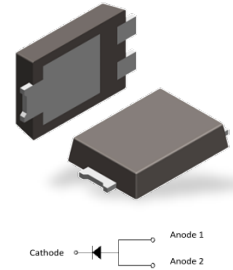


## FEATURES

- Trench MOS schottky barrier diode
- Low forward voltage drop
- Low profile - typical body height 1.1 mm
- High temperature soldering guaranteed: 260°C/10 seconds -
- RoHS compliant
- Halogen-free according to IEC 61249-2-21 definition

## TO-277B



**RoHS**  
COMPLIANT

**HALOGEN**  
**FREE**

## MECHANICAL DATA

- Case: TO-277B
- Case material: molding compound meets UL 94V-0 flammability rating

## TYPICAL APPLICATION

General purpose use in AC to DC wave rectification for SMPS, lighting, adapter, charger, home appliance, office equipment and telecommunication.

## MAXIMUM RATINGS

T<sub>A</sub>=25°C unless otherwise noted

| Parameter   | Symbol             | Value       | Unit |
|---|--------------------|-------------|------|
| Repetitive Peak Reverse Voltage   | V <sub>RRM</sub>   | 120         | V    |
| Average Forward Rectified Current   | I <sub>F(AV)</sub> | 5           | A    |
| Peak Forward Surge Current<br>(8.3 ms single half sine-wave superimposed on rated load) | I <sub>FSM</sub>   | 120         | A    |
| Operating Junction Temperature Range  | T <sub>J</sub>     | -55 to +150 | °C   |
| Storage Temperature Range   | T <sub>STG</sub>   | -55 to +150 | °C   |

## ELECTRICAL CHARACTERISTICS

T<sub>A</sub>=25°C unless otherwise noted

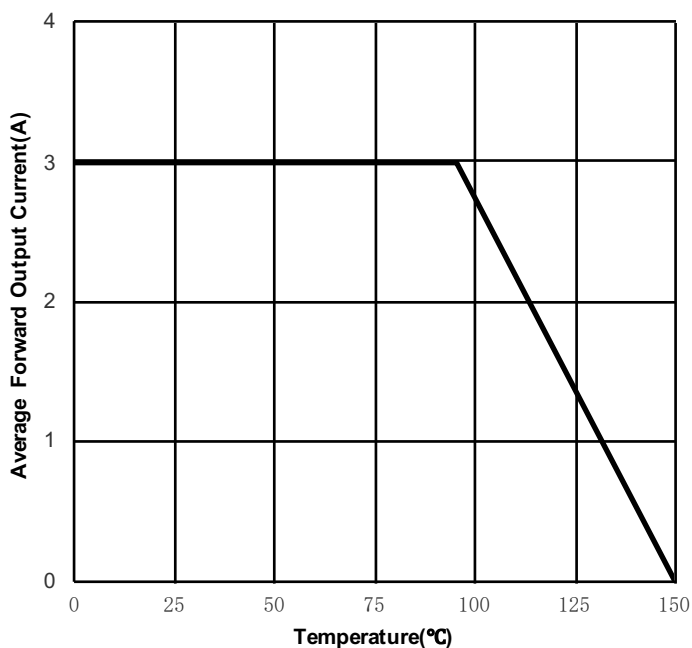
| Parameter                          | Test Conditions       | Symbol           | Value |      | Unit |
|------------------------------------|-----------------------|------------------|-------|------|------|
|                                    |                       |                  | Typ.  | Max. |      |
| Forward Voltage@I <sub>F</sub> =1A | T <sub>A</sub> =25°C  | V <sub>F</sub>   | 0.44  | 0.48 | V    |
|                                    | T <sub>A</sub> =125°C |                  | 0.39  | 0.43 |      |
| Forward Voltage@I <sub>F</sub> =5A | T <sub>A</sub> =25°C  |                  | 0.67  | 0.7  |      |
|                                    | T <sub>A</sub> =125°C |                  | 0.6   | 0.63 |      |
| Reverse Current @ V <sub>RRM</sub> | T <sub>A</sub> =25°C  | I <sub>R</sub>   | 10    | 50   | uA   |
|                                    | T <sub>A</sub> =125°C |                  | 0.6   | 5    | mA   |
| Typical Thermal Resistance         |                       | R <sub>θJA</sub> | 45    |      | °C/W |



