

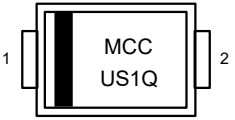
## Features

- Halogen Free. "Green" Device (Note 1)
- Glass Passivated Chip Junction
- Super Fast Recovery Time for High Efficiency
- For Surface Mount Applications
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant (Note 2) ("P" Suffix Designates RoHS Compliant. See Ordering Information)

## Maximum Ratings @ 25°C (Unless Otherwise Specified)

| Parameter                                                    | Symbol      | Value | Unit                 |
|--------------------------------------------------------------|-------------|-------|----------------------|
| Peak Repetitive Reverse Voltage                              | $V_{RRM}$   | 1200  | V                    |
| Working Peak Reverse Voltage                                 | $V_{RWM}$   |       |                      |
| DC Blocking Voltage                                          | $V_R$       |       |                      |
| RMS Reverse Voltage                                          | $V_{RMS}$   | 840   | V                    |
| Average Rectified Forward Current @ $T_L=110^\circ\text{C}$  | $I_{F(AV)}$ | 1     | A                    |
| Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave     | $I_{FSM}$   | 30    | A                    |
| Non-Repetitive Peak Surge Current @ 1ms Square Wave          |             | 60    |                      |
| Current Squared Time @ $1\text{ms} \leq t \leq 8.3\text{ms}$ | $I^2t$      | 3.735 | $\text{A}^2\text{s}$ |

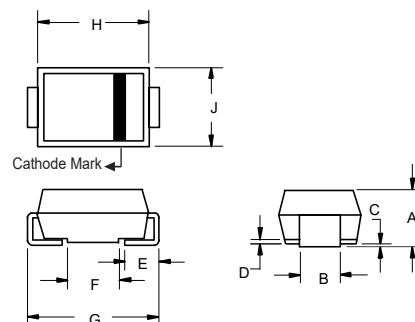
## Internal Structure

| Pin | Description | Simplified Outline                                                                  | Graphic Symbol                                                                      |
|-----|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 1   | Cathode     |  |  |
| 2   | Anode       |                                                                                     |                                                                                     |

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.  
2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.

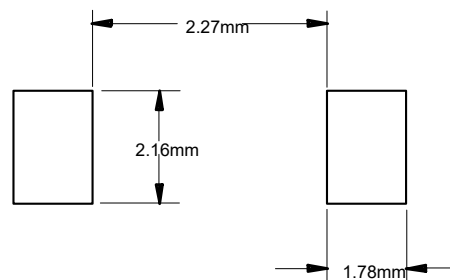
# 1 Amp Ultra Fast Rectifier 1200 Volts

## SMA (DO-214AC)



| DIMENSIONS |        |       |       |       |      |
|------------|--------|-------|-------|-------|------|
| DIM        | INCHES |       | MM    |       | NOTE |
|            | MIN    | MAX   | MIN   | MAX   |      |
| A          | 0.075  | 0.096 | 1.90  | 2.44  |      |
| B          | 0.050  | 0.064 | 1.27  | 1.63  |      |
| C          | 0.002  | 0.008 | 0.051 | 0.203 |      |
| D          | ---    | 0.020 | ---   | 0.51  |      |
| E          | 0.030  | 0.060 | 0.76  | 1.52  |      |
| F          | 0.065  | 0.091 | 1.65  | 2.32  |      |
| G          | 0.189  | 0.220 | 4.80  | 5.59  |      |
| H          | 0.157  | 0.187 | 4.00  | 4.75  |      |
| J          | 0.090  | 0.115 | 2.25  | 2.92  |      |

## SUGGESTED SOLDER PAD LAYOUT



## Thermal characteristics

| Symbol        | Parameter                                   | Conditions | Min | Typ | Max | Unit |
|---------------|---------------------------------------------|------------|-----|-----|-----|------|
| $T_J$         | Operating Junction Temperature Range        |            | -55 |     | 150 | °C   |
| $T_{stg}$     | Storage Temperature Range                   |            | -55 |     | 150 | °C   |
| $R_{th(J-L)}$ | Thermal Resistance from Junction to Lead    | Note 1     |     | 25  |     | °C/W |
| $R_{th(J-A)}$ | Thermal Resistance from Junction to Ambient | Note 1     |     | 75  |     | °C/W |

Note:

1. Mounted on P.C.B. with 5mm\*5mm copper pad areas.

## Electrical Characteristics @ 25°C Unless Otherwise Specified

| Parameter             | Symbol   | Test Conditions                                                     | Min | Typ | Max      | Unit |
|-----------------------|----------|---------------------------------------------------------------------|-----|-----|----------|------|
| Forward Voltage       | $V_F$    | $I_F=1A; T_J=25^{\circ}C$                                           |     |     | 1.90     | V    |
| Reverse Current       | $I_R$    | at Rated $V_R; T_J=25^{\circ}C$<br>at Rated $V_R; T_J=125^{\circ}C$ |     |     | 5<br>100 | uA   |
| Reverse Recovery Time | $t_{rr}$ | $I_F=0.5A; I_R=1.0A; I_{rr}=0.25A; T_J=25^{\circ}C$                 |     |     | 75       | nS   |
| Junction Capacitance  | $C_J$    | $V_R=4V; f=1MHz; T_J=25^{\circ}C$                                   |     | 8   |          | pF   |

