# MH2103WZ

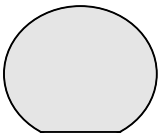
**650V 80A Fast Recovery Diode**

Datasheet

| | |
|---|---|
| $V_{RM}$ | 650V |
| $I_{F\ (Nominal)}$ | 80A |
| $V_{F\ (Typ.)}$ | 1.45V |
| Max. Possible Chips per Wafer | 702pcs |

## ●Outline

Wafer



## ●Features

1) Light Punch Through Type
2) Low Forward Voltage
3) Very Fast & Soft Recovery
4) Low Recovery Loss

## ●Inner Circuit


(1) Anode
(2) Cathode

## ●Application

Free Wheeling

## ●Absolute Maximum Ratings (at $T_C$ = 25°C unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Repetitive Peak Reverse Voltage | $V_{RM}$ | 650 | V |
| Forward Current | $I_F$ *1 | *1) | A |
| Pulsed Forward Current | $I_{FP}$ *2 | 320 | A |
| Operating Junction Temperature | $T_j$ | -40 to +175 | °C |

*1 Depending on thermal properties of assembly

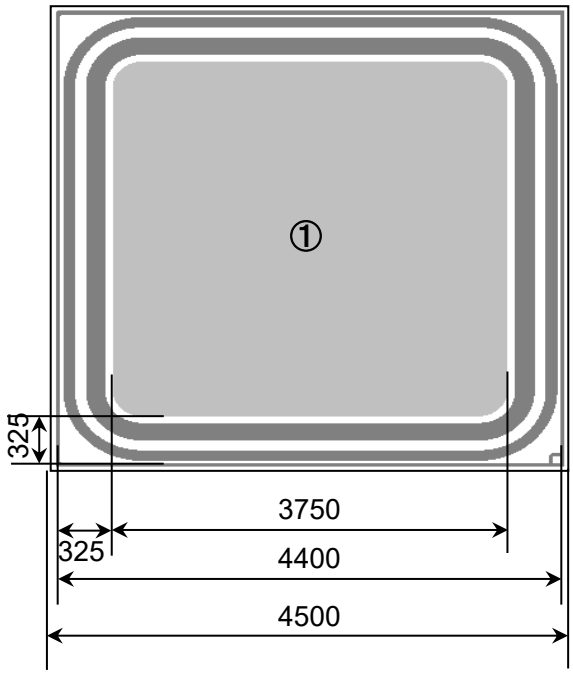
*2 Pulse width limited by $T_{jmax.}$

## ●Electrical Characteristics (at Tj = 25°C unless otherwise specified, in case of TO-247N package)

| Parameter | Symbol | Conditions | Values | | | Unit |
|---|---|---|---|---|---|---|
| | | | Min. | Typ. | Max. | |
| Breakdown Voltage | BV | $I_R$ = 10μA | 650 | - | - | V |
| Reverse Current | $I_R$ | $V_R$ = 650V | - | - | 10 | μA |
| Forward Voltage | $V_F$ *3 | $I_F$ = 80A, $T_j$ = 25°C | - | 1.45 | 1.9 | V |
| | | $I_F$ = 80A, $T_j$ = 175°C | - | 1.55 | - | |

*3 Design assurance without measurement

## ●Chip Information

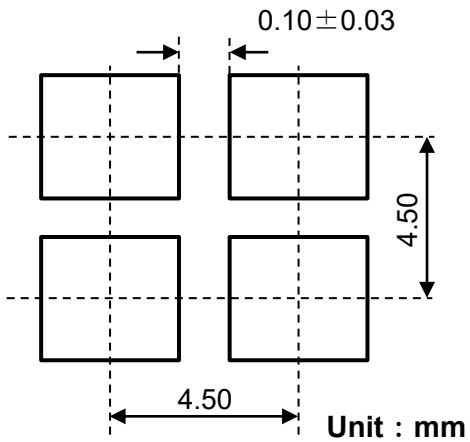



**Unit : μm**

: Pad Area

① : Anode Bonding Pad

Backside : Cathode




| | |
|---|---|
| Wafer Size | 150mm |
| Wafer Thickness | 0.07±0.01mm |
| Chip Size | 4.50mm×4.50mm |
| Cut Line Width | 0.10±0.03mm |
| Top Side Metallization | AlSiCu:5.0μm |
| Back Side Metallization | Ti/Ni:0.4μm/Au:0.05μm |
| Passivation | Polyimide |

## ●Further Electrical Characteristics

Switching characteristics and thermal properties are depending strongly on module design and mounting technology and can therefore not be specified for a bare die.

| | |
|---|---|
| This chip data sheet refers to the device data sheet | RGTVX6TS65D |

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