 | 35                         | 100/200                                 | 20                             | 0.072       |
| 600                    | 2.0                                                                                                            | Surface-Mount (SJP)               | SJPL-H6        | 30                            | -40 to +150            |                          | 1.5                          | 2.0                   | 50                                     | 0.1                                    | 150                    | 50                         | 100/100                                 | 35                         | 100/200                                 | 20                             | 0.072       |
|                        | 2.0                                                                                                            | Surface-Mount (SJP)               | SJPX-H6        | 20                            | -40 to +150            |                          | 1.5                          | 2.0                   | 10                                     | 3.0                                    | 150                    | 30                         | 100/100                                 | 20                         | 100/200                                 | 20                             | 0.072       |
|                        | 3.0                                                                                                            | Surface-Mount (TO220S)            | MPL-1036S      | 50                            | -40 to +150            |                          | 1.75                         | 3.0                   | 50                                     | 0.1                                    | 150                    | 50                         | 100/100                                 | —                          | —                                       | 2.5                            | 1.4         |

\*Under development

### ●Thru-Hole

| V <sub>RM</sub><br>(V) | I <sub>F</sub> (AV)<br>(A)<br><small>Values in parentheses<br/>are for the products<br/>with heatsinks</small> | Package<br>Axial<br>(Body Diameter/Lead Diameter) | Part<br>Number | I <sub>FSM</sub><br>(A)       | T <sub>j</sub><br>(°C) | T <sub>stg</sub><br>(°C) | V <sub>F</sub><br>(V)<br>max | I <sub>F</sub><br>(A) | I <sub>R</sub><br>(μA)                 | I <sub>R</sub> (H)<br>(mA)             | T <sub>j</sub><br>(°C) | trr <sup>(1)</sup><br>(ns) | I <sub>F</sub> /I <sub>RP</sub><br>(mA) | trr <sup>(2)</sup><br>(ns) | I <sub>F</sub> /I <sub>RP</sub><br>(mA) | R <sub>th(j-l)</sub><br>(°C/W) | Mass<br>(g) |
|------------------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------|----------------|-------------------------------|------------------------|--------------------------|------------------------------|-----------------------|----------------------------------------|----------------------------------------|------------------------|----------------------------|-----------------------------------------|----------------------------|-----------------------------------------|--------------------------------|-------------|
|                        |                                                                                                                |                                                   |                | 50Hz<br>Single Half Sine Wave |                        |                          |                              |                       | V <sub>R</sub> =V <sub>RM</sub><br>max | V <sub>R</sub> =V <sub>RM</sub><br>max |                        |                            |                                         |                            |                                         |                                |             |
| 200                    | 1.0                                                                                                            | Axial (φ 2.4/φ 0.6)                               | AL01Z          | 25                            | -40 to +150            |                          | 0.98                         | 1.0                   | 50                                     | 0.1                                    | 100                    | 50                         | 100/100                                 | 35                         | 100/200                                 | 22                             | 0.13        |
|                        | 1.5                                                                                                            | Axial (φ 2.7/φ 0.6)                               | EN 01Z         | 50                            | -40 to +150            |                          | 0.92                         | 1.5                   | 10                                     | 2.0                                    | 150                    | 100                        | 100/100                                 | 50                         | 100/200                                 | 20                             | 0.2         |
|                        | 1.5                                                                                                            | Axial (φ 2.7/φ 0.78)                              | EL 1Z          | 25                            | -40 to +150            |                          | 0.98                         | 1.5                   | 50                                     | 0.1                                    | 100                    | 50                         | 100/100                                 | 35                         | 100/200                                 | 17                             | 0.3         |
|                        | 1.5                                                                                                            | Axial (φ 2.7/φ 0.6)                               | EL02Z          | 25                            | -40 to +150            |                          | 0.98                         | 1.5                   | 50                                     | 0.1                                    | 100                    | 40                         | 100/100                                 | 30                         | 100/200                                 | 20                             | 0.2         |
|                        | 1.5                                                                                                            | Axial (φ 4.0/φ 0.78)                              | RN 1Z          | 60                            | -40 to +150            |                          | 0.92                         | 1.5                   | 20                                     | 3.0                                    | 150                    | 100                        | 100/100                                 | 50                         | 100/200                                 | 15                             | 0.4         |
|                        | 2.0                                                                                                            | Axial (φ 4.0/φ 0.78)                              | RX 10Z         | 30                            | -40 to +150            |                          | 0.98                         | 2.0                   | 50                                     | 3.0                                    | 150                    | 30                         | 100/100                                 | 25                         | 100/200                                 | 15                             | 0.4         |
|                        | 2.0                                                                                                            | Axial (φ 4.0/φ 0.78)                              | RL 10Z         | 30                            | -40 to +150            |                          | 0.98                         | 2.0                   | 50                                     | 0.1                                    | 100(Ta)                | 50                         | 100/100                                 | 35                         | 100/200                                 | 15                             | 0.4         |
|                        | 2.0                                                                                                            | Axial (φ 4.0/φ 0.98)                              | RL 2Z          | 30                            | -40 to +150            |                          | 0.98                         | 2.0                   | 50                                     | 0.1                                    | 150                    | 50                         | 100/100                                 | 35                         | 100/200                                 | 12                             | 0.6         |
