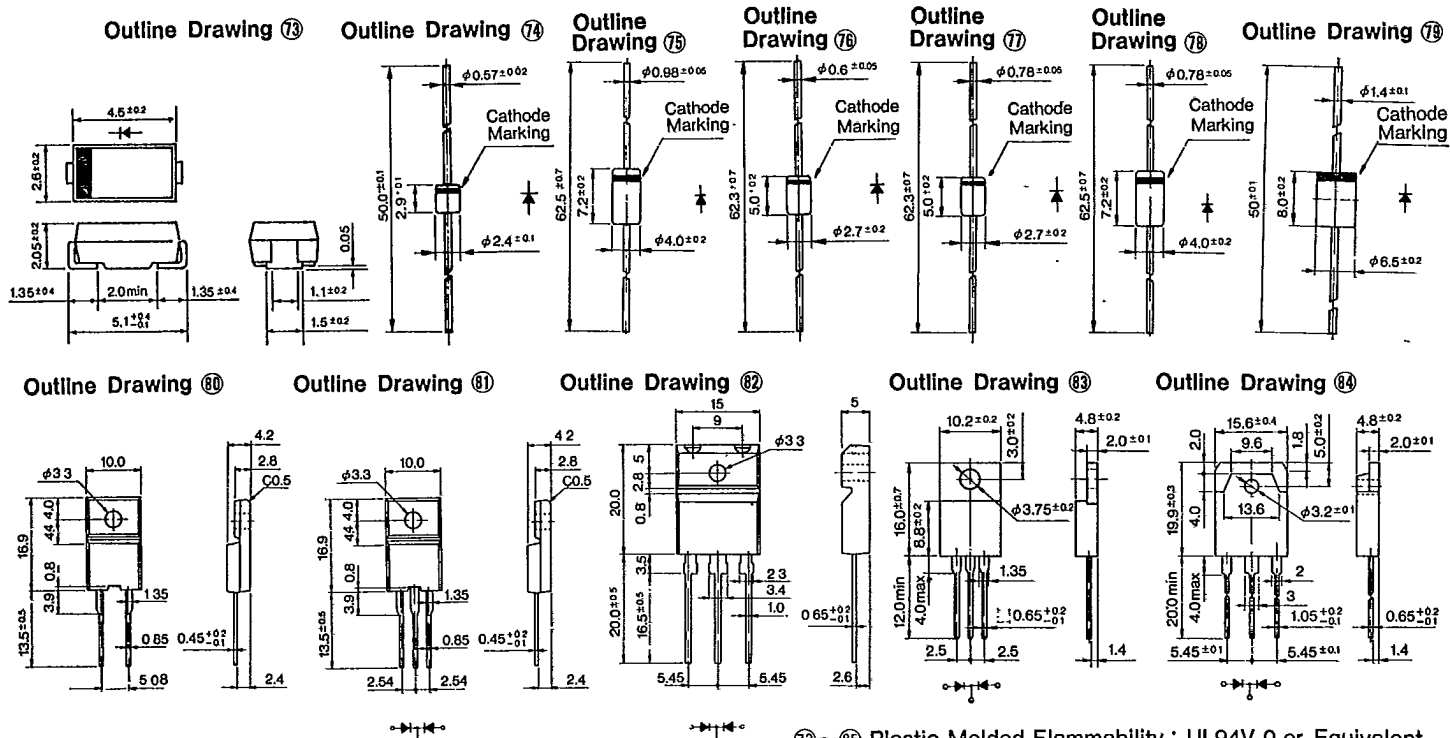


## Schottky Barrier Diodes

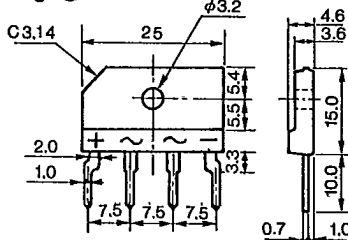
V<sub>RM</sub>: 30~90V I<sub>o</sub>: 0.7~30A

