MA700, MA700A

PRV : 15 - 30 V
Io : 30 mA

FEATURES :
* Low forward voltage $V_F$
* Small temperature coefficient of forward characteristic
* Small reverse current $I_R$
* High-density mounting (5mm pitch insertion) is possible
* Pb / RoHS Free

MECHANICAL DATA :
Case: DO-34 Glass Case
Weight: approx. 0.11g

Maximum Ratings and Thermal Characteristics (Rating at 25 °C ambient temperature unless otherwise specified.)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>MA700</th>
<th>MA700A</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reverse Voltage</td>
<td>$V_R$</td>
<td>15 V</td>
<td>30 V</td>
<td>V</td>
</tr>
<tr>
<td>Maximum Peak Reverse Voltage</td>
<td>$V_{RM}$</td>
<td>15 V</td>
<td>30 V</td>
<td>V</td>
</tr>
<tr>
<td>Forward Current</td>
<td>$I_F$</td>
<td>30 mA</td>
<td>150 mA</td>
<td>mA</td>
</tr>
<tr>
<td>Peak Forward Current</td>
<td>$I_{FM}$</td>
<td>150 mA</td>
<td>150 mA</td>
<td>mA</td>
</tr>
<tr>
<td>Junction Temperature</td>
<td>$T_J$</td>
<td>125 °C</td>
<td></td>
<td>°C</td>
</tr>
<tr>
<td>Storage temperature range</td>
<td>$T_{STG}$</td>
<td>-55 to +125 °C</td>
<td>-55 to +125 °C</td>
<td>°C</td>
</tr>
</tbody>
</table>

Electrical Characteristics ($T_a = 25 °C ± 3 °C$)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Test Condition</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reverse Current</td>
<td>$I_R$</td>
<td>$V_R = 15$ V</td>
<td>-</td>
<td>-</td>
<td>100</td>
<td>nA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$V_R = 30$ V</td>
<td>-</td>
<td>-</td>
<td>150</td>
<td>nA</td>
</tr>
<tr>
<td>Forward Voltage</td>
<td>$V_F$</td>
<td>$I_F = 1$ mA</td>
<td>-</td>
<td>-</td>
<td>0.4</td>
<td>mV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$I_F = 30$ mA</td>
<td>-</td>
<td>-</td>
<td>1.0</td>
<td>mV</td>
</tr>
<tr>
<td>Terminal Capacitance</td>
<td>$C_T$</td>
<td>$V_R = 1$ V, f = 1MHz</td>
<td>-</td>
<td>1.3</td>
<td>-</td>
<td>pF</td>
</tr>
<tr>
<td>Reverse recovery time</td>
<td>$T_{rr}$</td>
<td>$I_F = I_R = 10$ mA</td>
<td>-</td>
<td>1.0</td>
<td>-</td>
<td>ns</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$I_{rr} = 1$ mA, $R_L = 100$Ω</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>
RATING AND CHARACTERISTIC CURVES (MA700 - MA700A)

FIG. 1 - FORWARD CURRENT VS. FORWARD VOLTAGE

FIG. 2 - FORWARD VOLTAGE VS. AMBIENT TEMPERATURE

FIG. 3 - TERMINALS CAPACITANCE VS. REVERSE VOLTAGE: MA700

FIG. 4 - TERMINALS CAPACITANCE VS. REVERSE VOLTAGE: MA700A
RATING AND CHARACTERISTIC CURVES (MA700 - MA700A)

**FIG. 5 - REVERSE CURRENT VS. REVERSE VOLTAGE: MA700**

![Graph showing reverse current vs. reverse voltage for MA700 at different temperatures: Ta = 125°C, Ta = 75°C, Ta = 25°C.]

**FIG. 6 - REVERSE CURRENT VS. AMBIENT TEMPERATURE: MA700**

![Graph showing reverse current vs. ambient temperature for MA700 at different reverse voltages: VR = 3 V, VR = 1 V, VR = 15 V.]

**FIG. 5 - REVERSE CURRENT VS. REVERSE VOLTAGE: MA700A**

![Graph showing reverse current vs. reverse voltage for MA700A at different temperatures: Ta = 125°C, Ta = 75°C, Ta = 25°C.]

**FIG. 6 - REVERSE CURRENT VS. AMBIENT TEMPERATURE: MA700A**

![Graph showing reverse current vs. ambient temperature for MA700A at different reverse voltages: VR = 30 V, VR = 3 V, VR = 1 V.]

VR = 3 V

REVERSE CURRENT, IR (nA)

REVERSE VOLTAGE, VR (V)

0 1 5 10 15 20 25 30

1 10 100 1000 10000

AMBIENT TEMPERATURE, Ta (°C)

0 40 80 120 160 200

1 10 100 1000 10000

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**Ta = 125°C**

**Ta = 75°C**

**Ta = 25°C**

VR = 15 V

VR = 3 V

VR = 1 V

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**Ta = 125°C**

**Ta = 75°C**

**Ta = 25°C**

VR = 30 V

VR = 3 V

VR = 1 V

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