



## FAST RECOVERY DIODES SELECTOR GUIDE

| TYPE                    | VRRM (5)<br>max<br>Tj = Tj max<br>(V) | IRRM<br>typical<br>Tj = Tj max<br>(mA) | IF (AV) at Tc |      | IFSM (2)<br>1 pulse<br>(kA) | I <sub>2t</sub><br>for fusing<br>(kA2s) | Junction<br>temperature<br>range<br>(°C) | V <sub>0</sub><br>Tj = Tj max<br>(V) | r <sub>t</sub><br>(mΩ) | Chip<br>size<br>(mm) | storage<br>temp.<br>(°C) | R <sub>thJC</sub><br>(3)<br>(°C/W) | Typical reverse<br>recovery time (5)<br>@ Tj=25°C |            |                   | PACKAGE INFORMATION |                                |                 |         |
|-------------------------|---------------------------------------|--|---------------|------|-----------------------------|---|--|--------------------------------------|------------------------|----------------------|--------------------------|------------------------------------|---|------------|-------------------|---------------------|--------------------------------|-----------------|---------|
|                         |                                       |  | (A)           | (°C) |                             |   |  |                                      |                        |                      |                          |                                    | current<br>code                                   | IFM<br>(A) | -dir/dt<br>(A/μs) | trr<br>(μs)         | Mounting<br>force or<br>torque | Style           | Outline |
| <b>STUD DIODES</b>      |                                       |  |               |      |                             |   |  |                                      |                        |                      |                          |                                    |   |            |                   |                     |                                |                 |         |
| <i>Up to 1600V</i>      |                                       |  |               |      |                             |   |  |                                      |                        |                      |                          |                                    |   |            |                   |                     |                                |                 |         |
| R502/R503--10RS         | 1200                                  | 45                                     | 100           | 90   | 10                          | 2,2@8,3ms                               | 20@8,3ms                                 | -40 to 150                           | 4.5V 25°C 450A         | 16                   | 40 to 2                  | 0,28                               | 314   | 25         | 0,3               | 14 Nm               | 8"-24 Stud (1)                 | R50             |         |
| R502/R503--13LS         | 1400                                  | 45                                     | 125           | 90   | 13                          | 2,5@8,3ms                               | 26@8,3ms                                 | -40 to 150                           | 1,17                   | 3,09                 | 16                       | 40 to 1                            | 0,28  | 314        | 25                | 0,7                 | 14 Nm                          | 8"-24 Stud (1)  | R50     |
| R502/R503--18FS         | 1400                                  | 45                                     | 175           | 90   | 18                          | 3,5@8,3ms                               | 51@8,3ms                                 | -40 to 150                           | 0,85                   | 1,57                 | 16                       | 40 to 1                            | 0,28  | 314        | 25                | 1,5                 | 14 Nm                          | 8"-24 Stud (1)  | R50     |
| R502/R503--11EJ/CJ +    | 1200                                  | 50                                     | 115           | 110  | 11                          | 2,2@10ms                                | 24,2@10ms                                | -55 to 175                           | 1,24                   | 1,32                 | 16                       | 35 to 2                            | 0,3   | 314        | 25                | 2-3                 | 15 Nm                          | 8"-24 Stud (1)  | R50     |
| R502/R503--13CJ +       | 1200                                  | 50                                     | 125           | 110  | 13                          | 2,5@10ms                                | 31,2@10ms                                | -55 to 175                           | 1,11                   | 1,32                 | 16                       | 35 to 2                            | 0,3   | 314        | 25                | 3                   | 15 Nm                          | 8"-24 Stud (1)  | R50     |
| R602/R603--22PS         | 1600                                  | 50                                     | 220           | 150  | 22                          | 3,5@8,3ms                               | 51@8,3ms                                 | -40 to 150                           | 2,75V 25°C 800A        | 23                   | 40 to 1                  | 0,17                               | 785   | 25         | 0,5               | 41 Nm               | 3/4"-16 Stud(1)                | R60             |         |
| R602/R603--25HS         | 1600                                  | 50                                     | 250           | 150  | 25                          | 4,5@8,3ms                               | 85@8,3ms                                 | -40 to 150                           | 1,20                   | 0,86                 | 23                       | 40 to 1                            | 0,17  | 785        | 25                | 2                   | 41 Nm                          | 3/4"-16 Stud(1) | R60     |
| R602/R603--35ES         | 1600                                  | 50                                     | 350           | 90   | 35                          | 6@8,3ms                                 | 150@8,3ms                                | -40 to 150                           | 0,95                   | 0,51                 | 23                       | 40 to 1                            | 0,17  | 785        | 25                | 2                   | 41 Nm                          | 3/4"-16 Stud(1) | R60     |
