

**HYPER FAST  
GLASS PASSIVATED RECTIFIERS**

**REVERSE VOLTAGE – 1000 Volts  
FORWARD CURRENT – 4 Amperes**

**FEATURES**

- Ultrafast, soft recovery
- Very low conduction and switching losses
- High reverse voltage capability
- Qualification is according to AEC-Q101 Rev\_D
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

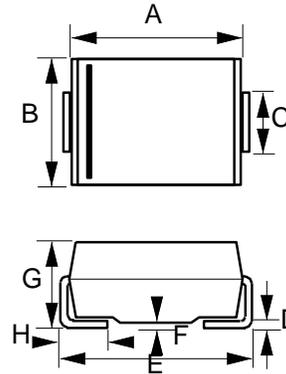
**APPLICATION**

- Switching power supplies
- Inverters
- Free wheeling diodes

**MECHANICAL DATA**

- Package: JEDEC DO-214AB
- Package Material: "Green" molding compound, UL flammability classification 94V-0, "Halogen-free".
- Moisture Sensitivity Level 1 per J-STD-020
- Lead free finish, RoHS compliant
- Weight: 0.249 grams (Approximate)
- Marking code: U4MC

**SMC**



| SMC                         |      |      |
|-----------------------------|------|------|
| DIM                         | MIN  | MAX  |
| A                           | 6.60 | 7.11 |
| B                           | 5.59 | 6.22 |
| C                           | 2.92 | 3.18 |
| D                           | 0.15 | 0.31 |
| E                           | 7.75 | 8.13 |
| F                           | 0.05 | 0.20 |
| G                           | 2.01 | 2.50 |
| H                           | 0.76 | 1.52 |
| All dimension in millimeter |      |      |

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.

**ABSOLUTE RATINGS**

| PARAMETER  | SYMBOL                    | VALUE      | UNIT |
|--|---------------------------|------------|------|
| Maximum repetitive peak reverse voltage  | $V_{RRM}$                 | 1000       | V    |
| Maximum DC blocking voltage  | $V_{DC}$                  | 1000       | V    |
| Maximum Average rectified output current   | $I_{(AV)}$                | 4          | A    |
|  | @ $T_C=130^\circ\text{C}$ |            |      |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load. | $I_{FSM}$                 | 70         | A    |
| Operating junction and Storage Temperature range                                   | $T_J, T_{STG}$            | -55 ~ +175 | °C   |

**STATIC ELECTRICAL CHARACTERISTICS**

| PARAMETER               | TEST CONDITIONS   | SYMBOL | TYP        | MAX          | UNIT |
|-------------------------|---|--------|------------|--------------|------|
| Forward voltage (Note4) | $I_F=4\text{A}$<br>$T_J=25^\circ\text{C}$<br>$T_J=150^\circ\text{C}$    | $V_F$  | --<br>1.06 | 1.85<br>1.53 | V    |
| Reverse Leakage current | $V_R=1000\text{V}$<br>$T_J=25^\circ\text{C}$<br>$T_J=150^\circ\text{C}$ | $I_R$  | --<br>71.3 | 25<br>900    | uA   |

**DYNAMIC ELECTRICAL CHARACTERISTICS**

| PARAMETER                | TEST CONDITIONS                                      | SYMBOL   | TYP | MAX | UNIT |
|--------------------------|--|----------|-----|-----|------|
| Reverse recovery time    | $I_F=0.5\text{A}, I_r=0.25\text{A}, I_R=1.0\text{A}$ | $T_{rr}$ | --  | 75  | nS   |
| Reverse recovery current | $I_F=4\text{A}, dI/dt=200\text{A/nS},$               | $I_{RM}$ | 10  | --  | A    |
| Reverse recovery charge  | $V_R=400\text{V}, T_J=125^\circ\text{C}$             | $Q_{rr}$ | 744 | --  | nC   |

**THERMAL CHARACTERISTICS**

| PARAMETER                             | SYMBOL     | TYP | UNIT |
|---------------------------------------|------------|-----|------|
| Typical thermal resistance (Note 5,6) | $R_{thJC}$ | 7   | °C/W |
|                                       | $R_{thJL}$ | 9   |      |
|                                       | $R_{thJa}$ | 20  |      |

