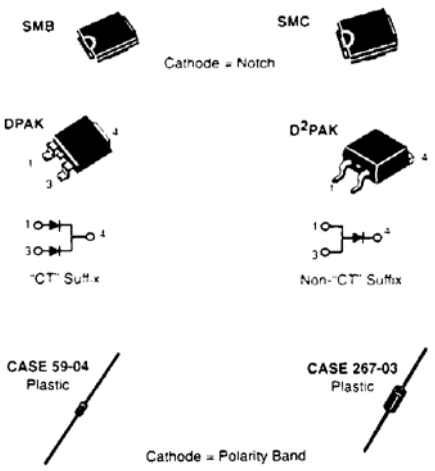
# Ultrafast Rectifiers

## Surface Mount Ultrafast Rectifiers

| Mfr.'s Type | $V_{RRM}$ (V) | $I_O$[1] (A) | $I_O$ Rating Condition | Max. $t_{rr}$ (ns) | Max. $V_F$ @ $I_F$ $T_C$=25°C (V) | $I_{FSM}$ (A) | $T_J$ Max. (°C) | Max $I_R$[2] $T_J$=25°C (µA) | Max $I_R$[3] (mA) Package | Package Style |
|---|---|---|---|---|---|---|---|---|---|---|
| MURS120T3[8] | 200 | 1 | $T_L$=155°C | 35 | 0.875 @ 1.0 A | 40 | 175 | 2 | 50 | SMB |
| MURS360T3[8] | 600 | 3 | $T_L$=130°C | 75 | 1.250 @ 3.0 A | 75 | 175 | 10 | 250 | SMC |
| MURD620CT | 200 | 6 | $T_L$=145°C | 35 | 1.000 @ 3.0 A | 63 | 175 | 5 | 250 @ 125°C | DPAK |

[1]$I_O$ is total device current capability. [2]$V_{RRM}$ unless noted. [3]$V_{RMM}$, $T_J$=150°C unless noted. [8]T3 suffix=2500/reel.




## Axial Lead Ultrafast Rectifiers

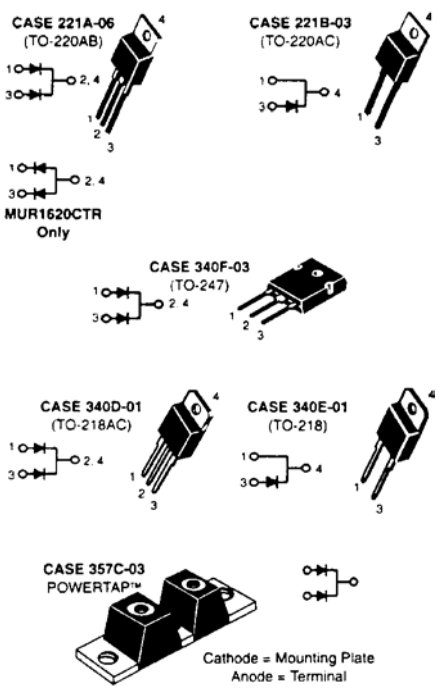
| Mfr.'s Type | $V_{RRM}$ (V) | $I_O$ (A) | $I_O$ Rating Condition | Max. $t_{rr}$ (ns) | Max. $V_F$ @ $I_F$ $T_C$=25°C (V) | $I_{FSM}$ (A) | $T_J$ Max. (°C) | Max $I_R$[2] TJ=25°C (mA) | Max $I_R$[3] $T_L$ (mA) | Package Style |
|---|---|---|---|---|---|---|---|---|---|---|
| MUR120 | 200 | 1 | $T_A$=130°C, $R_{\theta JA}$=50°C/W | 25 | 0.875 @ 1.0 A | 35 | 175 | 2 | 50 | Case 59-04 |
| MUR140 | 400 | 1 | $T_A$=120°C, $R_{\theta JA}$=50°C/W | 50 | 1.250 @ 1.0 A | 35 | 175 | 5 | 150 | Case 59-04 |
| MUR160 | 600 | 1 | $T_A$=120°C, $R_{\theta JA}$=50°C/W | 50 | 1.250 @ 1.0 A | 35 | 175 | 5 | 150 | Case 59-04 |
| MUR1100E | 1000 | 1 | $T_A$=95°C, $R_{\theta JA}$=50°C/W | 75 | 1.750 @ 1.0 A | 35 | 175 | 10 | 600 @ 100°C | Case 59-04 |
| MUR420 | 200 | 4 | $T_A$=80°C, $R_{\theta JA}$=28°C/W | 25 | 0.875 @ 3.0 A | 125 | 175 | 5 | 150 | Case 267-03 |
| MUR460 | 600 | 4 | $T_A$=40°C, $R_{\theta JA}$=28°C/W | 50 | 1.250 @ 3.0 A | 70 | 175 | 10 | 250 | Case 267-03 |
| MUR4100E | 1000 | 4 | $T_A$=35°C, $R_{\theta JA}$=28°C/W | 75 | 1.750 @ 3.0 A | 70 | 175 | 25 | 900 @ 100°C | Case 267-03 |

[2]$V_{RRM}$ unless noted. [3]$V_{RMM}$, $T_J$=150°C unless noted.