|                        | 2.0                                                                                                            | Axial (φ 4.0/φ 0.98)                              | RN 2Z          | 70                            | -40 to +150            |                          | 0.92                         | 2.0                   | 50                                     | 4.0                                    | 150                    | 100                        | 100/100                                 | 50                         | 100/200                                 | 12                             | 0.6         |
|                        | 3.5                                                                                                            | Axial (φ 6.5/φ 1.4)                               | RL 4Z          | 80                            | -40 to +150            |                          | 0.95                         | 3.5                   | 150                                    | 0.5                                    | 150                    | 50                         | 100/100                                 | 35                         | 100/200                                 | 8.0                            | 1.2         |
|                        | 3.5                                                                                                            | Axial (φ 6.5/φ 1.4)                               | RN 4Z          | 120                           | -40 to +150            |                          | 0.92                         | 3.5                   | 50                                     | 6.0                                    | 150                    | 100                        | 100/100                                 | 50                         | 100/200                                 | 8.0                            | 1.2         |
|                        | 5.0                                                                                                            | TO-220F (Center-tap)                              | FML-12S        | 35                            | -40 to +150            |                          | 0.98                         | 2.5                   | 50                                     | 0.1                                    | 150                    | 40                         | 100/100                                 | 30                         | 100/200                                 | 4.0                            | 2.1         |
|                        | 5.0                                                                                                            | TO-220F (Center-tap)                              | FMX-12S        | 35                            | -40 to +150            |                          | 0.98                         | 2.5                   | 50                                     | 10                                     | 150                    | 30                         | 100/100                                 | 25                         | 100/200                                 | 4.0                            | 2.1         |
|                        | 5.0                                                                                                            | TO-220F2Pin                                       | FML-G12S       | 65                            | -40 to +150            |                          | 0.98                         | 5.0                   | 100                                    | 0.2                                    | 150                    | 40                         | 100/100                                 | 30                         | 100/200                                 | 4.0                            | 2.1         |
|                        | 5.0                                                                                                            | TO-220F2Pin                                       | FMX-G12S       | 65                            | -40 to +150            |                          | 0.98                         | 5.0                   | 100                                    | 20                                     | 150                    | 30                         | 100/100                                 | 25                         | 100/200                                 | 4.0                            | 2.1         |
|                        | 5.0                                                                                                            | TO-220F2Pin                                       | FMN-G12S       | 100                           | -40 to +150            |                          | 0.92                         | 5.0                   | 100                                    | 10                                     | 150(Ta)                | 100                        | 100/100                                 | 50                         | 100/200                                 | 4.0                            | 2.1         |
|                        | 10                                                                                                             | TO-220F (Center-tap)                              | FMXA-2102ST    | 100                           | -40 to +150            |                          | 1.2                          | 5.0                   | 100                                    | 20                                     | 150                    | 25                         | 500/500                                 | —                          | —                                       | 4.0                            | 2.1         |
|                        | 10                                                                                                             | TO-220F (Center-tap)                              | FML-22S        | 65                            | -40 to +150            |                          | 0.98                         | 5.0                   | 100                                    | 0.2                                    | 150                    | 40                         | 100/100                                 | 30                         | 100/200                                 | 4.0                            | 2.1         |
|                        | 10                                                                                                             | TO-220F (Center-tap)                              | FMX-22S        | 65                            | -40 to +150            |                          | 0.98                         | 5.0                   | 100                                    | 20                                     | 100(Ta)                | 30                         | 100/100                                 | 25                         | 100/200                                 | 4.0                            | 2.1         |
|                        | 10                                                                                                             | TO-220F2Pin                                       | FML-G22S       | 150                           | -40 to +150            |                          | 0.98                         | 10                    | 200                                    | 0.4                                    | 150                    | 40                         | 500/500                                 | 30                         | 500/1000                                | 4.0                            | 2.1         |
|                        | 10                                                                                                             | TO-220F2Pin                                       | FMX-G22S       | 150                           | -40 to +150            |                          | 0.98                         | 10                    | 200                                    | 50                                     | 100(Ta)                | 30                         | 500/500                                 | 25                         | 500/1000                                | 4.0                            | 2.1         |
|                        | 15                                                                                                             | TO-220F (Center-tap)                              | FMX-22SL       | 100                           | -40 to +150            |                          | 0.98                         | 7.5                   | 150                                    | 30                                     | 150                    | 30                         | 500/500                                 | 25                         | 500/1000                                | 4.0                            | 2.1         |