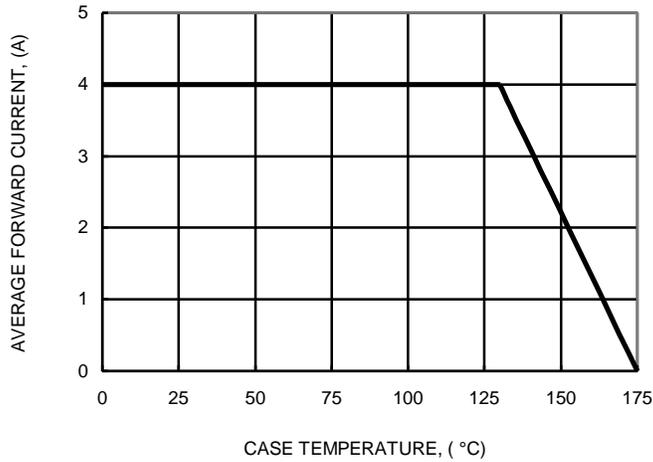
**Note:**

REV.-3, Nov-2021, KSGC10

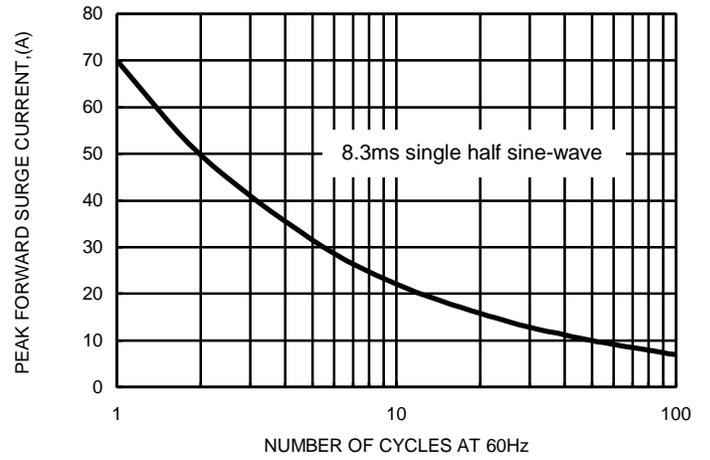
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. 300us pulse width, 2% duty cycle.
5. Thermal resistance test performed in accordance with JESD-51.
6. The unit mounted on cooper plate heat sink (30mm x 30mm x 1mm & 35mm x 35mm x 1.5mm).

**RATING AND CHARACTERISTIC CURVES**  
**MURS4100C**

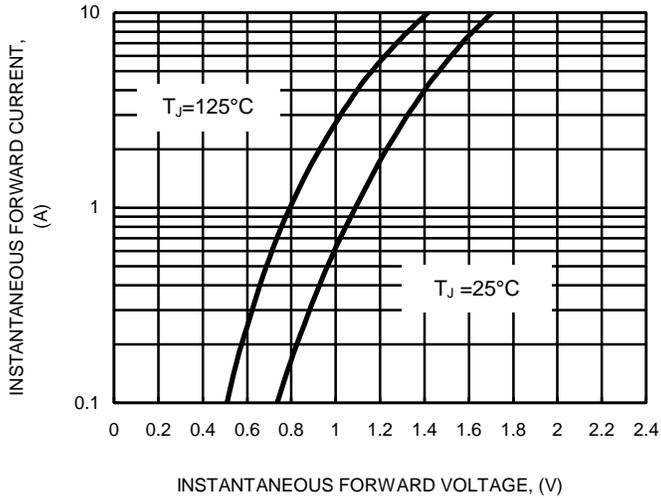
**FIG.1 FORWARD CURRENT DERATING CURVE**



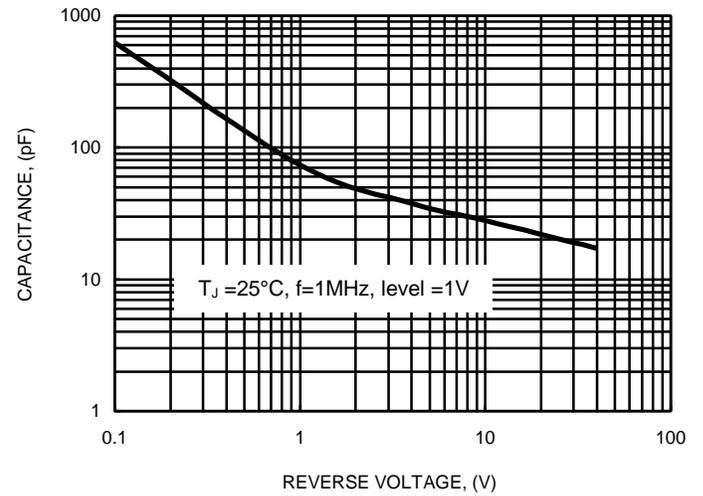
**FIG.2 MAXIMUM NON-REPETITIVE SURGE CURRENT**