## TO-220 Type Ultrafast Rectifiers

| Mfr.'s Type | $V_{RRM}$ (V) | $I_O$ (A) | $I_O$ Rating Condition | Max. $t_{rr}$ (ns) | Max. $V_F$ @ $I_F$ $T_C$=25°C (V) | $I_{FSM}$ (A) | $T_J$ Max. (°C) | Max. $I_R$[2] $T_J$=25°C (mA) | Max. $I_R$[3] $T_L$ (mA) | Package Style |
|---|---|---|---|---|---|---|---|---|---|---|
| MUR620CT | 200 | 6 | $T_C$=130°C | 35 | 0.975 @ 3.0 A | 75 | 175 | 5 | 250 | Case 221A-06 |
| MUR1620CT | 200 | 16 | $T_C$=150°C | 35 | 0.975 @ 8.0 A | 100 | 175 | 5 | 250 | Case 221A-06 |
| MUR1620CTR | 200 | 16 | $T_C$=160°C | 85 | 1.200 @ 8.0 A | 100 | 175 | 5 | 500 | Case 221A-06 |
| MUR1660CT | 600 | 16 | $T_C$=150°C | 60 | 1.500 @ 8.0 A | 100 | 175 | 10 | 500 | Case 221A-06 |
| MUR820 | 200 | 8 | $T_C$=150°C | 35 | 0.975 @ 8.0 A | 100 | 175 | 5 | 250 | Case 221B-03 |
| MUR840 | 400 | 8 | $T_C$=150°C | 50 | 1.300 @ 8.0 A | 100 | 175 | 10 | 500 | Case 221B-03 |
| MUR860 | 600 | 8 | $T_C$=150°C | 50 | 1.500 @ 8.0 A | 100 | 175 | 10 | 500 | Case 221B-03 |
| MUR8100E | 1000 | 8 | $T_C$=150°C | 75 | 1.800 @ 8.0 A | 100 | 175 | 25 | 500 @ 100°C | Case 221B-03 |
| MUR10150E | 1500 | 10 | $T_C$=125°C | 175 | 2.400 @ 6.5 A | 100 | 125 | 100 | 1000 @ 125°C | Case 221B-03 |
| MUR1520 | 200 | 15 | $T_C$=150°C | 35 | 1.050 @ 15.0 A | 200 | 175 | 10 | 500 | Case 221B-03 |
| MUR1540 | 400 | 15 | $T_C$=150°C | 60 | 1.250 @ 15.0 A | 150 | 175 | 10 | 500 | Case 221B-03 |
| MUR1560 | 600 | 15 | $T_C$=145°C | 60 | 1.500 @ 15.0 A | 150 | 175 | 10 | 1000 | Case 221B-03 |

[2]$V_{RRM}$ unless noted. [3]$V_{RMM}$, $T_J$=150°C unless noted.




## TO-218 Types and TO-247 Ultrafast Rectifiers

| Mfr.'s Type | $V_{RRM}$ (V) | $I_O$ (A) | $I_O$ Rating Condition | Max. $t_{rr}$ (ns) | Max. $V_F$ @ $I_F$ $T_C$=25°C (V) | $I_{FSM}$ (A) | $T_J$ Max. (°C) | Max $I_R$[2] $T_J$=25°C (mA) | Max $I_R$[3] $T_L$ (mA) | Package Style |
|---|---|---|---|---|---|---|---|---|---|---|
| MUR3060WT | 600 | 30 | $T_C$=145°C | 60 | 1.70 @ 15 A | 150 | 175 | 10 | 1.0 | Case 340F-03 |
| MUR3020PT | 200 | 30 | $T_C$=150°C | 35 | 1.12 @ 15 A | 200 | 175 | 10 | 0.5 | Case 340D-01 |
| MUR3040PT | 400 | 30 | $T_C$=150°C | 60 | 1.12 @ 15 A | 150 | 175 | 10 | 0.5 | Case 340D-01 |
| MUR3060PT | 600 | 30 | $T_C$=145°C | 60 | 1.20 @ 15 A | 150 | 175 | 10 | 1.0 | Case 340D-01 |
| MUR6040 | 400 | 60 | $T_C$=70°C | 100 | 1.50 @ 60 A | 600 | 175 | 60 | 10.0 @ 100°C | Case 340E-01 |

[2]$V_{RRM}$ unless noted. [3]$V_{RMM}$, $T_J$=150°C unless noted.