## SFPB/AK/EK/RK/FMB/CTB/RBA/RBV

| Rating /<br>Characteristics | Absolute Maximum Ratings |                 |                       |                                        |                          |                        |                          | Electrical Characteristics (Ta = 25°C) |                        |                                                    |                                                                             |                         |                                         |                    | Others    |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
|-----------------------------|--------------------------|-----------------|-----------------------|----------------------------------------|--------------------------|------------------------|--------------------------|----------------------------------------|------------------------|----------------------------------------------------|-----------------------------------------------------------------------------|-------------------------|-----------------------------------------|--------------------|-----------|--------|------------------|------|-------|------|------|------|------|-----|--|-----|------|-----|-----|-----|-----|----|--|--|--|--|--|--|--|
|                             | V <sub>RSM</sub><br>(V)  | V <sub>RM</sub> | I <sub>o</sub><br>(A) | I <sub>FSM</sub><br>(A)                | I <sub>2t</sub><br>(A²S) | T <sub>j</sub><br>(°C) | T <sub>stg</sub><br>(°C) | V <sub>F</sub><br>(V)                  | I <sub>F</sub><br>(mA) | I <sub>R</sub><br>(mA)                             | I <sub>R(H)</sub><br>(mA)                                                   | t <sub>rr</sub><br>(μs) | R <sub>th(j-θ)</sub><br>(°C/W)          | Outline<br>Drawing | Weight(g) | Taping | Note             |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| Type No.                    | Per<br>chip              |                 | with<br>Fin           | 50Hz Half Sine<br>Wave Single<br>Pulse |                          |                        |                          | Max.<br>per chip                       | I <sub>F</sub><br>(A)  | V <sub>R</sub> = V <sub>RM</sub><br>max (per chip) | V <sub>R</sub> = V <sub>RM</sub> , T <sub>j</sub> = 125°C<br>max (per chip) |                         | I <sub>F</sub> /I <sub>RP</sub><br>(mA) |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| SFPB-54                     | 45                       | 40              | 1.0                   | 60                                     |                          |                        |                          | 0.55                                   | 1.0                    | 1.0                                                | 50                                                                          | 0.05                    |                                         |                    |           |        | Surface<br>Mount |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| SFPB-64                     | 45                       | 40              | 1.5                   |                                        |                          |                        |                          |                                        | 0.62                   |                                                    | 2.0                                                                         | 7.5                     |                                         |                    |           |        |                  | ⑦③   | 0.072 |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| SFPB-56                     | 60                       | 60              | 0.7                   |                                        |                          |                        |                          | 10                                     | 0.7                    |                                                    | 5.0                                                                         | 50                      |                                         |                    |           |        |                  | 0.1  | 7.5   | ⑦④   | 0.13 |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| SFPB-59                     | 90                       | 90              |                       |                                        |                          |                        |                          |                                        |                        |                                                    |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      | 0.81 | 5.0  |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| AK 03                       | 35                       | 30              | 1.0                   | 25                                     |                          |                        |                          | 0.6                                    | 1.0                    |                                                    | 50                                                                          | 0.1                     |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| AK 04                       | 45                       | 40              |                       |                                        |                          |                        |                          |                                        |                        |                                                    | 0.62                                                                        |                         |                                         |                    |           |        |                  | 7.5  | ⑦⑤    | 0.13 |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| AK 06                       | 60                       | 60              | 0.7                   | 10                                     |                          |                        |                          | 0.7                                    | 5.0                    |                                                    |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| AK 09                       | 90                       | 90              |                       |                                        |                          |                        |                          |                                        |                        |                                                    |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      | 0.81 | 5.0 |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| EK 03                       | 35                       | 30              | 1.0                   | 40                                     |                          |                        |                          | 0.55                                   | 1.5                    | 5.0                                                | 50                                                                          | 0.2                     |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| EK 04                       | 45                       | 40              |                       |                                        |                          |                        |                          |                                        |                        | 0.62                                               | 7.5                                                                         | ⑦⑥                      |                                         |                    |           |        |                  | 0.1  |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| EK 06                       | 60                       | 60              | 0.7                   | 10                                     |                          |                        |                          | 0.7                                    | 5.0                    |                                                    |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| EK 09                       | 90                       | 90              |                       |                                        |                          |                        |                          |                                        |                        |                                                    |                                                                             |                         |                                         |                    |           |        |                  | 0.81 |       |      | 5.0  |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| EK 13                       | 35                       | 30              | 1.5                   | 40                                     |                          |                        |                          | 0.55                                   | 2.0                    | 5.0                                                | 50                                                                          | 0.2                     |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| EK 14                       | 45                       | 40              |                       | 25                                     |                          |                        |                          | 0.62                                   | 1.0                    | 15                                                 | 0.1                                                                         |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| EK 16                       | 60                       | 60              |                       |                                        |                          |                        |                          | 40                                     | 0.81                   | 2.0                                                |                                                                             | 10                      |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| EK 19                       | 90                       | 90              |                       |                                        |                          |                        |                          |                                        |                        |                                                    |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| RK 13                       | 35                       | 30              | 1.7                   | 60                                     |                          |                        |                          | 0.55                                   | 2.0                    | 5.0                                                | 50                                                                          | 0.2                     |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| RK 14                       | 45                       | 40              |                       | 25                                     |                          |                        |                          | 0.62                                   | 1.0                    | 15                                                 | 0.1                                                                         |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| RK 16                       | 60                       | 60              | 40                    |                                        |                          |                        |                          | 0.81                                   | 2.0                    | 10                                                 |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| RK 19                       | 90                       | 90              |                       |                                        |                          |                        |                          |                                        |                        |                                                    |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| RK 33                       | 35                       | 30              | 2.5                   | 50                                     |                          |                        |                          | 0.55                                   | 2.5                    | 5.0                                                | 50                                                                          |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| RK 34                       | 45                       | 40              |                       | 40                                     |                          |                        |                          | 0.62                                   | 2.0                    | 20                                                 | 0.1                                                                         |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| RK 36                       | 60                       | 60              | 50                    |                                        |                          |                        |                          | 0.81                                   | 3.0                    | 15                                                 |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| RK 39                       | 90                       | 90              |                       |                                        |                          |                        |                          |                                        |                        |                                                    |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| RK 43                       | 35                       | 30              | 3.0                   | 80                                     |                          |                        |                          | 0.55                                   | 3.0                    | 5.0                                                | 50                                                                          |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| RK 44                       | 45                       | 40              |                       | 70                                     |                          |                        |                          | 0.62                                   | 3.0                    | 35                                                 | 0.1                                                                         |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| RK 46                       | 60                       | 60              | 60                    |                                        |                          |                        |                          | 0.81                                   | 5.0                    |                                                    |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| RK 49                       | 90                       | 90              |                       |                                        |                          |                        |                          |                                        |                        |                                                    |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| FMB-G14L                    | 45                       | 40              | 5.0                   | 60                                     | 18                       | - 40 ~<br>+ 125        |                          |                                        | 5.0                    | 5.0                                                | 100                                                                         |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| FMB-G24H                    | 45                       | 40              | 10                    | 150                                    | 112.5                    |                        |                          | 0.55                                   | 10                     | 10                                                 | 65                                                                          |                         |                                         |                    |           |        |                  | 0.1  |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| FMB-23                      | 35                       | 30              | 4.0                   | 50                                     |                          |                        |                          | 2.0                                    | 5.0                    | 35                                                 |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| FMB-24                      | 45                       | 40              |                       | 40                                     | 8                        |                        |                          |                                        |                        |                                                    |                                                                             |                         |                                         |                    |           |        |                  | 0.62 |       |      |      |      |      |     |  | 1.0 | 20   | 0.1 |     |     |     |    |  |  |  |  |  |  |  |
| FMB-26                      | 60                       | 60              |                       |                                        | 50                       | 12.5                   | 0.81                     |                                        |                        |                                                    |                                                                             | 3.0                     | 15                                      |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| FMB-29                      | 90                       | 90              |                       |                                        |                          |                        |                          |                                        |                        |                                                    |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| FMB-24M                     | 45                       | 40              | 6.0                   | 60                                     | 18                       |                        |                          |                                        | 3.0                    | 5.0                                                | 35                                                                          |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| FMB-24H                     | 40                       | 40              | 15                    | 100                                    | 50                       |                        |                          |                                        |                        |                                                    |                                                                             |                         |                                         |                    |           |        |                  | 0.55 | 7.5   | 7.5  | 50   |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| FMB-23L                     | 35                       | 30              | 10                    | 60                                     |                          |                        |                          |                                        |                        |                                                    |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     | 5.0 | 5.0 | 35  |    |  |  |  |  |  |  |  |
| FMB-24L                     | 48                       | 40              |                       | 50                                     | 12.5                     |                        |                          |                                        |                        |                                                    |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| FMB-26L                     | 60                       | 60              |                       |                                        | 60                       | 18                     |                          |                                        |                        |                                                    |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| FMB-29L                     | 90                       | 90              | 8.0                   | 60                                     | 18                       |                        |                          |                                        |                        |                                                    |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| FMB-33S                     | 35                       | 30              | 12                    | 75                                     |                          |                        |                          | 0.58                                   | 6.0                    | 5.0                                                | 35                                                                          |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| FMB-34S                     | 48                       | 40              |                       |                                        |                          |                        |                          |                                        | 0.55                   | 7.5                                                | 10                                                                          |                         |                                         |                    |           |        |                  | 65   |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| FMB-33                      | 35                       | 30              | 15                    | 150                                    |                          |                        |                          | 0.62                                   |                        |                                                    |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     | 5.0  | 75  | 2.0 | ⑧②  | 5.5 |    |  |  |  |  |  |  |  |
| FMB-34                      | 48                       | 40              |                       | 75                                     |                          |                        |                          | 28                                     |                        |                                                    |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     | 0.81 | 10  |     |     |     | 50 |  |  |  |  |  |  |  |
| FMB-36                      | 60                       | 60              |                       | 100                                    | 50                       |                        |                          |                                        |                        |                                                    |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| FMB-39                      | 90                       | 90              |                       |                                        |                          |                        |                          |                                        |                        |                                                    |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| FMB-33M                     | 35                       | 30              | 30                    | 300                                    |                          |                        |                          | 0.55                                   | 15                     | 20                                                 | 100                                                                         | 500/500                 |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| FMB-34M                     | 48                       | 40              |                       | 150                                    |                          |                        |                          | 0.62                                   | 10                     | 150                                                | 2.0                                                                         |                         |                                         |                    |           |        |                  | ⑧③   | 2.6   |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| FMB-36M                     | 60                       | 60              |                       |                                        |                          |                        |                          | 60                                     |                        |                                                    |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| FMB-39M                     | 90                       | 90              | 20                    |                                        |                          |                        |                          | 112.5                                  |                        |                                                    | 0.81                                                                        |                         |                                         |                    |           |        |                  | 10   | 15    | 60   |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| CTB-24                      | 45                       | 40              | 4.0                   | 60                                     |                          |                        |                          | 0.55                                   | 2.0                    | 5                                                  | 50                                                                          | 0.2                     |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| CTB-24L                     | 48                       | 40              | 10                    | 60                                     |                          |                        |                          | 5.0                                    | 35                     |                                                    | 100/100                                                                     |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| CTB-33S                     | 35                       | 30              | 12                    | 75                                     |                          |                        |                          | 0.58                                   | 6.0                    |                                                    |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  | 40  |      |     |     |     |     |    |  |  |  |  |  |  |  |
| CTB-34S                     | 48                       | 40              |                       |                                        |                          |                        |                          |                                        |                        |                                                    |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| CTB-33                      | 35                       | 30              | 15                    | 150                                    |                          |                        |                          | 0.55                                   | 10                     | 10                                                 | 80                                                                          | 0.1                     |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| CTB-34                      | 48                       | 40              |                       |                                        |                          |                        |                          |                                        |                        |                                                    | 65                                                                          |                         |                                         |                    |           |        |                  | ⑧④   | 6.1   |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| CTB-33M                     | 35                       | 30              | 30                    | 300                                    |                          |                        |                          |                                        |                        | 15                                                 | 20                                                                          | 100                     |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| CTB-34M                     | 48                       | 40              |                       |                                        |                          |                        |                          |                                        |                        |                                                    |                                                                             |                         |                                         |                    |           |        |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |
| RBA-406B                    | 60                       | 60              | 4.0                   | 40                                     |                          |                        |                          | 0.62                                   | 2.0                    | 2.0                                                | 20                                                                          |                         | 100/100                                 | 5.0                | ⑧⑤        | 4.25   |                  |      |       |      |      |      |      |     |  |     |      |     |     |     |     |    |  |  |  |  |  |  |  |

