

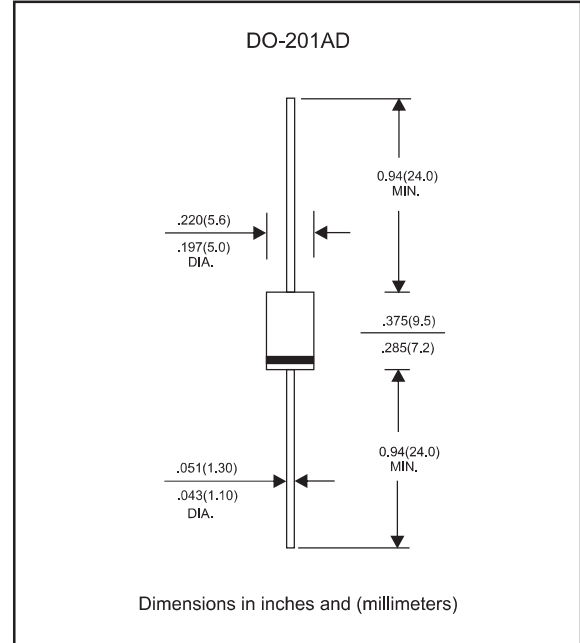
### Features

- Axial lead type devices for through hole design
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- Guardring for overvoltage protection.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- Suffix "-H" for Halogen-free part, ex.SR520-H

### Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, DO-201AD
- Lead : Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: Color band denotes cathode end
- Mounting Position : Any

### Package outline



### Maximum ratings and Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

| PARAMETER                  | CONDITIONS                                  | Symbol                             | MIN.                             | TYP. | MAX. | UNIT                                     |
|----------------------------|---|------------------------------------|----------------------------------|------|------|--|
| Forward rectified current  | See Fig.1                                   | $I_O$                              |                                  |      | 5.0  | A  |
| Forward surge current      | 8.3ms single half sine-wave (JEDEC methode) | $I_{FSM}$                          |                                  |      | 120  | A  |
| Reverse current            | $T_J = 25^\circ\text{C}$                    | $I_R$                              | $V_R = 20\text{V} - 60\text{V}$  |      | 0.5  | mA                                       |
|                            |   |                                    | $V_R = 80\text{V} - 200\text{V}$ |      | 0.1  |  |
| Reverse current            | $T_J = 100^\circ\text{C}$                   | $I_R$                              | $V_R = 20\text{V} - 60\text{V}$  |      | 10   | mA                                       |
|                            |   |                                    | $V_R = 80\text{V} - 200\text{V}$ |      | 5    |  |
| Thermal resistance         | Junction to ambient<br>Junction to lead     | $R_{\theta JA}$<br>$R_{\theta JL}$ |                                  | 25   |      | $^\circ\text{C/W}$<br>$^\circ\text{C/W}$ |
|                            |   |                                    |                                  | 10   |      |  |
| Diode junction capacitance | f=1MHz and applied 4V DC reverse voltage    | $C_J$                              |                                  | 380  |      | pF                                       |
| Storage temperature        |   | $T_{STG}$                          | -65                              |      | +175 | $^\circ\text{C}$                         |

| SYMBOLS | $V_{RRM}^{*1}$<br>(V) | $V_{RMS}^{*2}$<br>(V) | $V_R^{*3}$<br>(V) | $V_F^{*4}$<br>(V) | Operating temperature<br>$T_J$ , ( $^\circ\text{C}$ ) |
|---------|-----------------------|-----------------------|-------------------|-------------------|---|
| SR520   | 20                    | 14                    | 20                | 0.55              | -55 to +125   |
| SR540   | 40                    | 28                    | 40                |                   |   |
| SR545   | 45                    | 32                    | 45                |                   |   |
| SR550   | 50                    | 35                    | 50                | 0.70              | -55 to +150   |
| SR560   | 60                    | 42                    | 60                |                   |   |
| SR580   | 80                    | 56                    | 80                | 0.85              |   |
| SR5100  | 100                   | 70                    | 100               |                   |   |
| SR5150  | 150                   | 105                   | 150               | 0.92              |   |
| SR5200  | 200                   | 140                   | 200               |                   |   |