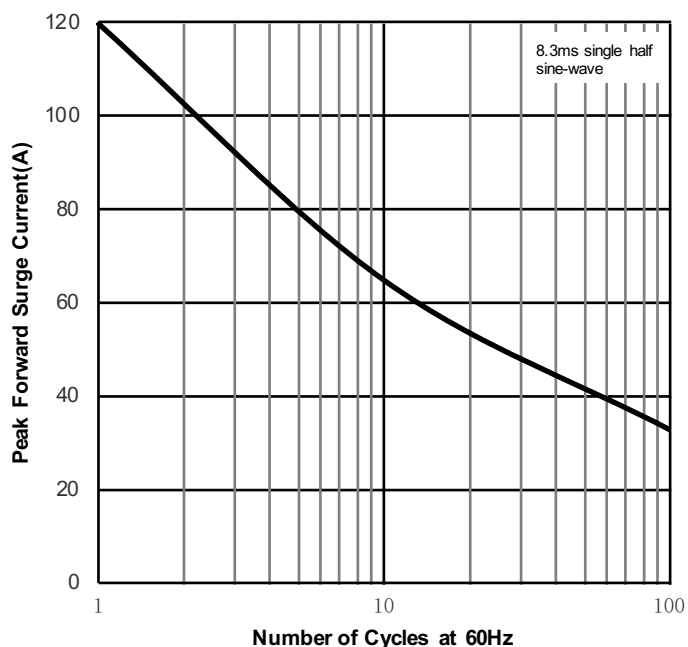
## RATINGS AND CHARACTERISTIC CURVES

$T_A=25^{\circ}\text{C}$  unless otherwise noted

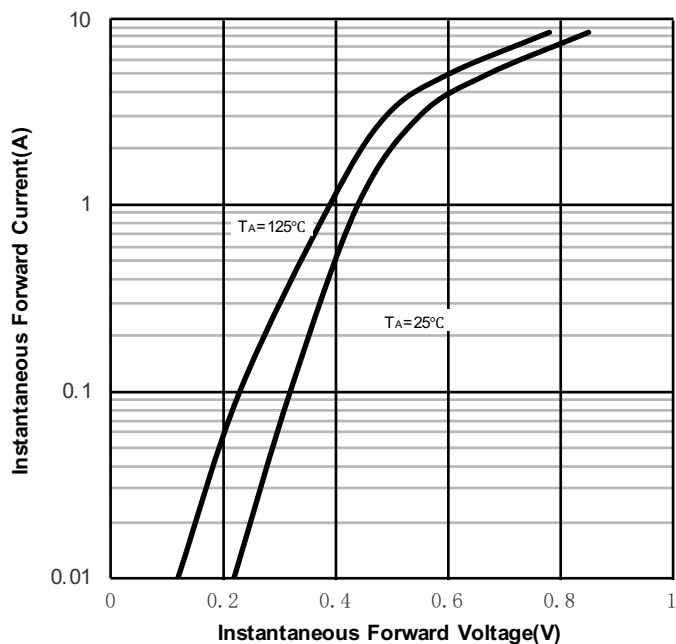
**FIG.1: Forward Output Current Derating Curve**



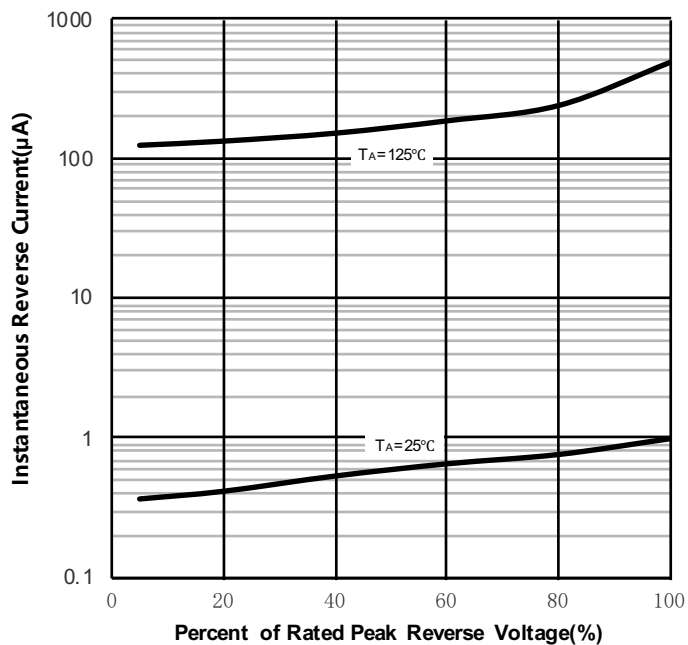
**FIG.2: Maximum Non-Repetitive Peak Forward Surge Current**