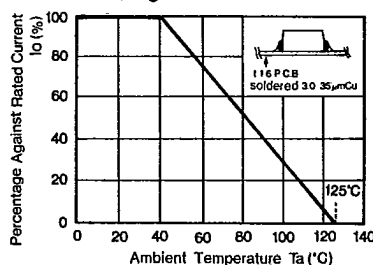


Outline Drawing ⑧⑤



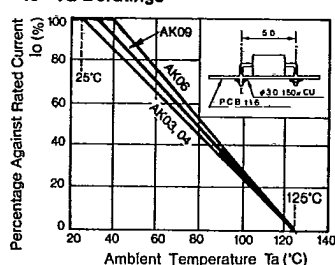
SFPB-54.64.56.59

Io-Ta Deratings



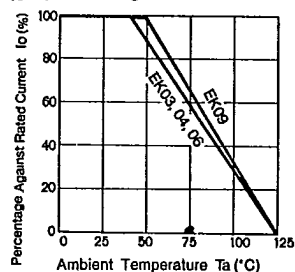
AK 03.04.06.09

Io-Ta Deratings

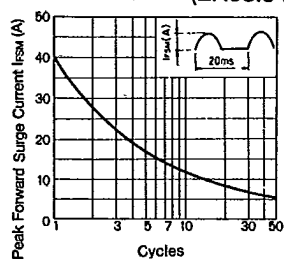


EK 03  
EK 04  
EK 06  
EK 09

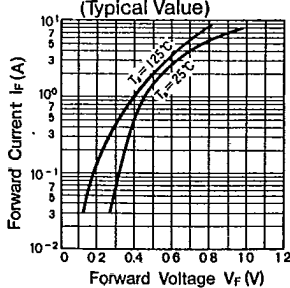
Io-Ta Deratings



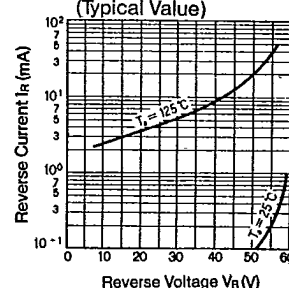
IFSM Characteristics (EK03.04)



IF-VF Characteristics (Typical Value)

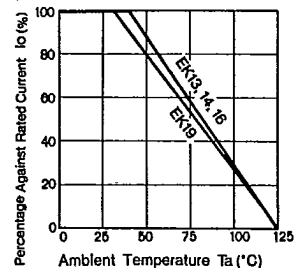


IR - VR Characteristics (Typical Value)

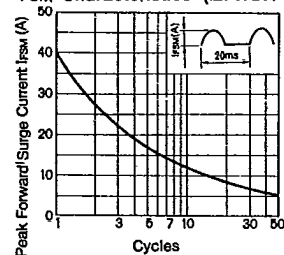


EK 13  
EK 14  
EK 16  
EK 19

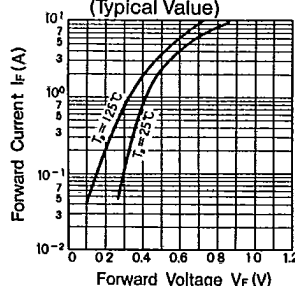
Io-Ta Deratings



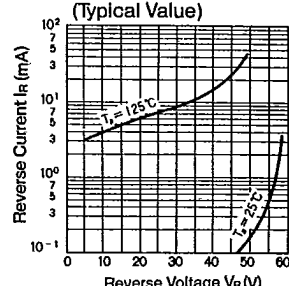
IFSM Characteristics (EK13.14)



IF-VF Characteristics (Typical Value)



IR - VR Characteristics (Typical Value)

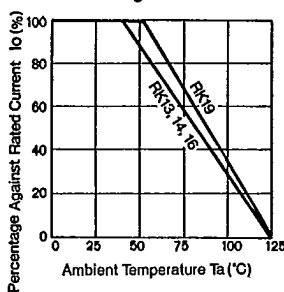


## Schottky Barrier Diodes

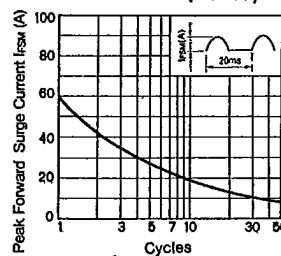
T-23-01

RK 13  
RK 14  
RK 16  
RK 19

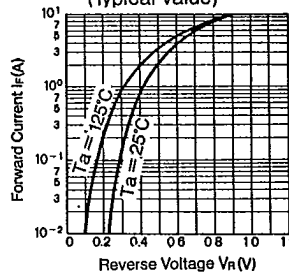
Io-Ta Deratings



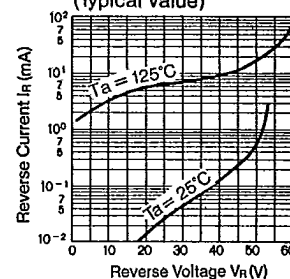
IFSM Characteristics (RK 13, 14)



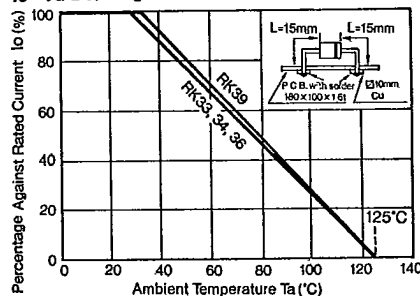
IF-VF Characteristics (Typical Value)



IR - VR Characteristics (Typical Value)

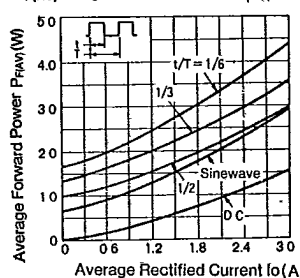
RK 33  
RK 34  
RK 36  
RK 39

Io-Ta Deratings

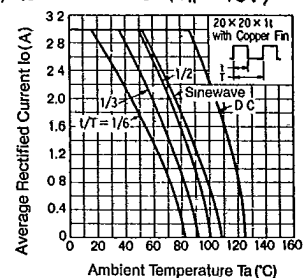


RK 43 RK 44

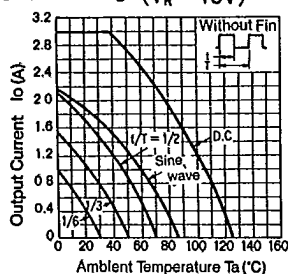
PF(AV) - Io Characteristics (VR = 40V)



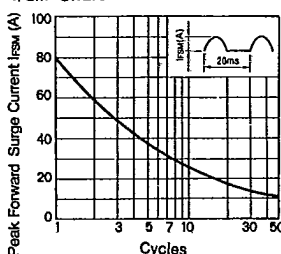
Io-Ta Deratings (VR = 40V)



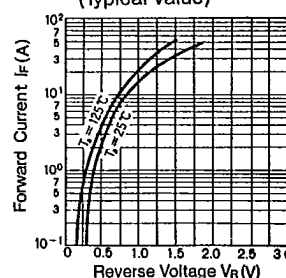
Io-Ta Deratings (VR = 40V)



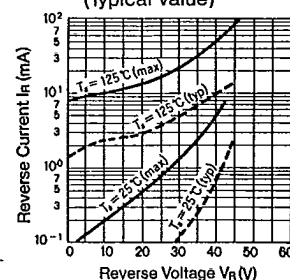
IFSM Characteristics



IF-VF Characteristics (Typical Value)

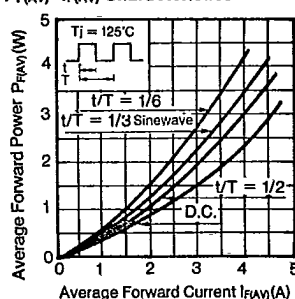


IR - VR Characteristics (Typical Value)

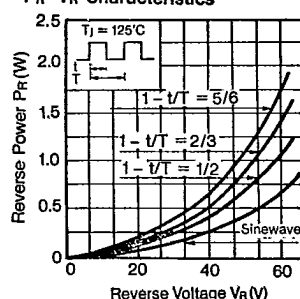


RK 46

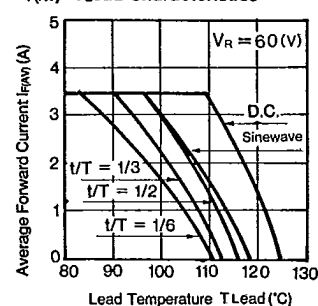
PF(AV) - IF(AV) Characteristics



PR - VR Characteristics

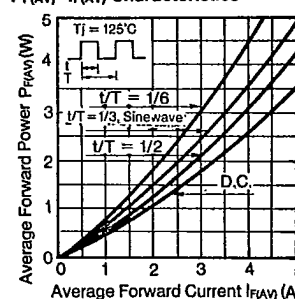


IF(AV) - TLead Characteristics

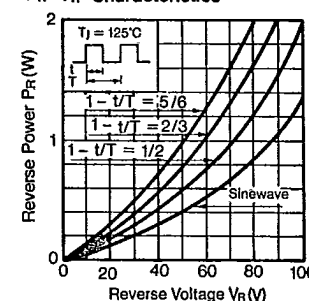


RK 49

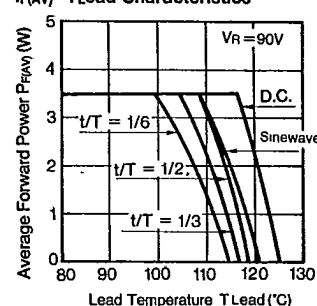
PF(AV) - IF(AV) Characteristics



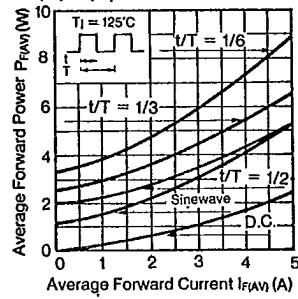
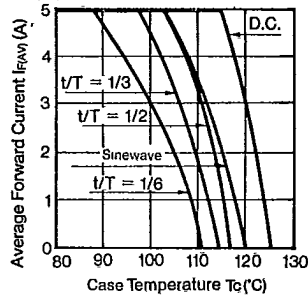
PR - VR Characteristics