## Power Tap II SOT-227B Ultrafast Rectifiers

| Mfr.'s Type | $V_{RRM}$ (V) | $I_O$[3] (A) | $I_O$ Rating Condition | Max. $t_{rr}$ (ns) | Max. $V_F$ @ $I_F$ $T_C$=25°C (V) | $I_{FSM}$ (A) | $T_J$ Max. (°C) | Max $I_R$[2] $T_J$=25°C (mA) | Max $I_R$[3] $T_L$ (mA) | Package Style |
|---|---|---|---|---|---|---|---|---|---|---|
| MURP20040CT | 400 | 200 | $T_C$=100°C | 50 | 1.30 @ 100 A | 800 | 175 | 50 | 0.5 @ 125°C | Case 357C-03 |

[1]$I_O$ is total device current capability. [2]$V_{RRM}$ unless noted. [3]$V_{RMM}$, $T_J$=150°C unless noted.

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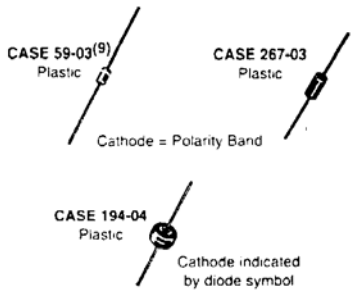
# Fast Recovery Rectifiers/General-Purpose Rectifiers




## Fast Recovery Rectifiers/General Purpose Rectifiers

| Mfr.'s Type | $V_{RRM}$ (V) | $I_O$ (A) | $I_O$ Rating Condition | Max. $V_F$ @ $I_F$ $T_C$=25°C (V) | Max. $t_{rr}$ (ns) | $I_{FSM}$ (A) | $T_J$ Max. (°C) | Max. $I_R$[2] $T_J$=25°C (µA) | Max. $I_R$[3] $T_L$ (mA) | Package Style |
|---|---|---|---|---|---|---|---|---|---|---|
| 1N4004 | 400 | 1 | $T_A$=75°C | 1.10 @ 1.00 A | — | 30 | 150 | 10 | 50 | Case 59-03[9] |
| 1N4007 | 1000 | 1 | $T_A$=75°C | 1.10 @ 1.00 A | — | 30 | 150 | 10 | 50 | Case 59-03[9] |
| 1N4935 | 200 | 1 | $T_A$=75°C | 1.20 @ 3.14 A, $T_J$=125°C | 200 | 30 | 150 | 5 | 100 | Case 59-03[9] |
| 1N4937 | 600 | 1 | $T_A$=75°C | 1.20 @ 3.14 A, $T_J$=125°C | 200 | 30 | 150 | 5 | 100 | Case 59-03[9] |
| 1N5404 | 400 | 3 | $T_L$=105°C | 1.20 @ 9.40 A | — | 200 | 150 | — | 500 @ 80°C | Case 267-03 |
| 1N5406 | 600 | 3 | $T_L$=105°C | 1.20 @ 9.40 A | — | 200 | 150 | — | 500 @ 80°C | Case 267-03 |
| MR852 | 200 | 3 | $T_A$=80°C[10] | 1.25 @ 3.00 A | 200 | 100 | 150 | 10 | 200 @ 80°C | Case 267-03 |
| MR856 | 600 | 3 | $T_A$=80°C[10] | 1.25 @ 3.00 A | 200 | 100 | 150 | 10 | 300 @ 80°C | Case 267-03 |
| MR754 | 400 | 6 | $T_A$=60°C, $R_{\theta JA}$=25°C/W | 1.25 @ 100.0 A | — | 400 | 175 | 25 | 1000 | Case 194-04 |
| MR760 | 1000 | 6 | $T_A$=60°C, $R_{\theta JA}$=25°C/W | 1.25 @ 100.0 A | — | 400 | 175 | 25 | 1000 | Case 194-04 |

[2]$V_{RRM}$ unless noted. [3]$V_{RMM}$, $T_J$=100°C unless noted. [9]Package Size: 0.120" max. diameter by 0.260" length. [10]Must be derated for reverse power dissipation. See data sheet.