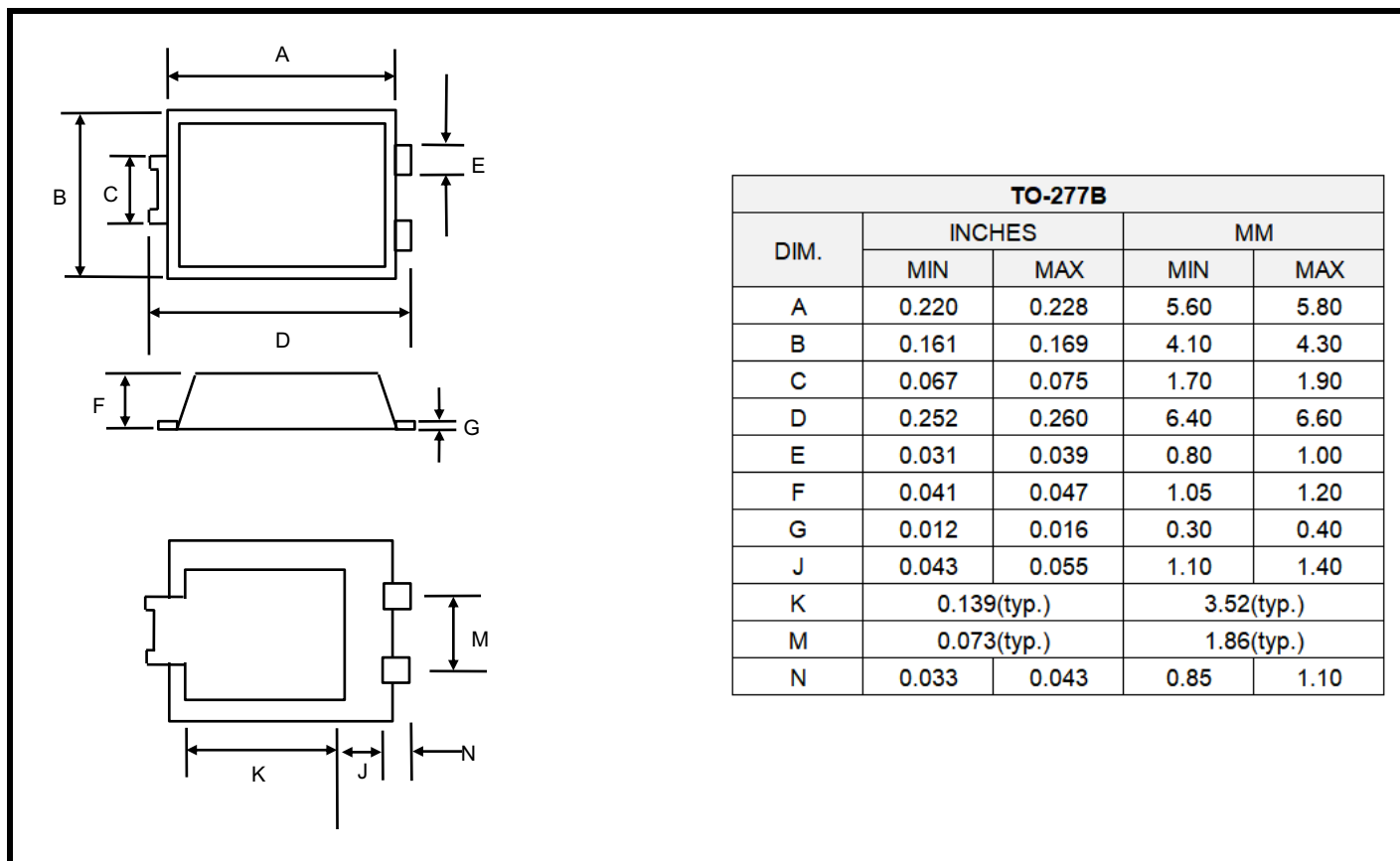
**FIG.3: Typical Forward Characteristics**



**FIG.4: Typical Reverse Characteristics**



## PACKAGE OUTLINE DIMENSIONS



## PACKING INFORMATION

| Part Number | Package | Packing Method | Reel(pcs) |
|-------------|---------|----------------|-----------|
| ST5120L     | TO-277B | Reel           | 5,000     |



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2. The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
3. When using this product, please observe the absolute maximum ratings and the instructions for use outlined in these specification sheets. MHCHXM assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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