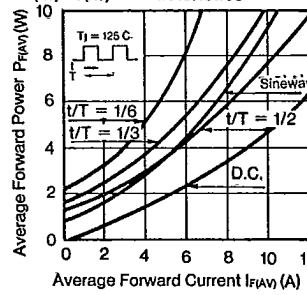
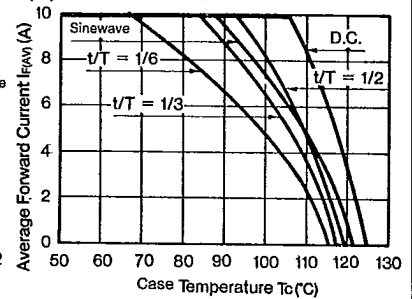
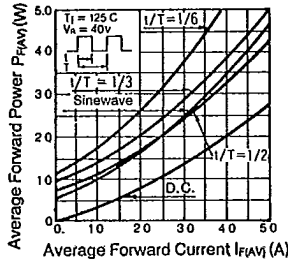
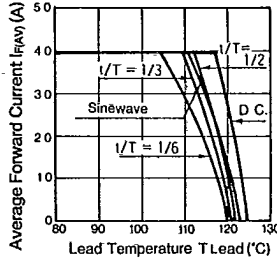
IF(AV) - TLead Characteristics



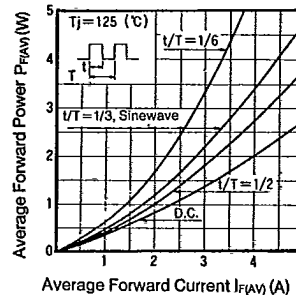
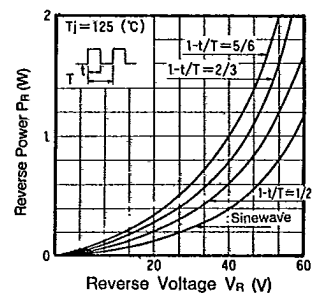
## FMB-G14L

P<sub>F(AV)</sub>-I<sub>F(AV)</sub> CharacteristicsI<sub>F(AV)</sub>-T<sub>C</sub> Characteristics

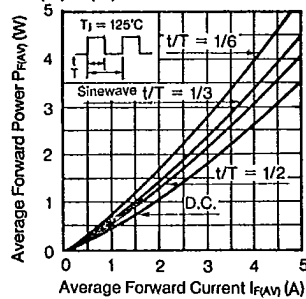
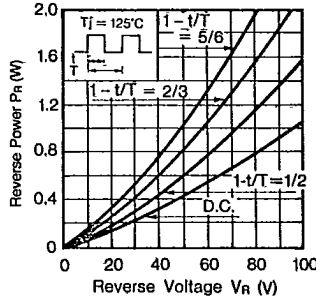
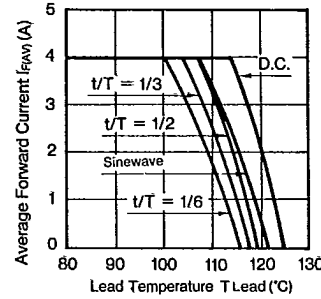
## FMB-G24H

P<sub>F(AV)</sub>-I<sub>F(AV)</sub> CharacteristicsI<sub>F(AV)</sub>-T<sub>C</sub> CharacteristicsFMB-23  
FMB-24P<sub>F(AV)</sub>-I<sub>F(AV)</sub> CharacteristicsI<sub>F(AV)</sub>-T<sub>Lead</sub> Characteristics

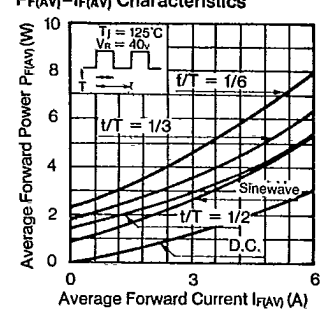
## FMB-26

P<sub>F(AV)</sub>-I<sub>F(AV)</sub> CharacteristicsP<sub>R</sub>-V<sub>R</sub> Characteristics

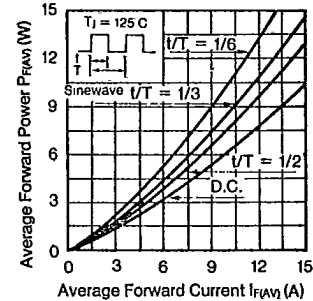
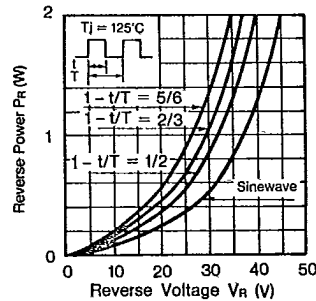
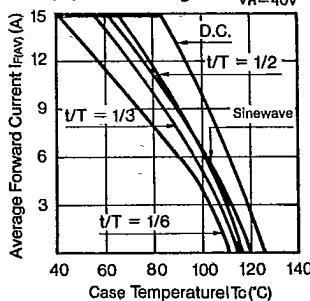
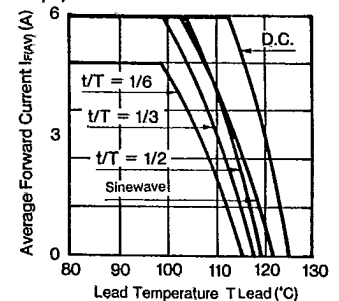
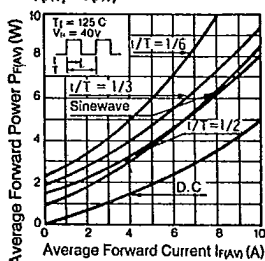
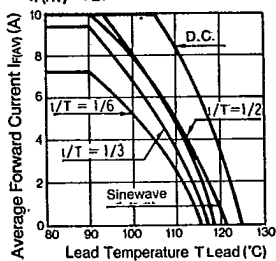
## FMB-29

P<sub>F(AV)</sub>-I<sub>F(AV)</sub> CharacteristicsP<sub>R</sub>-V<sub>R</sub> CharacteristicsI<sub>F(AV)</sub>-T<sub>Lead</sub> Characteristics

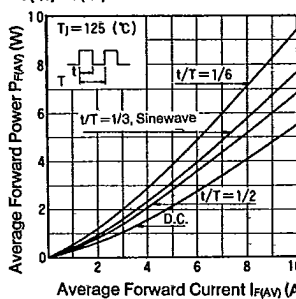
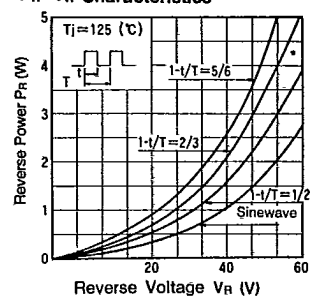
## FMB-24M

P<sub>F(AV)</sub>-I<sub>F(AV)</sub> Characteristics

## FMB-24H

P<sub>F(AV)</sub>-I<sub>F(AV)</sub> CharacteristicsP<sub>R</sub>-V<sub>R</sub> CharacteristicsI<sub>F(AV)</sub>-T<sub>C</sub> DeratingsI<sub>F(AV)</sub>-T<sub>Lead</sub> CharacteristicsFMB-23L  
FMB-24LP<sub>F(AV)</sub>-I<sub>F(AV)</sub> CharacteristicsI<sub>F(AV)</sub>-T<sub>Lead</sub> Characteristics