| R602/R602--26EJ/CJ +    | 1200                                  | 50                                     | 260           | 110  | 26                          | 4,5@10ms                                | 101@10ms                                 | -55 to 175                           | 1,10                   | 0,87                 | 23                       | 35 to 2                            | 0,13  | 785        | 25                | 2-3                 | 27,5 Nm                        | 3/4"-16 Stud(1) | R60     |
| R602/R602--28CJ/AJ +    | 1600                                  | 50                                     | 280           | 110  | 28                          | 5@10ms                                  | 125@10ms                                 | -55 to 175                           | 0,90                   | 0,87                 | 23                       | 35 to 2                            | 0,13  | 785        | 25                | 3-5                 | 27,5 Nm                        | 3/4"-16 Stud(1) | R60     |
| R602/R602--30AJ +       | 1600                                  | 50                                     | 300           | 110  | 30                          | 5,5@10ms                                | 151@10ms                                 | -55 to 175                           | 0,8                    | 0,87                 | 23                       | 35 to 2                            | 0,13  | 785        | 25                | 5                   | 27,5 Nm                        | 3/4"-16 Stud(1) | R60     |
| R702/R703--36CJ/AJ +    | 1200                                  | 50                                     | 360           | 110  | 36                          | 7,5@10ms                                | 281@10ms                                 | -55 to 175                           | 0,95                   | 0,6                  | 33                       | 35 to 2                            | 0,1   | 1100       | 25                | 3-5                 | 35 Nm                          | 3/4"-16 Stud(1) | R70     |
| R702/R703--40AJ +       | 1200                                  | 50                                     | 400           | 110  | 40                          | 8,5@10ms                                | 361@10ms                                 | -55 to 175                           | 0,75                   | 0,6                  | 33                       | 35 to 2                            | 0,1   | 1100       | 25                | 5                   | 35 Nm                          | 3/4"-16 Stud(1) | R70     |
| <i>Up to 2200V</i>      |                                       |  |               |      |                             |   |  |                                      |                        |                      |                          |                                    |   |            |                   |                     |                                |                 |         |
| R602/R602--22CJ/AJ +    | 2200                                  | 50                                     | 220           | 100  | 22                          | 4,5@10ms                                | 101@10ms                                 | -55 to 150                           | 1,10                   | 0,87                 | 23                       | 35 to 2                            | 0,13  | 785        | 25                | 3-5                 | 27,5 Nm                        | 3/4"-16 Stud(1) | R60     |
| R602/R602--24AJ +       | 2200                                  | 50                                     | 240           | 100  | 24                          | 5@10ms                                  | 125@10ms                                 | -55 to 150                           | 0,90                   | 0,87                 | 23                       | 35 to 2                            | 0,13  | 785        | 25                | 5                   | 27,5 Nm                        | 3/4"-16 Stud(1) | R60     |
| R702/R703--26CJ/AJ +    | 2200                                  | 50                                     | 265           | 100  | 26                          | 6,5@10ms                                | 211@10ms                                 | -55 to 150                           | 1,15                   | 0,6                  | 33                       | 35 to 2                            | 0,1   | 1100       | 25                | 3-5                 | 35 Nm                          | 3/4"-16 Stud(1) | R70     |
| R702/R703--28AJ +       | 2200                                  | 50                                     | 280           | 100  | 28                          | 7@10ms                                  | 245@10ms                                 | -55 to 150                           | 1,05                   | 0,6                  | 33                       | 35 to 2                            | 0,1   | 1100       | 25                | 5                   | 35 Nm                          | 3/4"-16 Stud(1) | R70     |
| <b>PRESS PAK DIODES</b> |                                       |  |               |      |                             |   |  |                                      |                        |                      |                          |                                    |   |            |                   |                     |                                |                 |         |
| <i>Up to 1600V</i>      |                                       |  |               |      |                             |   |  |                                      |                        |                      |                          |                                    |   |            |                   |                     |                                |                 |         |
| R622--30PS              | 1600                                  | 50                                     | 300           | 90   | 30                          | 3,5@8,3ms                               | 51@8,3ms                                 | -40 to 150                           | 2,75V 25°C 800A        | 23                   | 40 to 1                  | 0,095                              | 785   | 25         | 0,5               | 4,5 to 6,3 kN       | Press pak                      | R62             |         |
| R622--40HS              | 1600                                  | 50                                     | 400           | 90   | 40                          | 4,5@8,3ms                               | 85@8,3ms                                 | -40 to 150                           | 1,23                   | 0,84                 | 23                       | 40 to 1                            | 0,095   | 785        | 25                | 1                   | 4,5 to 6,3 kN                  | Press pak       | R62     |