\*1 Repetitive peak reverse voltage

\*2 RMS voltage

\*3 Continuous reverse voltage

\*4 Maximum forward voltage@ $I_F=5.0\text{A}$

## Rating and characteristic curves (SR520 THRU SR5200)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

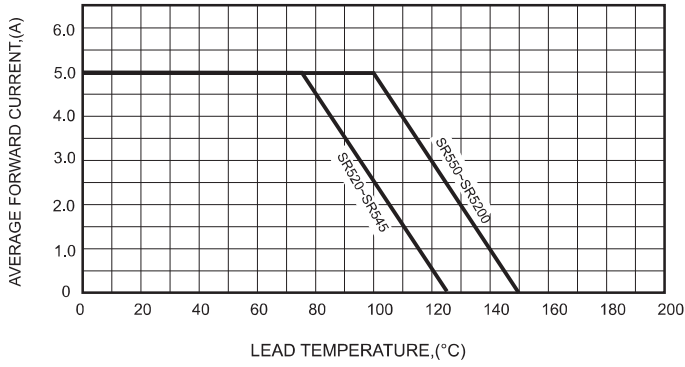


FIG.2-TYPICAL FORWARD CHARACTERISTICS

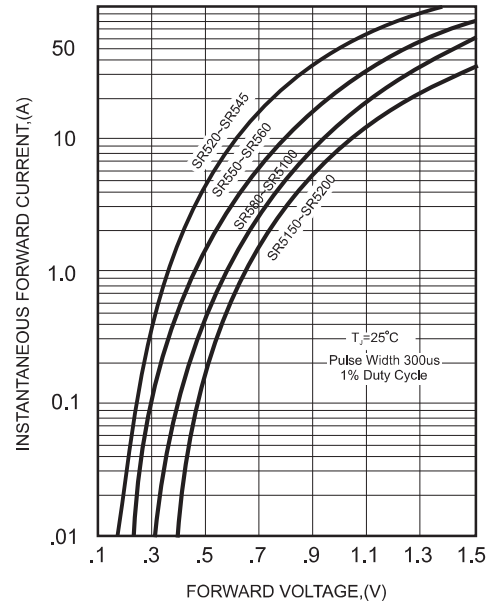


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

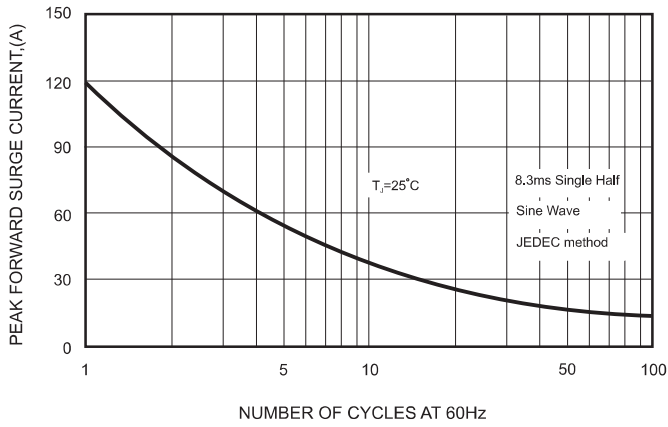


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

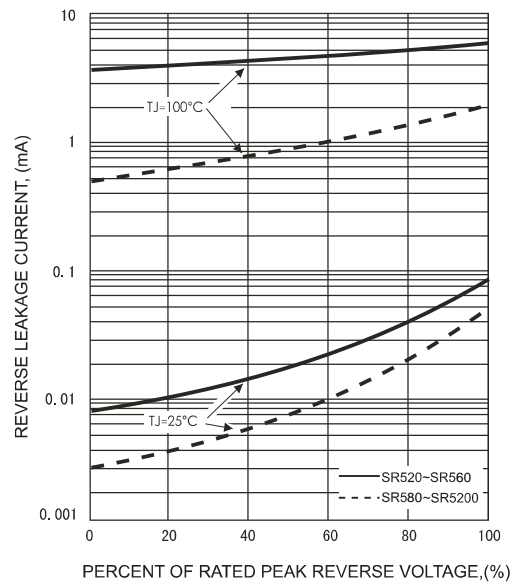
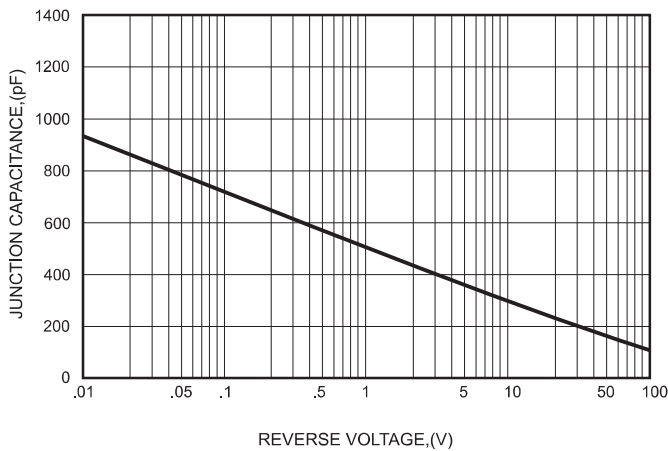




FIG.4-TYPICAL JUNCTION CAPACITANCE



### Pinning information

| Pin                        | Simplified outline   | Symbol  |
|----------------------------|--|---|
| Pin1 cathode<br>Pin2 anode |  |  |

### Marking

| Type number | Marking code |
|-------------|--------------|
| SR520       | SR520        |
| SR530       | SR530        |
| SR540       | SR540        |
| SR550       | SR550        |
| SR560       | SR560        |
| SR580       | SR580        |
| SR5100      | SR5100       |
| SR5150      | SR5150       |
| SR5200      | SR5200       |