

# Surface Mount Rectifiers

## P30JC--P30KC

### Features

- Planar passivated chips
- Ultra low leakage reverse current
- High temperature performance
- High surge current capability
- RoHS Compliant



### Mechanical Data

- Case: SMC molded plastic
- Molding compound, UL flammability classification rating 94V-0
- Terminals: Solder plated, solderable per MIL-STD-202, Method 208
- Polarity: Color band denotes cathode end

### Maximum Ratings (@T<sub>A</sub> = 25°C unless otherwise specified)

| Characteristic   | Symbol                                     | P30JC | P30KC | Units |
|--|--|-------|-------|-------|
| Peak repetitive reverse voltage                            | V <sub>RRM</sub>                           | 600   | 800   | V     |
| RMS reverse voltage  | V <sub>RMS</sub>                           | 420   | 560   | V     |
| DC blocking voltage  | V <sub>DC</sub>                            | 600   | 800   | V     |
| Maximum average forward output current                     | I <sub>F(AV)</sub>                         | 3.0   |       | A     |
| Peak forward surge current,<br>8.3ms single half-sine-wave | @T <sub>J</sub> = 25°C<br>I <sub>FSM</sub> | 135   |       | A     |

### Thermal Characteristics

| Parameter                              | Symbol           | P30JC           | P30KC | Units |
|--|------------------|-----------------|-------|-------|
| Typical thermal resistance<br>(Note 1) | R <sub>θJA</sub> | 55              |       | °C /W |
|  | R <sub>θJC</sub> | 15              |       |       |
|  | R <sub>θJL</sub> | 10              |       |       |
| Operating junction temperature range   | T <sub>J</sub>   | - 55 ---- + 150 |       | °C    |
| Storage temperature range              | T <sub>STG</sub> | - 55 ---- + 150 |       | °C    |

Note:

1. Device mounted on PCB with 10 mm x 20 mm x 0.1mm copper pad areas

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### Electrical Characteristics (@T<sub>A</sub> = 25°C unless otherwise specified)

| Parameter                             | Symbol         | Test conditions      | Typ.                   | Max. | Units |    |
|---------------------------------------|----------------|----------------------|------------------------|------|-------|----|
| Maximum instantaneous forward voltage | V <sub>F</sub> | I <sub>F</sub> =3.0A | 0.95                   | 1.0  | V     |    |
| Maximum Reverse current               | I <sub>R</sub> | Rated V <sub>R</sub> | @T <sub>A</sub> =25°C  | 0.1  | 1.0   | μA |
|                                       |                |                      | @T <sub>A</sub> =150°C | 20   | 80    |    |

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## Ratings and Characteristic Curves ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Fig.1-Forward Current Derating Curve