| R622--55ES              | 1600                                  | 50                                     | 550           | 90   | 55                          | 6@8,3ms                                 | 150@8,3ms                                | -40 to 150                           | 0,97                   | 0,44                 | 23                       | 40 to 1                            | 0,095   | 785        | 25                | 2                   | 4,5 to 6,3 kN                  | Press pak       | R62     |
| R622--39EJ/CJ +         | 1200                                  | 50                                     | 390           | 110  | 39                          | 4,5@10ms                                | 101@10ms                                 | -55 to 175                           | 1,10                   | 0,87                 | 23                       | 35 to 2                            | 0,07  | 785        | 25                | 2-3                 | 5,4 kN                         | Press pak       | R62     |
| R622--42CJ/AJ +         | 1600                                  | 50                                     | 415           | 110  | 42                          | 5@10ms                                  | 125@10ms                                 | -55 to 175                           | 0,90                   | 0,87                 | 23                       | 35 to 2                            | 0,07  | 785        | 25                | 3-5                 | 5,4 kN                         | Press pak       | R62     |
| R622--44AJ +            | 1600                                  | 50                                     | 435           | 110  | 44                          | 5,5@10ms                                | 151@10ms                                 | -55 to 175                           | 0,8                    | 0,87                 | 23                       | 35 to 2                            | 0,07  | 785        | 25                | 5                   | 5,4 kN                         | Press pak       | R62     |
| R722--06ES              | 1600                                  | 50                                     | 650           | 90   | 06                          | 7,5@8,3ms                               | 234@8,3ms                                | -40 to 150                           | 1,12                   | 1,67                 | 33                       | 40 to 1                            | 0,055   | 1500       | 25                | 2                   | 9 to 11 kN                     | Press pak       | R72     |
| R722--08ES              | 1600                                  | 50                                     | 800           | 90   | 08                          | 11@8,3ms                                | 504@8,3ms                                | -40 to 150                           | 1,08                   | 0,36                 | 33                       | 40 to 1                            | 0,055   | 1500       | 25                | 2                   | 9 to 11 kN                     | Press pak       | R72     |
| R722--60CJ/AJ +         | 1200                                  | 50                                     | 600           | 110  | 60                          | 7,5@10ms                                | 281@10ms                                 | -55 to 175                           | 0,95                   | 0,6                  | 33                       | 35 to 2                            | 0,05  | 1100       | 25                | 3-5                 | 10 kN                          | Press pak       | R72     |
| R722--65AJ +            | 1200                                  | 50                                     | 650           | 110  | 65                          | 8,5@10ms                                | 361@10ms                                 | -55 to 175                           | 0,75                   | 0,6                  | 33                       | 35 to 2                            | 0,05  | 1100       | 25                | 5                   | 10 kN                          | Press pak       | R72     |
| R752--09ES              | 1600                                  | 50                                     | 900           | 90   | 09                          | 7,5@8,3ms                               | 234@8,3ms                                | -40 to 150                           | 1,32                   | 0,44                 | 33                       | 40 to 1                            | 0,035   | 1500       | 25                | 2                   | 9 to 11 kN                     | Press pak       | R75     |
| R752--10ES              | 1400                                  | 50                                     | 1000          | 90   | 10                          | 11@8,3ms                                | 504@8,3ms                                | -40 to 150                           | 1,05                   | 0,37                 | 33                       | 40 to 1                            | 0,035   | 1500       | 25                | 2                   | 9 to 11 kN                     | Press pak       | R75     |
| R752--08CJ/AJ +         | 1600                                  | 50                                     | 800           | 120  | 08                          | 9,5@8,3ms                               | 375@8,3ms                                | -40 to 175                           | 1,80V 25°C 1500A       | 33                   | 40 to 1                  | 0,035                              | 1500  | 25         | 3-5               | 9 to 11 kN          | Press pak                      | R75             |         |
| R752--11EJ/CJ +         | 1600                                  | 50                                     | 1100          | 100  | 11                          | 11@8,3ms                                | 504@8,3ms                                | -40 to 175                           | 1,65V 25°C 1500A       | 33                   | 40 to 1                  | 0,035                              | 1500  | 25         | 2-3               | 9 to 11 kN          | Press pak                      | R75             |         |
| R9G2--14CJ/AJ +         | 1200                                  | 100                                    | 1400          | 80   | 14                          | 25@8,3ms                                | 2590@10ms                                | -40 to 150                           | 2,50V 25°C 3000A       | 50                   | 40 to 1                  | 0,023                              | 1500  | 25         | 3-5               | 22,7 to 27 kN       | Press pak                      | R9G             |         |