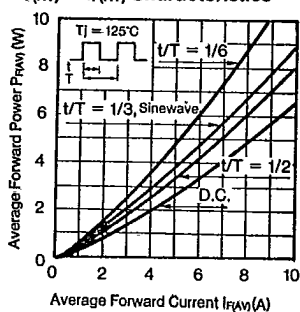
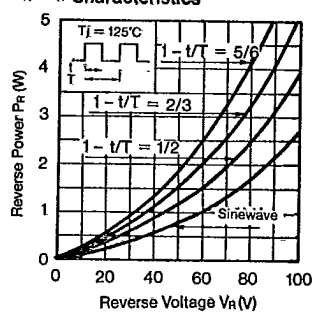
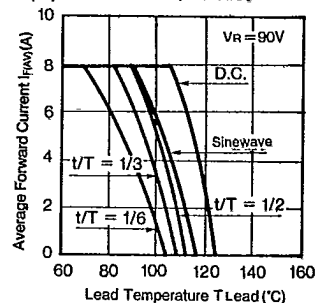
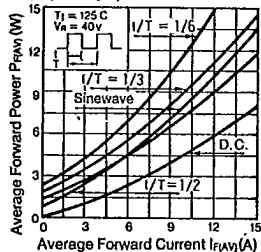
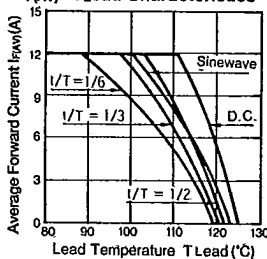
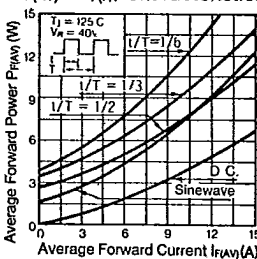
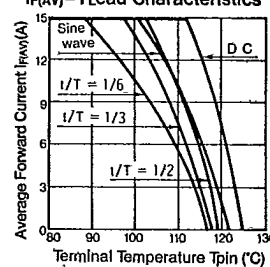
## FMB-26L

P<sub>F(AV)</sub>-I<sub>F(AV)</sub> CharacteristicsP<sub>R</sub>-V<sub>R</sub> Characteristics

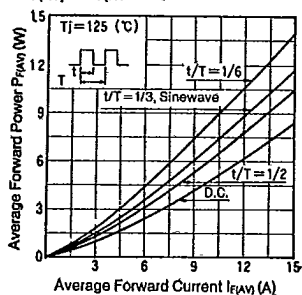
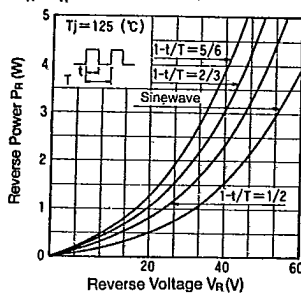
## Schottky Barrier Diodes

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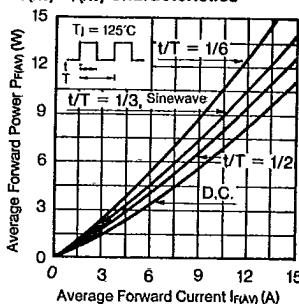
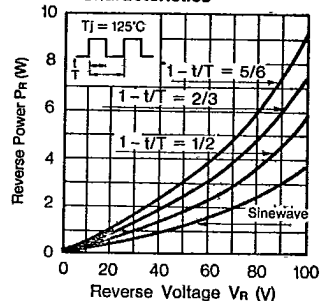
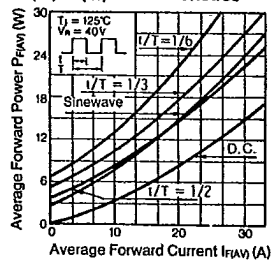
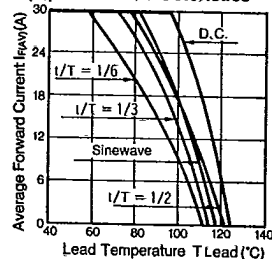
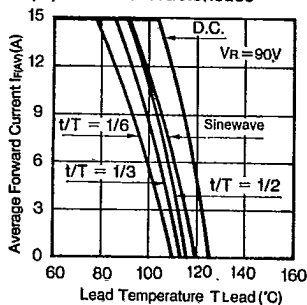
FMB-29L

 $P_F(I_{F(AV)}) - I_{F(AV)}$  Characteristics $P_R - V_R$  Characteristics $I_F(I_{F(AV)}) - T_{Lead}$  CharacteristicsFMB-33S  
FMB-34S $P_F(I_{F(AV)}) - I_{F(AV)}$  Characteristics $I_F(I_{F(AV)}) - T_{Lead}$  CharacteristicsFMB-33  
FMB-34 $P_F(I_{F(AV)}) - I_{F(AV)}$  Characteristics $I_F(I_{F(AV)}) - T_{Pin}$  Characteristics

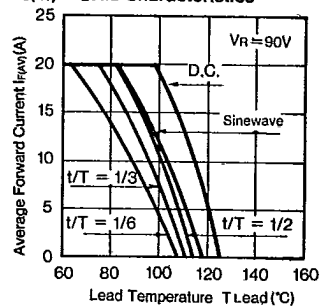
FMB-36

 $P_F(I_{F(AV)}) - I_{F(AV)}$  Characteristics $P_R - V_R$  Characteristics

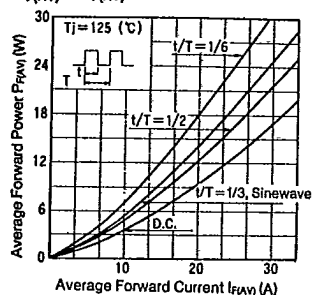
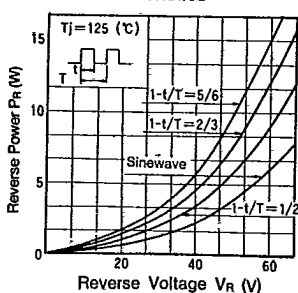
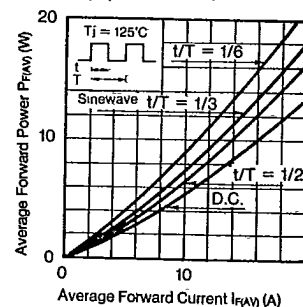
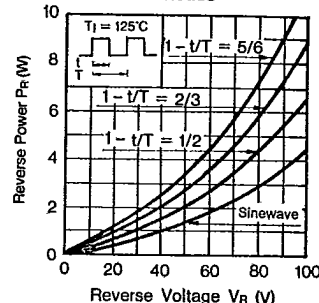
FMB-39

 $P_F(I_{F(AV)}) - I_{F(AV)}$  Characteristics $P_R - V_R$  CharacteristicsFMB-33M  
FMB-34M $P_F(I_{F(AV)}) - I_{F(AV)}$  Characteristics $I_F(I_{F(AV)}) - T_{Lead}$  Characteristics $I_F(I_{F(AV)}) - T_{Lead}$  Characteristics

FMB-39M

 $I_F(I_{F(AV)}) - T_{Lead}$  Characteristics

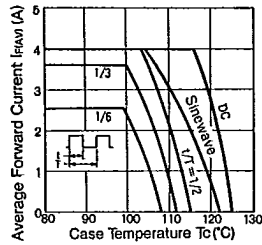
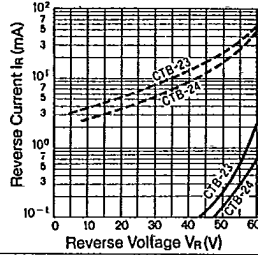
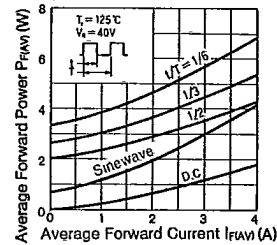
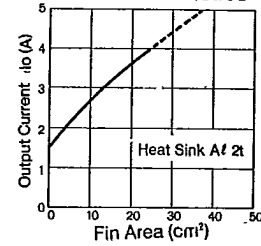
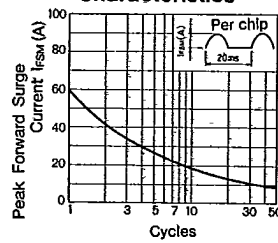
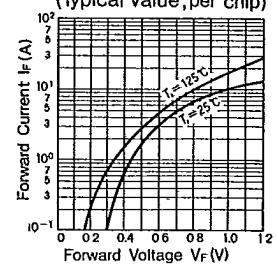
FMB-36M

 $P_F(I_{F(AV)}) - I_{F(AV)}$  Characteristics $P_R - V_R$  Characteristics $P_F(I_{F(AV)}) - I_{F(AV)}$  Characteristics $P_R - V_R$  Characteristics