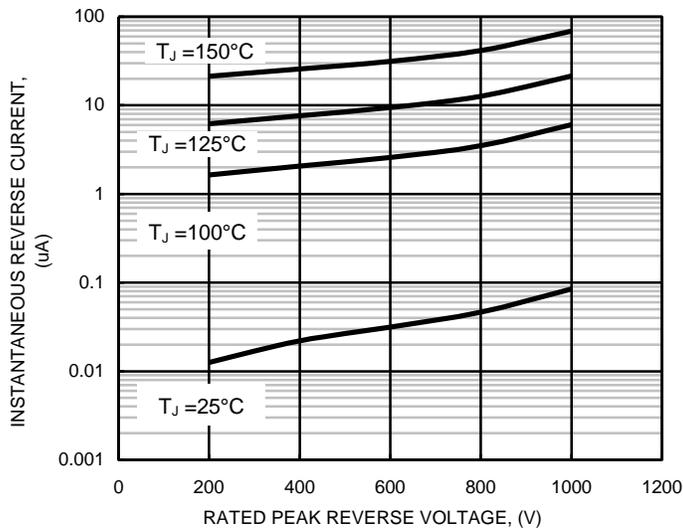
**FIG.3 TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 TYPICAL JUNCTION CAPACITANCE**



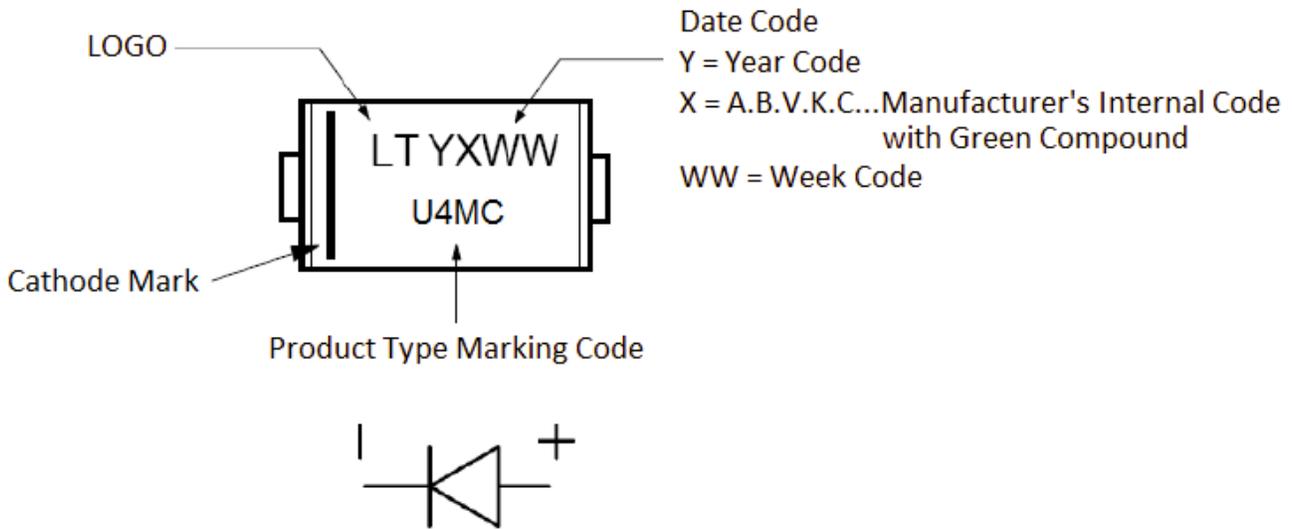
**FIG.5 TYPICAL REVERSE CHARACTERISTICS**



### Ordering Information :

| Part Number | Package | Packing |             |
|-------------|---------|---------|-------------|
|             |         | Qty.    | Carrier     |
| MURS4100C   | SMC     | 3000    | Tape & Reel |

### Marking Information :



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