

**/ Descriptions**

TO-220AC

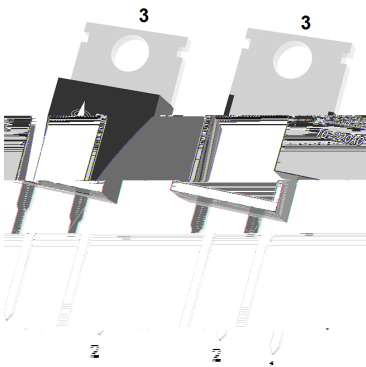
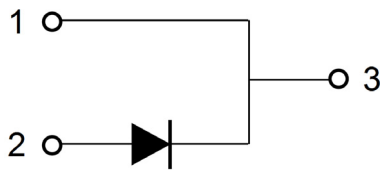
Fast Recovery Epi Diodes in a TO-220AC Plastic Package.

**/ Features**

AEC-Q101

High frequency operation, High surge forward current capability, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

For high frequency, high voltage, high current rectifier diode, freewheeling diode, Meet the stringent requirements of automotive applications.



PIN 1,3 Cathode    PIN2 Anode

**/ Marking**

See Marking Instructions.

/ Absolute Maximum Ratings( $T_a=25^\circ\text{C}$ )

| Parameter                              | Symbol                                                                           | Rating  | Unit |
|----------------------------------------|----------------------------------------------------------------------------------|---------|------|
| Peak Repetitive Reverse Voltage        | $V_{RRM}$                                                                        | 650     | V    |
| Continuous Forward Current             | $I_F$                                                                            | 30      | A    |
| Reverse recovery peak current          | $I_{RM}, I_F=30\text{A}$<br>$V_R=200\text{V}$<br>$di/dt=200\text{A}/\mu\text{s}$ | 3.1     |      |
| Non-repetitive forward surge current   | $I_{FSM}, t_p=8.3\text{ms}$                                                      | 200     |      |
| Thermal Resistance Junction to Ambient | $R_{\theta JA}$                                                                  | 75      | / W  |
| Thermal Resistance Junction to Case    | $R_{\theta JC}$                                                                  | 3       | / W  |
| Junction Temperature Range             | $T_j$                                                                            | -55 150 |      |
| Storage Temperature Range              | $T_{stg}$                                                                        |         |      |

/ Electrical Characteristics( $T_a=25^\circ\text{C}$ )

| Parameter                     | Symbol   | Test Conditions                                              | Min | Typ  | Max  | Unit |
|-------------------------------|----------|--------------------------------------------------------------|-----|------|------|------|
| Reverse Voltage               | $V_R$    | $I_R=100\mu\text{A}$                                         | 660 | 700  | -    | V    |
| Forward Voltage               |          | $I_F=30\text{A}$ $T_C=25^\circ\text{C}$                      | 1.5 | 1.75 | 2.0  |      |
| Instantaneous Reverse Current | $I_R$    | $V_R=650\text{V}$ $T_a=25^\circ\text{C}$                     | -   | 50   | 1000 | nA   |
| Reverse Recovery Time         | $t_{rr}$ | $I_F=0.5\text{A}$ $I_R=1.0\text{A}$<br>$I_{RR}=0.25\text{A}$ | 30  | 40   | 50   | ns   |