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

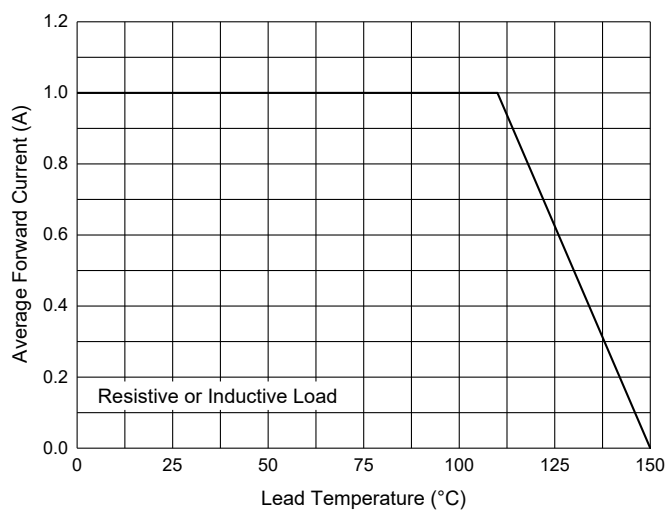


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

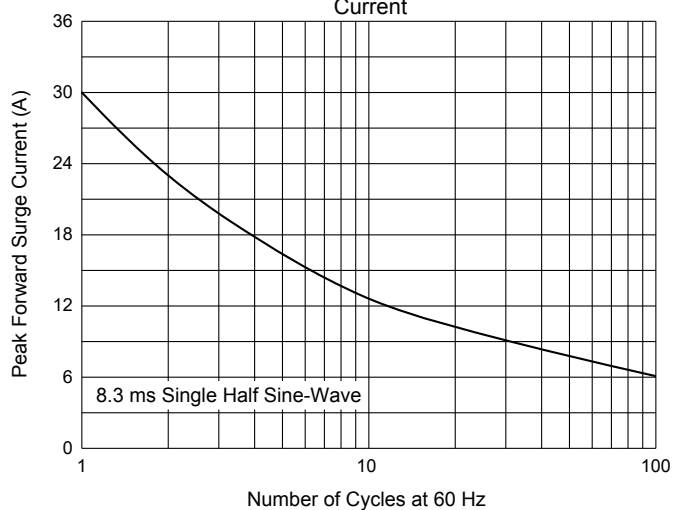


Fig. 3 - Typical Forward Characteristics

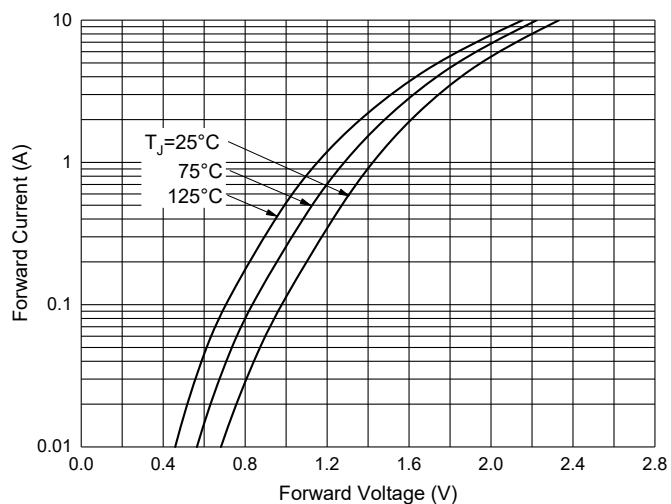


Fig. 4 - Typical Reverse Leakage Characteristics

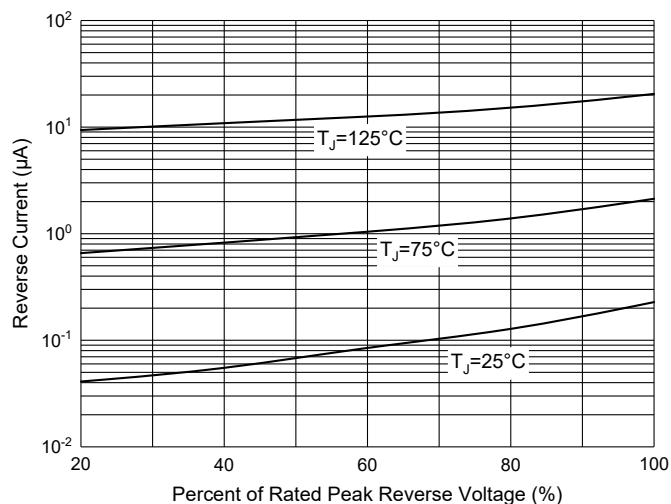
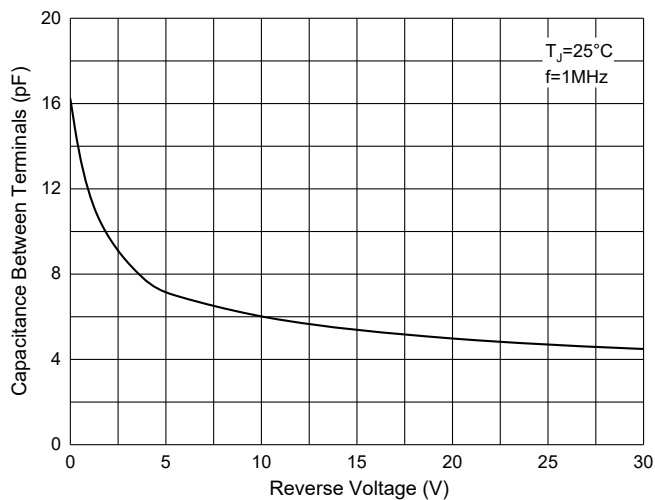


Fig. 5 - Typical Capacitance Characteristics



## Ordering Information

| Device         | Packing              |
|----------------|----------------------|
| Part Number-TP | Tape&Reel:5Kpcs/Reel |

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