



## JECR0304SB

### EPI HYPERFAST SOFT RECOVERY RECTIFIER

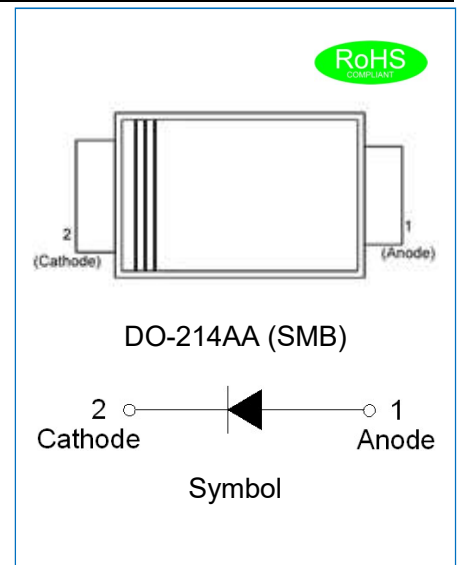
Rev.1.1

#### DESCRIPTION

- ✧ Plastic package has underwriters laboratory flammability classification 94V-0
- ✧ Lead free in comply with EU RoHS 2011/65/EU directives
- ✧ Low reverse leakage current
- ✧ Hyperfast recovery time and soft recovery characteristics
- ✧ Low recovery loss

#### MECHANICAL DATA

- ✧ Case: JEDEC DO-214AA molded plastic
- ✧ Terminals: Solder plated, solderable per J-STD-002
- ✧ Polarity: Color band denotes cathode end
- ✧ Weight: 0.1 gram



#### ABSOLUTE MAXIMUM RATING (Rating at 25°C ambient temperature unless otherwise specified.)

| Parameter   | Symbol         | JECR0304SB  | Unit |
|---|----------------|-------------|------|
| Maximum repetitive peak reverse voltage   | $V_{RRM}$      | 400         | V    |
| Maximum RMS voltage   | $V_{RMS}$      | 280         | V    |
| Maximum DC blocking voltage   | $V_{DC}$       | 400         | V    |
| Average forward current at $T_L=90^\circ\text{C}$                                 | $I_{F(AV)}$    | 3           | A    |
| Peak forward surge current: 10ms single half sine-wave superimposed on rated load | $I_{FSM}$      | 90          | A    |
| Operating junction and storage temperature range                                  | $T_j, T_{stg}$ | -55 to +150 | °C   |

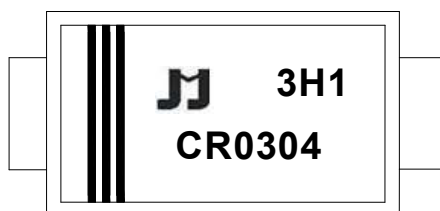
#### ELECTRICAL CHARACTERISTICS (Rating at 25°C ambient temperature unless otherwise specified.)

| Parameter                                       | Symbol                           | Min.     | Typ. | Max. | Unit               |
|---|----------------------------------|----------|------|------|--------------------|
| Forward voltage                                 | $I_F=3A, T_j=25^\circ\text{C}$   | $V_F$    | -    | -    | 1.25<br>V          |
| DC reverse current at rated DC blocking voltage | $T_j=25^\circ\text{C}$           | $I_R$    | -    | -    | 5<br>$\mu\text{A}$ |
|   | $T_j=150^\circ\text{C}$          |          | -    | -    | 200                |
| Reverse recovery time                           | $I_F=0.5A, I_R=1A, I_{rr}=0.25A$ | $t_{rr}$ | -    | -    | 25<br>ns           |

**THERMAL RESISTANCES**

| Symbol        | Parameter                                   | Min. | Typ. | Max. | Unit |
|---------------|---|------|------|------|------|
| $R_{th(j-l)}$ | Thermal resistance from junction to lead    | -    | 12   | -    | °C/W |
| $R_{th(j-a)}$ | Thermal resistance from junction to ambient | -    | 47   | -    | °C/W |

**MARKING**



|    |                              |
|----|------------------------------|
| CR | Hyperfast Recovery Rectifier |
| 03 | $I_{F(AV)}=3A$               |
| 04 | $V_{RRM}:400V$               |