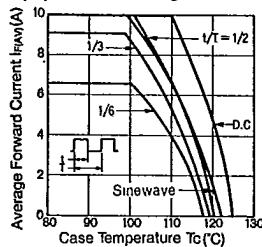
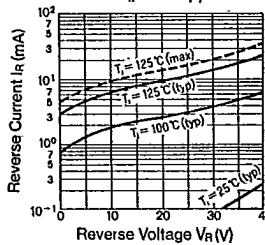
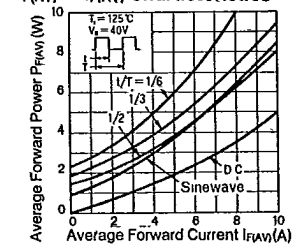
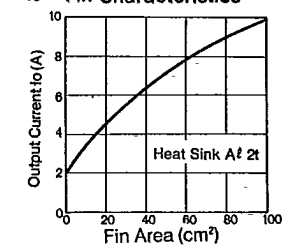
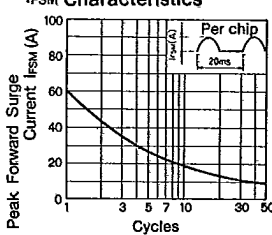
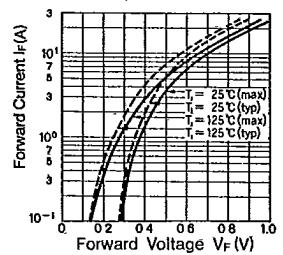
## Characteristics

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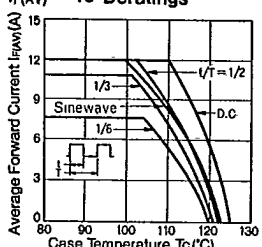
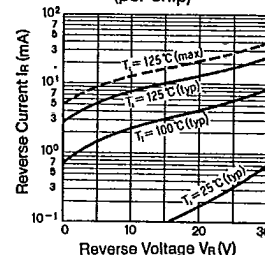
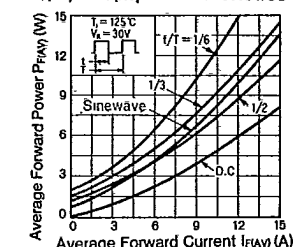
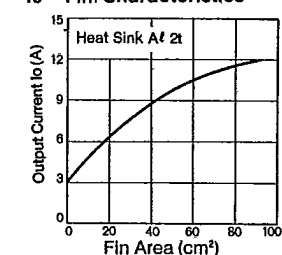
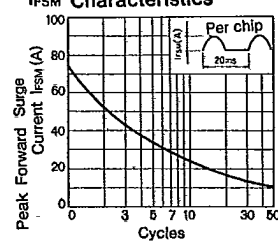
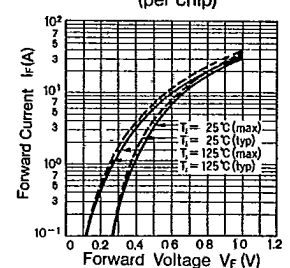
CTB-24

 $I_{F(AV)} - T_c$  Deratings $I_R - V_R$  Characteristics (Typical Value, per chip) $P_{F(AV)} - I_{F(AV)}$  Characteristics $I_o - \text{Fin}$  Characteristics $I_{FSM}$  Characteristics $I_F - V_F$  Characteristics (Typical Value, per chip)

CTB-24L

 $I_{F(AV)} - T_c$  Deratings $I_R - V_R$  Characteristics (per chip) $P_{F(AV)} - I_{F(AV)}$  Characteristics $I_o - \text{Fin}$  Characteristics $I_{FSM}$  Characteristics $I_F - V_F$  Characteristics (per chip)

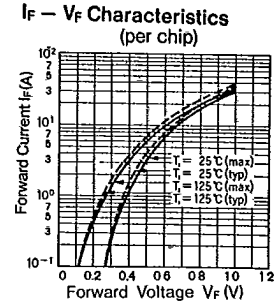
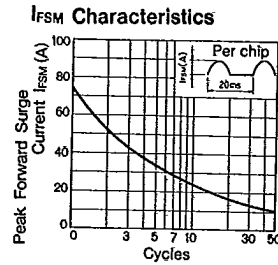
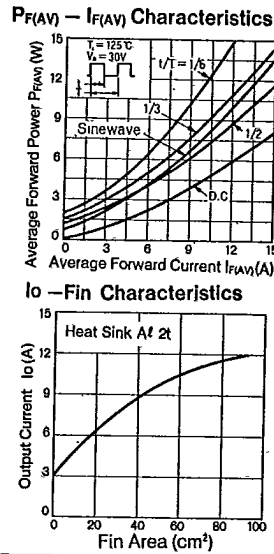
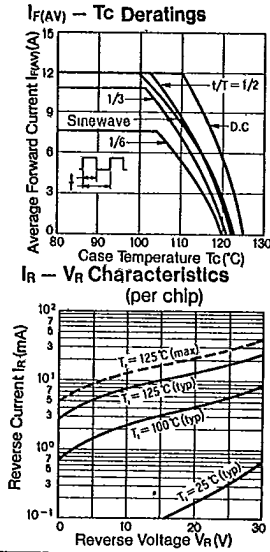
CTB-33S

 $I_{F(AV)} - T_c$  Deratings $I_R - V_R$  Characteristics (per chip) $P_{F(AV)} - I_{F(AV)}$  Characteristics $I_o - \text{Fin}$  Characteristics $I_{FSM}$  Characteristics $I_F - V_F$  Characteristics (per chip)

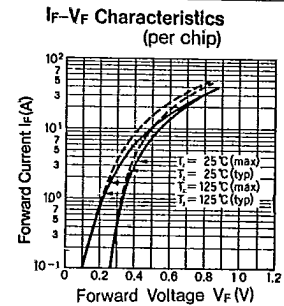
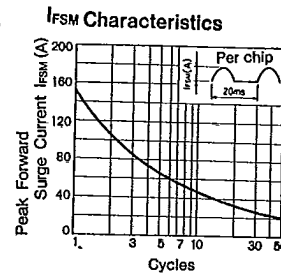
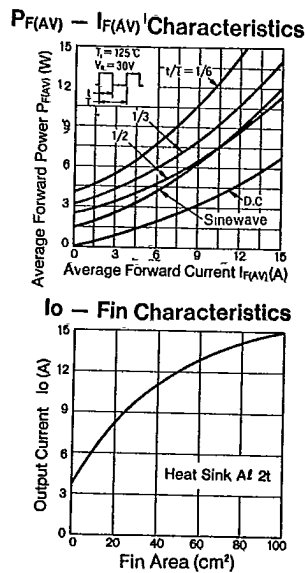
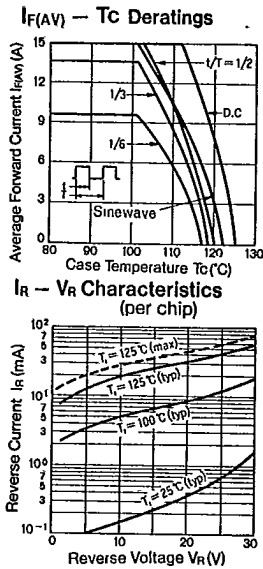
## Schottky Barrier Diodes

T-23-01

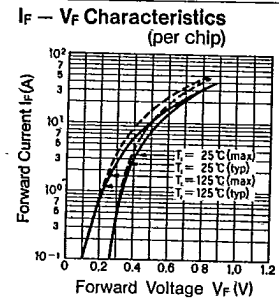
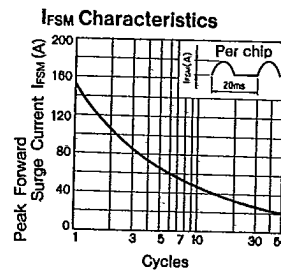
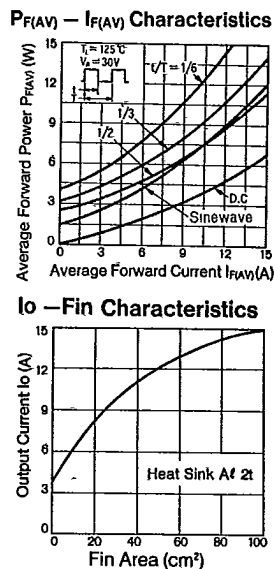
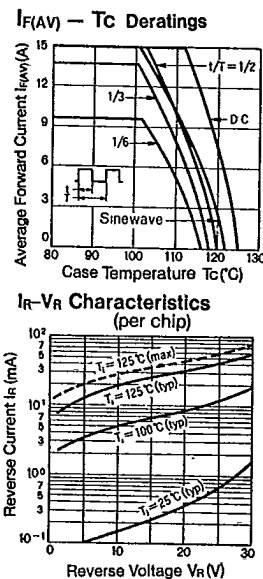
CTB-34S