/ Electrical Characteristic Curve

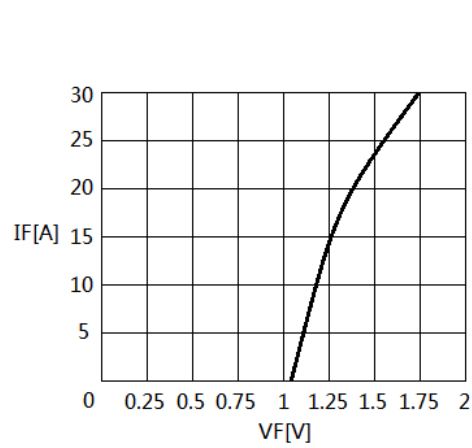


Figure 1 Forward Characteristics

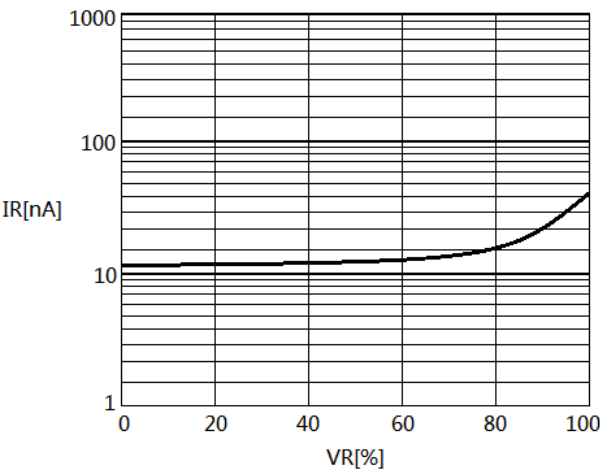


Figure 2 Reverse Characteristics

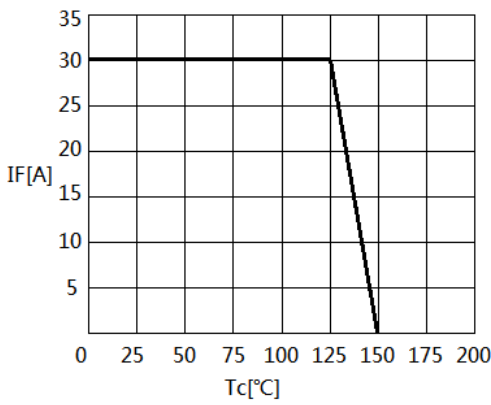
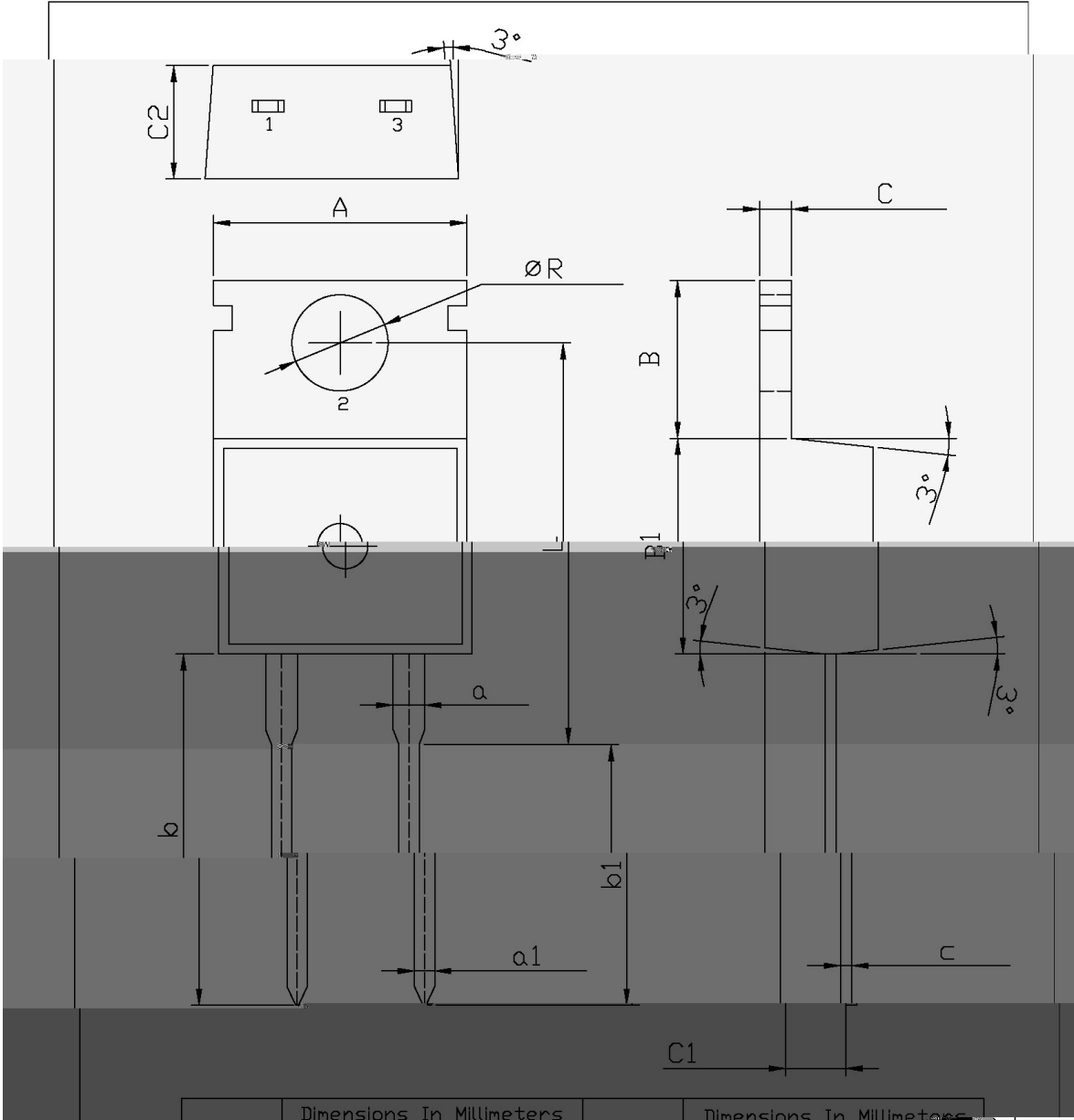


