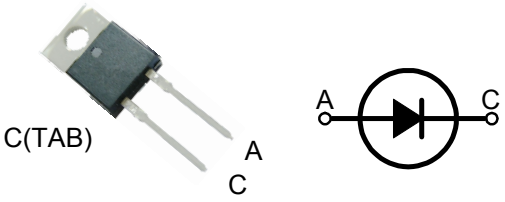
# 常州国润电子有限公司

# MUR1520-MUR1560

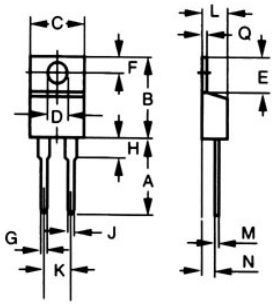
## Ultra Fast Recovery Diodes




A=Anode, C=Cathode, TAB=Cathode

| | $V_{RSM}$ V | $V_{RRM}$ V |
|---|---|---|
| **MUR1520** | 200 | 200 |
| **MUR1540** | 400 | 400 |
| **MUR1560** | 600 | 600 |

Dimensions TO-220AC




| Dim. | Inches Min. | Inches Max. | Milimeter Min. | Milimeter Max. |
|---|---|---|---|---|
| A | 0.500 | 0.580 | 12.70 | 14.73 |
| B | 0.560 | 0.650 | 14.23 | 16.51 |
| C | 0.380 | 0.420 | 9.66 | 10.66 |
| D | 0.139 | 0.161 | 3.54 | 4.08 |
| E | 2.300 | 0.420 | 5.85 | 6.85 |
| F | 0.100 | 0.135 | 2.54 | 3.42 |
| G | 0.045 | 0.070 | 1.15 | 1.77 |
| H | - | 0.250 | - | 6.35 |
| J | 0.025 | 0.035 | 0.64 | 0.89 |
| K | 0.190 | 0.210 | 4.83 | 5.33 |
| L | 0.140 | 0.190 | 3.56 | 4.82 |
| M | 0.015 | 0.022 | 0.38 | 0.56 |
| N | 0.080 | 0.115 | 2.04 | 2.49 |
| Q | 0.025 | 0.055 | 0.64 | 1.39 |

| Symbol | Test Conditions | | Maximum Ratings MUR1520 | MUR1540 | MUR1560 | Unit |
|---|---|---|---|---|---|---|
| $I_{FRMS}$<br>$I_{FAVM}$<br>$I_{FRM}$ | $T_{VJ}=T_{VJM}$<br>$T_C=115^oC$; rectangular, d=0.5<br>$t_p$<10us; rep. rating, pulse width limited by $T_{VJM}$ | | 22<br>15<br>170 | 22<br>15<br>170 | 22<br>15<br>170 | A |
| $I_{FSM}$ | $T_{VJ}=45^oC$ | t=10ms (50Hz), sine<br>t=8.3ms (60Hz), sine | 250<br>270 | 230<br>250 | 210<br>230 | A |
| | $T_{VJ}=150^oC$ | t=10ms(50Hz), sine<br>t=8.3ms(60Hz), sine | 190<br>210 | 170<br>190 | 150<br>170 | |
| $I^2t$ | $T_{VJ}=45^oC$ | t=10ms (50Hz), sine<br>t=8.3ms (60Hz), sine | 50<br>50 | 50<br>50 | 50<br>50 | $A^2s$ |
| | $T_{VJ}=150^oC$ | t=10ms(50Hz), sine<br>t=8.3ms(60Hz), sine | 36<br>37 | 36<br>37 | 36<br>37 | |
| $T_{VJ}$<br>$T_{VJM}$<br>$T_{stg}$ | | | -40...+150<br>150<br>-40...+150 | | | $^oC$ |
| $P_{tot}$ | $T_C=25^oC$ | | 80 | | | W |
| $M_d$ | Mounting torque | | 0.4...0.6 | | | Nm |
| **Weight** | | | 2 | | | g |

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# MUR1520-MUR1560

## Ultra Fast Recovery Diodes

| Symbol | Test Conditions | Characteristic Values | | | |
|---|---|---|---|---|---|
| | | MUR1520 | MUR1540 | MUR1560 | Unit |
| $I_R$ | $T_{VJ}$=25°C; $V_R$=$V_{RRM}$<br>$T_{VJ}$=25°C; $V_R$=0.8·$V_{RRM}$<br>$T_{VJ}$=125°C; $V_R$=0.8·$V_{RRM}$ | 20<br>10<br>1.5 | 20<br>10<br>1.5 | 20<br>10<br>1.5 | uA<br>uA<br>mA |
| $V_F$ | $I_F$=16A; $T_{VJ}$ =150°C<br>$T_{VJ}$=25°C | 1.0<br>1.2 | 1.2<br>1.4 | 1.3<br>1.6 | V |
| $V_{TO}$ | For power-loss calculations only | 0.78 | 0.85 | 0.98 | V |
| $r_T$ | $T_{VJ}$=$T_{VJM}$ | 25.5 | 27.8 | 28.7 | mΩ |
| $R_{thJC}$<br>$R_{thCK}$<br>$R_{thJA}$ | | 2.5<br>0.5<br>60 | | | K/W |
| $t_{rr}$ | $I_F$=1A; -di/dt=50A/us; $V_R$=30V; $T_{VJ}$=25°C | 35 | | | ns |
| $I_{RM}$ | $V_R$=350V; $I_F$=8A; -di$_F$/dt=64A/us; L≤0.05uH; $T_{VJ}$=100°C | 2.8 | | | A |

### *FEATURES*

* International standard package JEDEC TO-220AC
* Planar passivated chips
* Very short recovery time
* Extremely low switching losses
* Low $I_{RM}$-values

### *APPLICATIONS*

* Antiparallel diode for high frequency switching devices
* Antisaturation diode
* Snubber diode
* Free wheeling diode in converters and motor control circuits
* Rectifiers in switch mode power supplies (SMPS)
* Inductive heating and melting
* Uninterruptible power supplies (UPS)
* Ultrasonic cleaners and welders

### *ADVANTAGES*

* High reliability circuit operation
* Low voltage peaks for reduced protection circuits
* Low noise switching
* Low losses
* Operating at lower temperature or space saving by reduced cooling