CTB-33 Series



CTB-34

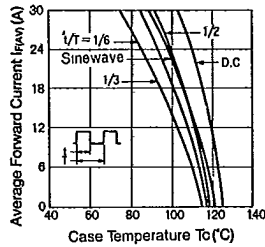
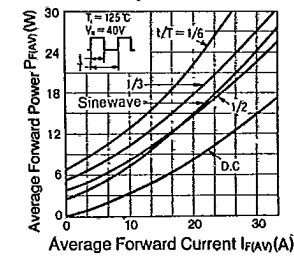
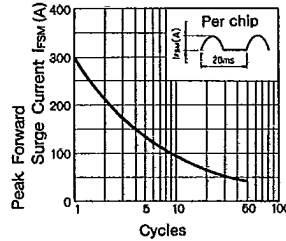
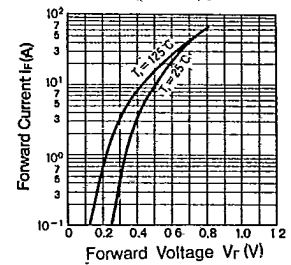
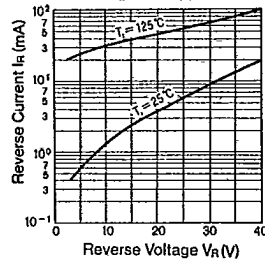
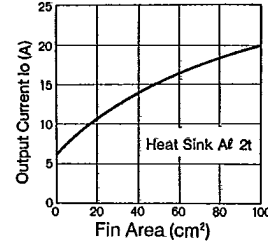


## Characteristics

T-23-01

CTB-33M

CTB-34M

 $I_F(AV) - T_C$  Deratings $P_F(AV) - I_F(AV)$  Characteristics $I_{FSM}$  Characteristics $I_F - V_F$  Characteristics (per chip) $I_R - V_R$  Characteristics (per chip) $I_o - Fin$  Characteristics

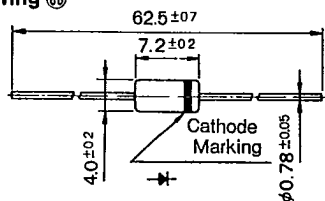
## Avalanche Diodes

 $V_{RM}: 40 \sim 400V$  $I_{ZSM}: 0.1 \sim 3.0A$ 

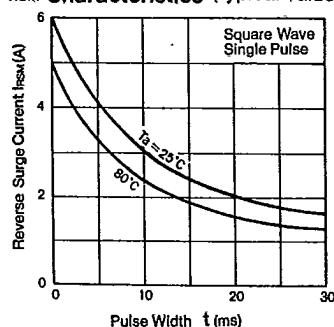
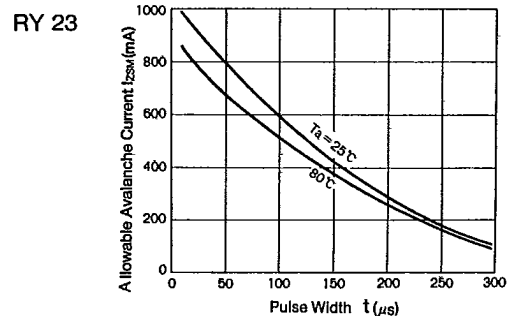
## RM/R/R Y

| Rating/<br>Characteristics | Absolute Maximum Ratings |                             |                        |                          | Electrical Characteristics (Ta = 25°C) |                                  |                                  |                      |                          |                                | Others             |           |           |                         |
|----------------------------|--------------------------|-----------------------------|------------------------|--------------------------|----------------------------------------|----------------------------------|----------------------------------|----------------------|--------------------------|--------------------------------|--------------------|-----------|-----------|-------------------------|
|                            | V <sub>RM</sub><br>(V)   | I <sub>ZSM</sub><br>(A)     | T <sub>J</sub><br>(°C) | T <sub>stg</sub><br>(°C) | V <sub>Z</sub><br>(V)                  | I <sub>R</sub><br>(μA)           | I <sub>R(H)</sub><br>(μA)        | J<br>(V/°C)          | γ <sub>Z</sub><br>(%/°C) | R <sub>Z</sub><br>(Ω)          | Outline<br>Drawing | Weight(g) | Taping    | Application             |
| Type No.                   |                          | Square Wave<br>Single Pulse |                        |                          | I <sub>Z</sub> = 1mA<br>Instantaneous  | V <sub>R</sub> = V <sub>RM</sub> | V <sub>R</sub> = V <sub>RM</sub> | I <sub>Z</sub> = 1mA | I <sub>Z</sub> = 1mA     | I <sub>Z</sub> = 0.5 ~<br>1.5A |                    |           |           |                         |
| RM 25                      | 40                       | 3.0                         | -40 ~ +130             |                          | 50 ~ 61.5                              | 5.0                              | 20<br>(Ta = 80°C)                | —                    | 0.09typ.                 | 5 max                          | ⑧                  | 0.44      | Available | For Surge<br>Absorption |
| RM 26                      | 50                       |                             |                        |                          | 60 ~ 70                                |                                  |                                  |                      |                          |                                |                    |           |           |                         |
| R 2M                       | 130                      | 1.0(100μs)                  | -40 ~ +150             | 135 ~ 180                | 10                                     | 50(Ta = 100°C)                   | +0.15typ.                        | —                    | —                        | 0.44                           |                    |           |           |                         |
| RY 23                      | 200                      | 0.1(100μs)                  | -40 ~ +130             | 250 ~ 400                |                                        | 50                               |                                  |                      |                          | 0.44                           |                    |           |           |                         |
| RY 24                      | 400                      |                             |                        | 400 ~ 450                |                                        | (Ta = 80°C)                      |                                  |                      |                          |                                |                    |           |           |                         |

Outline Drawing ⑧



⑧ Plastic Molded, Flammability: UL94V-0 or Equivalent

 $I_{RSM}$  Characteristics (Typical Value) $I_{ZSM}$  Characteristics (Typical Value)

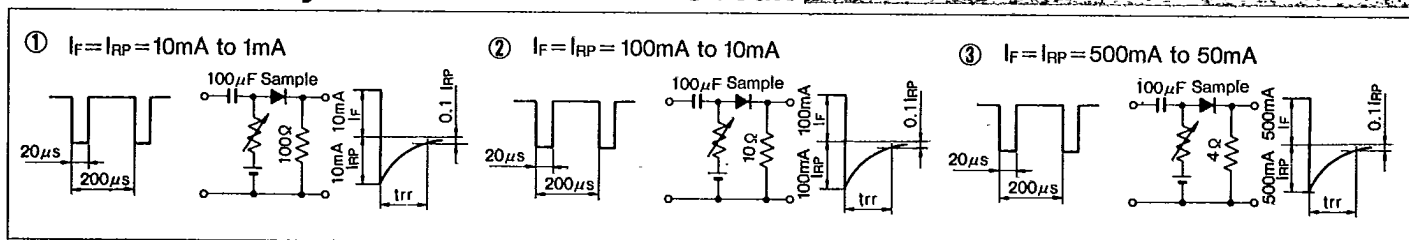


# Symbols/trr Measurement Circuit

## Symbols

|             |                                   |            |                                    |               |                                              |
|-------------|-----------------------------------|------------|------------------------------------|---------------|----------------------------------------------|
| $V_{RSM}$   | Peak Reverse Surge Voltage        | $I_{RSM}$  | Peak Reverse Surge Current         | $T_{stg}$     | Storage Temperature                          |
| $V_{RM}$    | Peak Reverse Voltage              | $I_R$      | Reverse Current                    | $t_{rr}$      | Reverse Recovery Time                        |
| $V_{P-P}$   | Reverse Voltage (Peak to Peak)    | $I_{RP}$   | Peak Reverse Current               | $C_t$         | Total Capacitance Between Terminals          |
| $V_R$       | Reverse Voltage                   | $I_{R(H)}$ | Reverse Current (High Temperature) | $R_{th(j-c)}$ | Thermal Resistance, Junction to Case         |
| $V_F$       | Forward Voltage                   | $I_Z$      | Avalanche Current                  | $r_z$         | Temperature Coefficient of Breakdown Voltage |
| $V_B$       | Breakdown Voltage                 | $I_{ZSM}$  | Allowable Avalanche Current        | $R_z$         | Equivalent Resistance of Breakdown Region    |
| $I_o$       | Average Rectified Forward Current | $T_a$      | Ambient Temperature                | $P_{F(AV)}$   | Average Forward Power Dissipation            |
| $I_F$       | Forward Current                   | $T_j$      | Junction Temperature               | $I_t^2$       | $I_t^2$ limiting Value                       |
| $I_{F(AV)}$ | Average Forward Current           | $T_{opr}$  | Operating Ambient Temperature      |               |                                              |
| $I_{FSM}$   | Peak Forward Surge Current        | $T_c$      | Case Temperature                   |               |                                              |