Figure 3 Peak Forward Current Derating

/ Package Dimensions

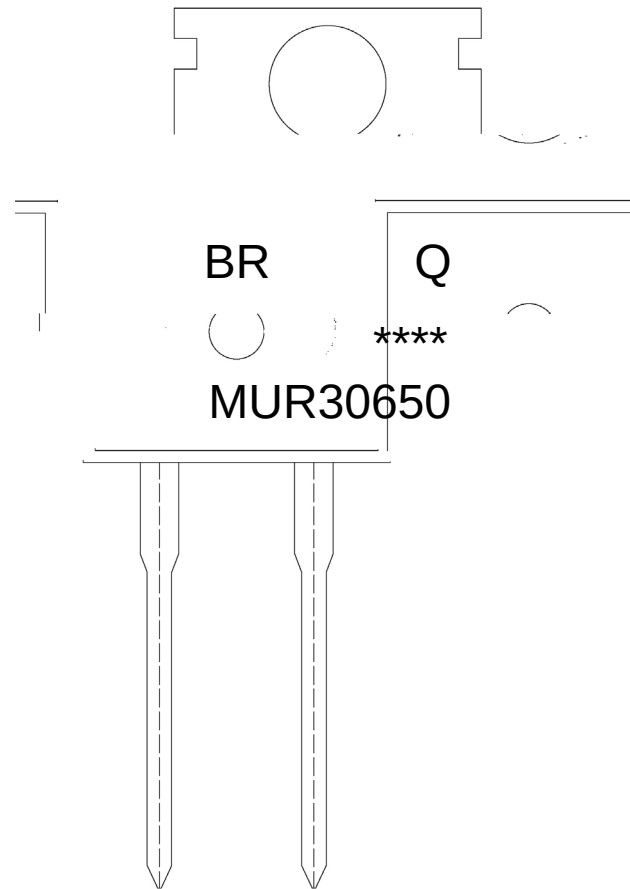
T0-220AC

Unit:mm



| Dimensions In Millimeters |      |      | Dimensions In Millimeters |      |      |
|---------------------------|------|------|---------------------------|------|------|
| Symbol                    | Min. | Max. | Symbol                    | Min. | Max. |
| A                         | 9.8  | 10.2 | B                         | 6.3  | 6.7  |
| R                         | 3.56 | 3.64 | B1                        | 9.0  | 9.4  |
| C1                        | 7.0  | 10.0 | C                         | 0.7  | 0.8  |
| a                         | 1.22 | 1.32 | C2                        | 4.3  | 4.7  |
| a1                        | 0.7  | 0.9  |                           |      |      |