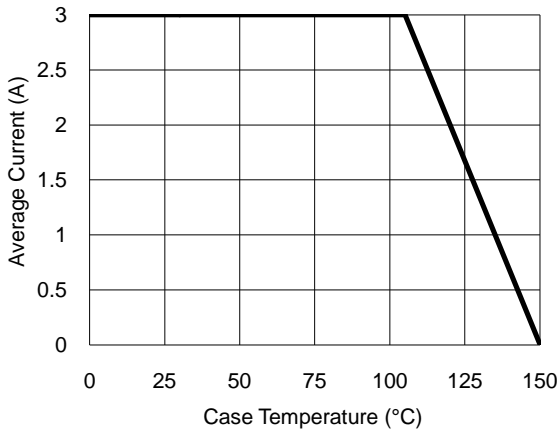


Fig.2- Surge Current Derating Curve

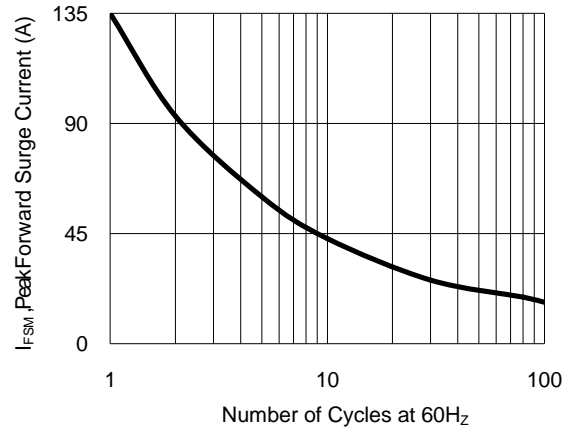


Fig.3- Typical Forward Voltage Characteristic

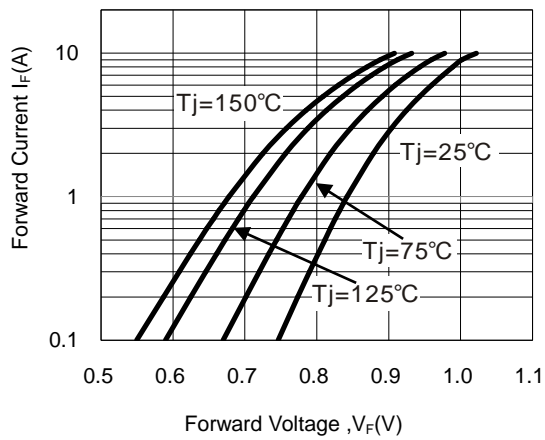
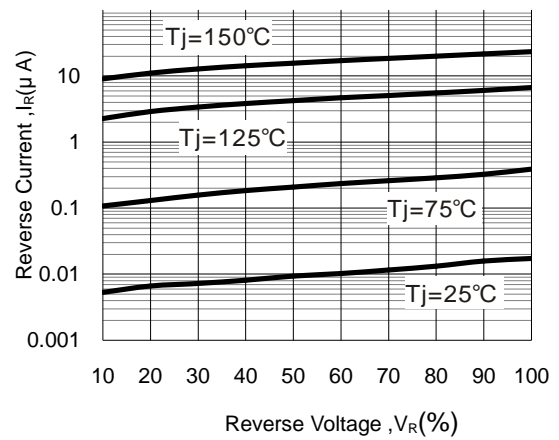


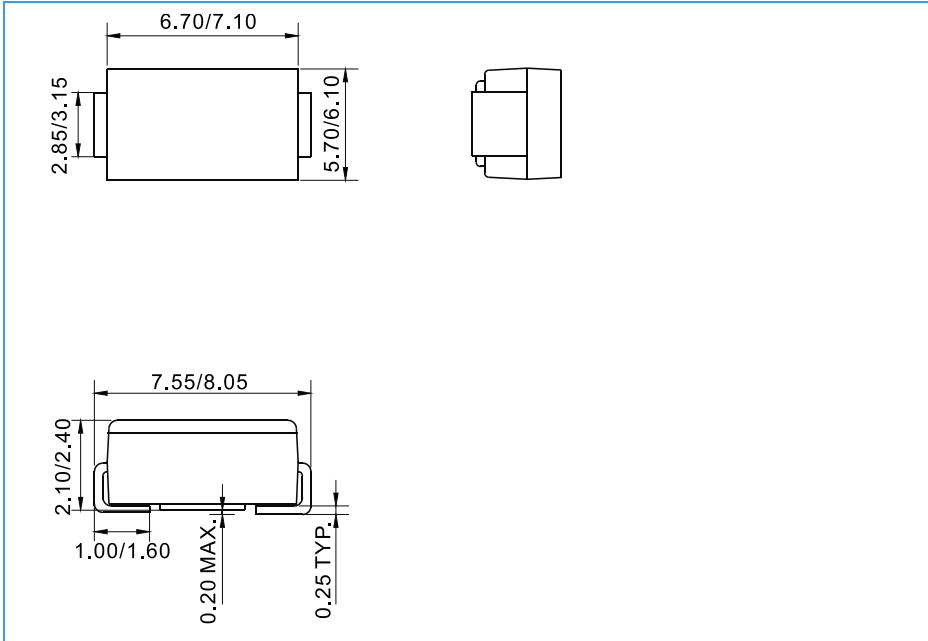
Fig.4- Typical Reverse Characteristic



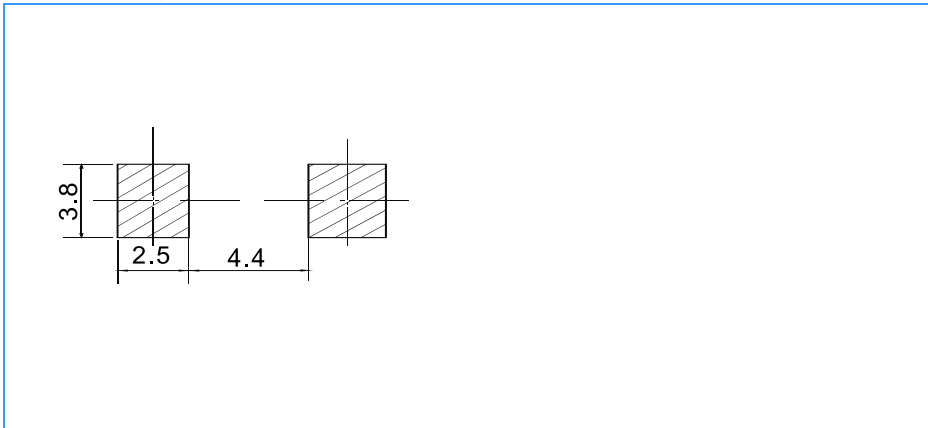
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### Package Outline Dimensions(unit:mm)



### Mounting Pad Layout(unit:mm)



### Ordering Information

| Part No. | Marking | Package | Shipping        |
|----------|---------|---------|-----------------|
| P30JC    | P30JC   | SMC     | 3000 /Tape&Reel |
| P30KC    | P30KC   | SMC     | 3000 /Tape&Reel |