## Reverse Recovery Time Measurement Circuit



## Taping Specifications

Excluding High Voltage Diodes

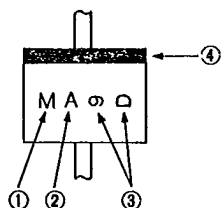
| Designation                                | Dimension (in mm)                                                                                                                                                                                                                                                                | Packaging Dimension and Marking | Quantity                                                                         |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|----------------------------------------------------------------------------------|
| <b>V</b><br><br>Add Suffix [V] to Type No. | <b>Tape Carrier Method</b> <p>(1) Right side of taping direction is cathode.<br/>(2) Place electrode side down when casing.<br/>(3) Provide leader tape of 150~200mm at beginning of tape.<br/>(4) Provide space of more than 10 pitches each for beginning and end of tape.</p> | <b>Reel</b>                     | 1,800 pcs per reel                                                               |
| <b>V</b><br><br>Add Suffix [V] to Type No. | <b>Axial Taping</b>                                                                                                                                                                                                                                                              | <b>Reel</b>                     | 5,000 pcs per reel (2.7 $\phi$ body)<br><br>3,000 pcs per reel (4.0 $\phi$ body) |

## Taping Specifications

| Designation                                     | Dimension (in mm)                                            | Packaging Dimension and Marking | Quantity                                                                             |
|-------------------------------------------------|--------------------------------------------------------------|---------------------------------|--------------------------------------------------------------------------------------|
| <b>V1</b><br><br>Add Suffix [V1]<br>to Type No. | <b>Axial Taping</b><br>                                      | <b>Ammunition Pack</b><br>      | 2,000 pcs per<br>box (2.7 $\phi$ body)<br><br>1,000 pcs per<br>box (4.0 $\phi$ body) |
| <b>VO</b><br><br>Add Suffix [VO]<br>to Type No. | <b>Axial Taping</b><br>                                      | <b>Ammunition Pack</b><br>      | 2,000 pcs per<br>box (2.7 $\phi$ body)<br>(2.4 $\phi$ body)                          |
| <b>V3</b><br><br>Add Suffix [V3]<br>to Type No. | <b>Axial Taping</b><br>                                      | <b>Reel</b><br>                 | 1,500 pcs per<br>reel (5.2 $\phi$ body)                                              |
| <b>V4</b><br><br>Add Suffix [V4]<br>to Type No. | <b>Axial Taping</b><br>                                      | <b>Ammunition Pack</b><br>      | 1,000 pcs per<br>box (5.2 $\phi$ body)                                               |
| <b>W</b><br><br>Add Suffix [W]<br>to Type No.   | <b>Radial Taping</b><br>                                     | <b>Ammunition Pack</b><br>      | 4,000 pcs per<br>box (2.7 $\phi$ body)<br>(0.6 $\phi$ lead)                          |
| <b>WS</b><br><br>Add Suffix [WS]<br>to Type No. | <b>Radial Taping</b><br><b>(Applicable to AO Series)</b><br> | <b>Ammunition Pack</b><br>      | 2,500 pcs per<br>box (2.4 $\phi$ body)                                               |
| <b>WK</b><br><br>Add Suffix [WK]<br>to Type No. | <b>Radial Taping</b><br><b>(Applicable to AO Series)</b><br> |                                 | 2,500 pcs per<br>box (2.4 $\phi$ body)                                               |

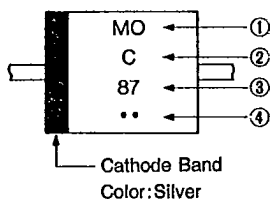
# Marking Guide

## 1 Small TMD



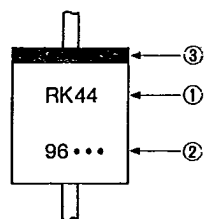
- ① Type Designation (in abbreviation)  
AM01 is abbreviated as M.
- ② Class Designation  
Z: 200V, No Letter: 400V, A: 600V
- ③ A: Year (Last Number of AD Year)  
B: Month (Jan. to Sept. are represented by numbers 1 to 9 respectively, and Oct., Nov., and Dec. are abbreviated as O, N and D respectively)
- ④ Cathode Band: Successive Band, however AU02 Type is Non-Successive Band.

## 2 E/EO Type TMD



- ① Type Designation (in abbreviation)  
EM01 is abbreviated as MO, EM2 is abbreviated as M2.
- ② Class Designation  
Z: 200V, No Letter: 400V, A: 600V  
B: 800 V, C: 1000V, F: 1500V  
However, EU02A to be marked 2A, and EU2YX to be marked Y.
- ③ Abbreviations Representing Production Period  
A: Year (Last Number of AD Year)  
B: Month (1~9, O, N, D)
- ④ Production Period Divided in 3 ten day terms  
• : 1st 10days •• : 2nd 10days ••• : 3rd 10days

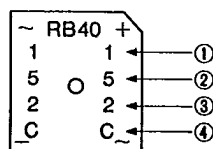
## 3 R Type TMD



- ① Type Designation: Mark in 2 sets
- ② Production Period: Mark in 4 sets  
A: Year (Last Number of AD Year)  
B: Month (1~9, O, N, D)
- ③ Production Period Divided in 3 ten day terms  
• : 1st 10days •• : 2nd 10days ••• : 3rd 10days
- ④ Cathode Band Color: Silver: For Power Supply  
Yellow: For Middle Speed  
Red : For High Speed and Ultra-High Speed

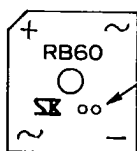
## 4 RB40/60

(RB40 Series)



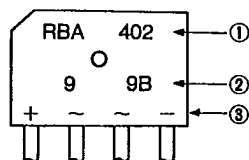
- ① Peak Reverse Voltage Designation  
1, 2, 4, 6, C  
Production Period
- ② Year (Last Number of AD Year)
- ③ Month (1~9, O, N, D)
- ④ Divided in 3 ten day terms  
A: 1st 10days, B: 2nd 10days  
C: 3rd 10days  
Color Designation: Silver

(RB60 Series)



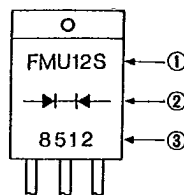
Dot Designation RB601 Violet  
RB602 No Color  
RB604 Blue  
RB606 White

## 5 RBV/RBA



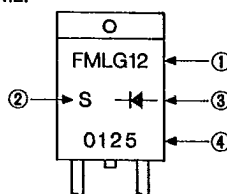
- ① Type Designation
- ② Lot Number  
1st : Year (Last Number of AD Year)  
2nd: Month (1~9, O, N, D)  
3rd : Divided 1~3 ten day Terms  
A: 1st 10 days B: 2nd 10 days  
C: 3rd 10 days
- ③ In-Put Designation

## 6 TO220 Type (FM or CT Type)



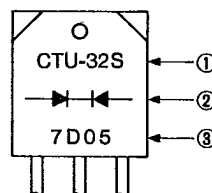
- ① Type Designation  
Show FMU-12S as FMU12S.
- ② Polarity: Rectifier Symbols
- ③ Lot Number (Laser Marking)  
1st : Year (Last Number of AD Year)  
2nd : Month (0~9, O, N, D)  
3rd, 4th: Day

## 7 TO220 Type (FM or CT Type, single chip)



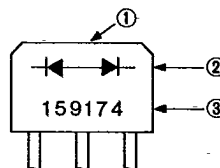
- ① Type Designation: Omit Last Letter  
Show FML-G12S as FMLG12.
- ② Last Letter of Type Designation
- ③ Polarity: Rectifier Symbols
- ④ Lot Number (Laser Marking)  
1st : Year (Last Number of AD Year)  
2nd : Month (0~9, O, N, D)  
3rd, 4th: Day

## 8 TO3P Type (FM or CT Type)



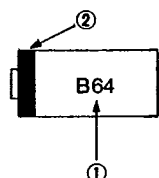
- ① Type shown in full designation  
However, CTB-34/34S/34M are marked as CTB-34, CTU-G3DR is marked as CTUG3DR.
- ② Polarity: Rectifier Symbols
- ③ Lot Number:  
1) M, U, G and L Types  
First Number : Last Digit of AD Year  
Second Number : Month  
Third and Fourth Numbers: Day  
Fifth Number : None  
2) For types CTB-34/34S/34M, the fifth letter shows type designation. If no fifth number, the type is CTB-33 or CTB-34.  
3) Marking Color: Silver

## 9 MI-10/15 Type



- ① MI-10/15 is die-stamped on the top of the case.
- ② Rectifier Symbols
- ③ Lot Number:  
First Number : Peak Reverse Voltage:  
(Letter) 0=50V, 1=100V, 2=200V,  
4=400V, 6=600V, C=1000V  
Second Number : Last Digit of AD Year  
Third Number : Month  
Fourth and Fifth Numbers: Day  
Sixth Number : Production number and  
U: Voltage Doubler Type

## 10 SFP Type



- ① Type Designation:  
SFPB-64 is abbreviated at B64.
- ② Cathode Band