|                        | 20                                                                                                             | TO-220F (Center-tap)                              | FM2-2202       | 110                           | -40 to +150            |                          | 0.98                         | 10                    | 200                                    | 0.4                                    | 150                    | 50                         | 100/100                                 | 35                         | 100/200                                 | 4.0                            | 2.1         |
|                        | 20                                                                                                             | TO-220F (Center-tap)                              | FMXA-2202S     | 100                           | -40 to +150            |                          | 1.2                          | 10                    | 100                                    | 30                                     | 150                    | 25                         | 500/500                                 | —                          | —                                       | 4.0                            | 2.1         |
|                        | 20                                                                                                             | TO-3PF (Center-tap)                               | FML-4202S      | 150                           | -40 to +150            |                          | 0.98                         | 10                    | 10                                     | 0.4                                    | 150                    | 40                         | 500/500                                 | 30                         | 500/1000                                | 2.0                            | 6.5         |
|                        | 20                                                                                                             | TO-3PF (Center-tap)                               | FMX-4202S      | 150                           | -40 to +150            |                          | 0.98                         | 10                    | 200                                    | 50                                     | 150                    | 30                         | 500/500                                 | 25                         | 500/1000                                | 2.0                            | 6.5         |
|                        | 20                                                                                                             | TO-3PF (Center-tap)                               | FMXA-4202S*    | 100                           | -40 to +150            |                          | 1.2                          | 10                    | 100                                    | 30                                     | 150                    | 25                         | 500/500                                 | —                          | —                                       | 2.0                            | 6.5         |
| 300                    | 5.0                                                                                                            | TO-220F (Center-tap)                              | FML-13S        | 40                            | -40 to +150            |                          | 1.3                          | 2.5                   | 50                                     | 0.25                                   | 100(Ta)                | 50                         | 100/100                                 | 35                         | 100/200                                 | 4.0                            | 2.1         |
|                        | 5.0                                                                                                            | TO-220F2Pin                                       | FML-G13S       | 70                            | -40 to +150            |                          | 1.3                          | 5.0                   | 100                                    | 0.2                                    | 100(Ta)                | 50                         | 100/100                                 | 35                         | 100/200                                 | 4.0                            | 2.1         |
|                        | 10                                                                                                             | TO-220F (Center-tap)                              | FML-23S        | 75                            | -40 to +150            |                          | 1.3                          | 5.0                   | 100                                    | 0.2                                    | 150                    | 50                         | 100/100                                 | 30                         | 100/200                                 | 4.0                            | 2.1         |
|                        | 10                                                                                                             | TO-220F (Center-tap)                              | FMX-23S        | 65                            | -40 to +150            |                          | 1.3                          | 5.0                   | 50                                     | 15                                     | 150                    | 30                         | 100/100                                 | 25                         | 100/200                                 | 4.0                            | 2.1         |
|                        | 15                                                                                                             | TO-220F (Center-tap)                              | FMXA-2153S     | 75                            | -40 to +150            |                          | 1.3                          | 7.5                   | 75                                     | 23                                     | 150                    | 25                         | 500/500                                 | —                          | —                                       | 4.0                            | 2.1         |
|                        | 20                                                                                                             | TO-220F (Center-tap)                              | FMX-2203       | 100                           | -40 to +150            |                          | 1.3                          | 10                    | 100                                    | 30                                     | 150(Ta)                | 30                         | 500/500                                 | 25                         | 500/1000                                | 4.0                            | 2.1         |
|                        | 20                                                                                                             | TO-3PF (Center-tap)                               | FMX-4203S      | 100                           | -40 to +150            |                          | 1.3                          | 10                    | 100                                    | 30                                     | 150                    | 30                         | 500/500                                 | 25                         | 500/1000                                | 2.0                            | 6.5         |
|                        | 20                                                                                                             | TO-220F (Center-tap)                              | FMXA-2203S     | 100                           | -40 to +150            |                          | 1.3                          | 10                    | 100                                    | 30                                     | 150                    | 25                         | 500/500                                 | —                          | —                                       | 4.0                            | 2.1         |
|                        | 20                                                                                                             | TO-3PF (Center-tap)                               | FMXA-4203S     | 100                           | -40 to +150            |                          | 1.3                          | 10                    | 100                                    | 30                                     | 150                    | 25                         | 500/500                                 | —                          | —                                       | 2.0                            | 6.5         |

\*Under development