| <i>Up to 2600V</i>      |                                       |  |               |      |                             |   |  |                                      |                        |                      |                          |                                    |   |            |                   |                     |                                |                 |         |
| R622--29CJ/AJ +         | 2200                                  | 50                                     | 290           | 100  | 29                          | 4,5@10ms                                | 101@10ms                                 | -55 to 150                           | 1,10                   | 0,87                 | 23                       | 35 to 2                            | 0,07  | 785        | 25                | 3-5                 | 5,4 kN                         | Press pak       | R62     |
| R622--32AJ +            | 2200                                  | 50                                     | 320           | 100  | 32                          | 5@10ms                                  | 125@10ms                                 | -55 to 150                           | 0,90                   | 0,87                 | 23                       | 35 to 2                            | 0,07  | 785        | 25                | 5                   | 5,4 kN                         | Press pak       | R62     |
| R722--05CS              | 2600                                  | 50                                     | 500           | 90   | 05                          | 6,5@8,3ms                               | 176@8,3ms                                | -40 to 150                           | 2,25V 25°C 1500A       | 33                   | 40 to 1                  | 0,055                              | 1500  | 25         | 3                 | 9 to 11 kN          | Press pak                      | R72             |         |
| R722--07AS              | 2600                                  | 50                                     | 700           | 90   | 07                          | 9,5@8,3ms                               | 376@8,3ms                                | -40 to 150                           | 1,65V 25°C 1500A       | 33                   | 40 to 1                  | 0,055                              | 1500  | 25         | 5                 | 9 to 11 kN          | Press pak                      | R72             |         |
| R722--45CJ/AJ +         | 2200                                  | 50                                     | 450           | 100  | 45                          | 6,5@10ms                                | 211@10ms                                 | -55 to 150                           | 1,15                   | 0,6                  | 33                       | 35 to 2                            | 0,05  | 1100       | 25                | 3-5                 | 10 kN                          | Press pak       | R72     |
| R722--47AJ +            | 2200                                  | 50                                     | 470           | 100  | 47                          | 7@10ms                                  | 245@10ms                                 | -55 to 150                           | 1,05                   | 0,6                  | 33                       | 35 to 2                            | 0,05  | 1100       | 25                | 5                   | 10 kN                          | Press pak       | R72     |
| R752--07ES              | 2600                                  | 50                                     | 700           | 90   | 07                          | 6,5@8,3ms                               | 176@8,3ms                                | -40 to 150                           | 2,25V 25°C 1500A       | 33                   | 40 to 1                  | 0,035                              | 1500  | 25         | 2                 | 9 to 11 kN          | Press pak                      | R75             |         |
| R752--08AS              | 2600                                  | 50                                     | 800           | 90   | 08                          | 9,5@8,3ms                               | 376@8,3ms                                | -40 to 150                           | 1,65V 25°C 1500A       | 33                   | 40 to 1                  | 0,035                              | 1500  | 25         | 5                 | 9 to 11 kN          | Press pak                      | R75             |         |
| R752--07AJ +            | 2200                                  | 50                                     | 700           | 80   | 07                          | 8@8,3ms                                 | 267@8,3ms                                | -40 to 150                           | 2,60V 25°C 1500A       | 33                   | 40 to 1                  | 0,035                              | 1500  | 25         | 5                 | 9 to 11 kN          | Press pak                      | R75             |         |
| R9G2--11AJ +            | 2000                                  | 75                                     | 1100          | 80   | 11                          | 15@8,3ms                                | 934@10ms                                 | -40 to 150                           | 3,10V 25°C 3000A       | 50                   | 40 to 1                  | 0,023                              | 1500  | 25         | 5                 | 22,7 to 27 kN       | Press pak                      | R9G             |         |
| <i>Up to 3600V</i>      |                                       |  |               |      |                             |   |  |                                      |                        |                      |                          |                                    |   |            |                   |                     |                                |                 |         |
| R9G2--12BS              | 3600                                  | 75                                     | 1200          | 90   | 12                          | 14@8,3ms                                | 820@8,3ms                                | -40 to 150                           | 1,18                   | 0,62                 | 50                       | 40 to 1                            | 0,018   | 1500       | 25                | 4                   | 22,7 to 27 kN                  | Press pak       | R9G     |