## / Marking Instructions



BR

Q

MUR30650

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Note:

BR:

Company Code

Q

Automobile halogen-free product Code

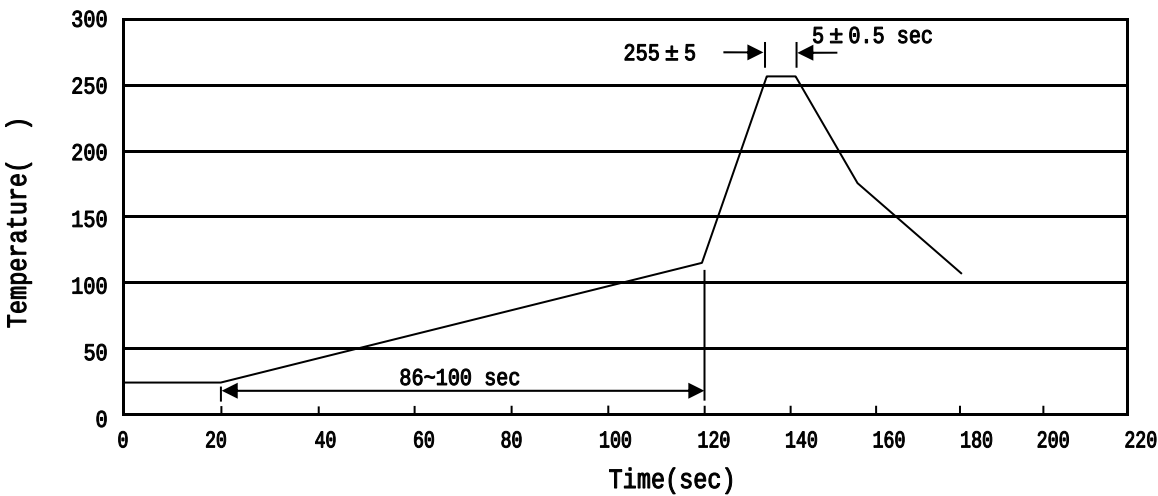
MUR30650

Product Type Code

\*\*\*\*:

Lot No. Code, code change with Lot No

( ) / Temperature Profile for Dip Soldering(Pb-Free)



Note:

- 1

25 150

60 90sec;

1.Preheating:25~150 °C , Time:60~90sec.
- 2

255±5

5±0.5sec;

2.Peak Temp.:255±5 °C , Duration:5±0.5sec.
- 3

2 10

/sec.

3. Cooling Speed: 2~10 °C /sec.

/ Resistance to Soldering Heat Test Conditions

270±5                      10±1 sec.                      Temp.:270±5                      Time:10±1 sec

/ Packaging SPEC.

/ BULK

| Package Type    | Units |    |       |   |        | Dimension (unit:mm³) |             |             |
|-----------------|-------|----|-------|---|--------|----------------------|-------------|-------------|
|                 |       |    |       |   |        |                      |             |             |
| TO-220/F/AC/FAC | 200   | 10 | 2,000 | 5 | 10,000 | 135×190              | 237×172×102 | 560×245×195 |

/ TUBE

| Package Type    | Units |    |       |   |       | Dimension (unit:mm³) |            |             |
|-----------------|-------|----|-------|---|-------|----------------------|------------|-------------|
|                 |       |    |       |   |       |                      |            |             |
| TO-220/F/AC/FAC | 50    | 20 | 1,000 | 5 | 5,000 | 532×31.4×5.5         | 555×164×50 | 575×290×180 |

/ Notices