|              |      |    |      |    |    |          |            |             |                  |      |    |           |       |      |    |   |               |           |     |
|--------------|------|----|------|----|----|----------|------------|-------------|------------------|------|----|-----------|-------|------|----|---|---------------|-----------|-----|
| R9G2--15AS   | 3600 | 75 | 1500 | 90 | 15 | 18@8.3ms | 1350@8.3ms | - 40 to 150 | 1.04             | 0.39 | 50 | 40 to 150 | 0.018 | 1500 | 25 | 5 | 22.7 to 27 kN | Press pak | R9G |
| R9G2--09CJ + | 3200 | 50 | 900  | 80 | 09 | 12@8.3ms | 597@10ms   | - 40 to 150 | 4.80V 25°C 3000A |      | 50 | 40 to 150 | 0.023 | 1500 | 25 | 5 | 22.7 to 27 kN | Press pak | R9G |

## ORDERING INFORMATION

Select the complete part number you desire from the following table

| Type | Fast Rectifier | Voltage (V) |      | Current (A)<br>IF(AV) code                      | trr (µs) | Recovery time |          | Leads code<br>only for stud                 |
|------|----------------|-------------|------|---|----------|---------------|----------|---|
|      |                | VRRM        | Code |   |          | Old code      | New code |   |
| R50  | 2/3            | 200         | 02   | select the<br>current code<br>in IFAV<br>column | 10       |               | ZS       | See our<br>standard<br>codes<br>on drawings |
| R50  | S/R            | 400         | 04   |   | 8        |               | YS       |   |
| R60  | 2/3/S/F/R/E    | "           | "    |   | 6        |               | WS       |   |
| R62  | 2/S/F          | 1000        | 10   |   | 5,5      |               | IS       | Other leads<br>are available<br>on request  |
| R70  | 2/3            | "           | "    |   | 5        | AJ            | AS       |   |
| R72  | S/F            | 2500        | 25   |   | 4,5      |               | OS       |   |
| R7S  | 2/S/F          | "           | "    |   | 4        |               | BS       |   |
| R82  | S/F            | 4500        | 45   |   | 3,5      |               | TS       |   |
| R9G  | 2/S/F          |             |      |   | 3        | CJ            | CS       |   |
| RA2  | F              |             |      |   | 2,75     |               | US       |   |
|      |                |             |      |   | 2,5      |               | DS       |   |
|      |                |             |      |   | 2,25     |               | VS       |   |
|      |                |             |      |   | 2        | EJ            | ES       |   |
|      |                |             |      |   | 1,5      | FJ            | FS       |   |
|      |                |             |      |   | 1,25     |               | GS       |   |
|      |                |             |      |   | 1        |               | HS       |   |
|      |                |             |      | 0,9   |          | JS            |          |   |
|      |                |             |      | 0,8   |          | KS            |          |   |
|      |                |             |      | 0,7   |          | LS            |          |   |
|      |                |             |      | 0,6   |          | MS            |          |   |
|      |                |             |      | 0,5   |          | PS            |          |   |
|      |                |             |      | 0,4   |          | QS            |          |   |
|      |                |             |      | 0,3   |          | RS            |          |   |
|      |                |             |      | 0,2   |          | NS            |          |   |
|      |                |             |      | 0,1   |          | SS            |          |   |

### Examples :

#### R502 12 10 CS WA

R50 : Case thread 3/8"  
 2 : Fast recovery diode standard polarity  
 12 : VRRM = 1200 V  
 10 : IF(AV) = 100 A  
 CS : trr ≤ 3 µs  
 WA : lead length 113 mm

#### R9GS 45 08 AS

R9G : Case R9G  
 S : GTO Snubber Diode  
 45 : VRRM = 4500 V  
 08 : IF(AV) = 800 A  
 AS : trr ≤ 5 µs

#### Notes

- (1) = Available with metric thread on request
- (2) = 100% reapplied voltage
- (3) = DC Value
- (4) = Available in 1/2" --> R5C or 3/8" -->R50
- (5) = Maximum voltage not always available for trr mini
- (6) = Available in flat package: R9A / RAA  
 + Old version diode

2 : Fast Recovery Diode (for stud standard polarity : cathode to base)  
 3 : Fast Recovery Diode (for stud reverse polarity : anode to base)  
 S : GTO Snubber Diode (for stud standard polarity : cathode to base)  
 R : GTO Snubber Diode (for stud reverse polarity : anode to base)  
 F : GTO Free Wheel Diode (for stud standard polarity : cathode to base)  
 E : GTO Free Wheel Diode (for stud reverse polarity : anode to base)

All values shown in this document are subject to change for product improvement. The information, diagrams and all other data included herein are believed to be correct and reliable.