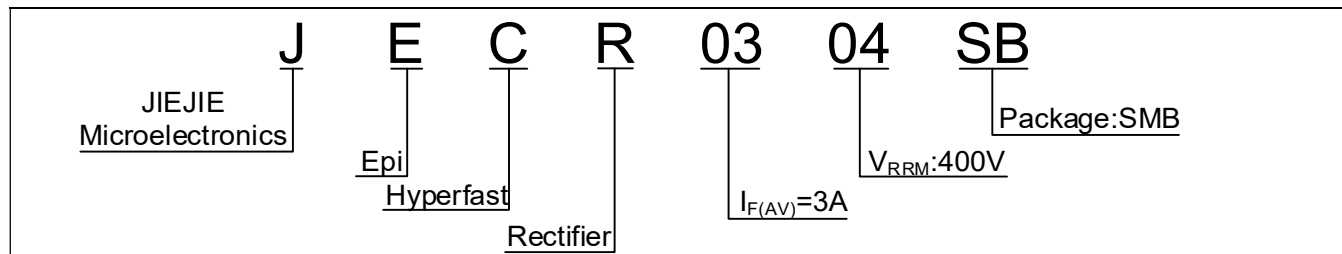
$\underline{x}H1$ : Month, 1/2/3~9/A/B/C

$3x1$ :

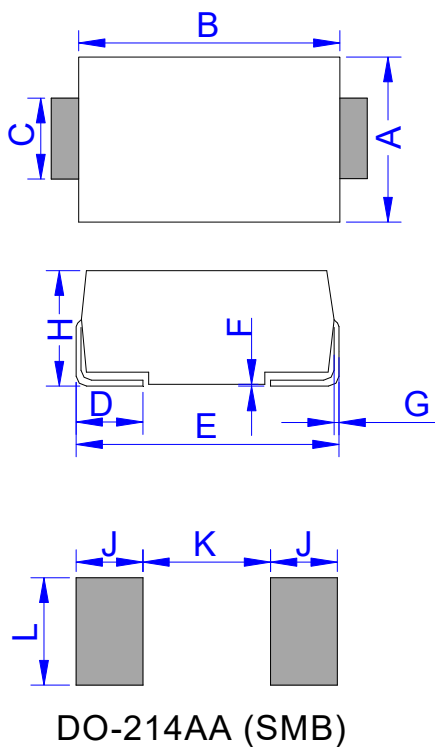
|      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|
| 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| H    | I    | J    | K    | L    | M    | N    |
| 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | ...  |
| O    | P    | Q    | R    | S    | T    | ...  |

$3Hx$ : Batch number

**ORDERING INFORMATION**

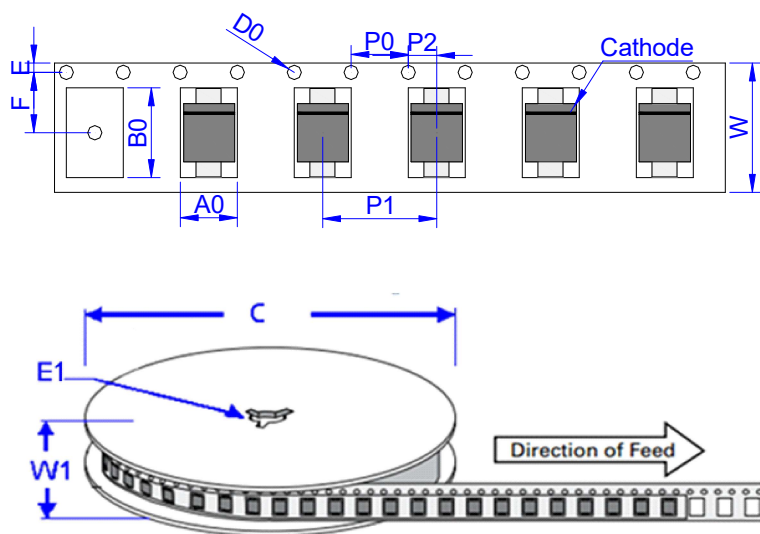


PACKAGE MECHANICAL DATA



| Ref. | Dimensions  |       |        |       |
|------|-------------|-------|--------|-------|
|      | Millimeters |       | Inches |       |
|      | Min.        | Max.  | Min.   | Max.  |
| A    | 3.30        | 3.94  | 0.130  | 0.155 |
| B    | 4.30        | 4.80  | 0.169  | 0.189 |
| C    | 1.90        | 2.20  | 0.075  | 0.087 |
| D    | 0.95        | 1.52  | 0.037  | 0.060 |
| E    | 5.20        | 5.60  | 0.205  | 0.220 |
| F    | 0.051       | 0.203 | 0.002  | 0.008 |
| G    | 0.15        | 0.31  | 0.006  | 0.012 |
| H    | 2.10        | 2.40  | 0.083  | 0.094 |
| J    | 2.20        |       | 0.087  |       |
| K    |             | 2.60  |        | 0.102 |
| L    | 2.30        |       | 0.091  |       |

TAPE AND REEL SPECIFICATION-SMB



| Ref. | Dimensions  |                |
|------|-------------|----------------|
|      | Millimeters | Inches         |
| A0   | 3.76 ± 0.3  | 0.148 ± 0.012  |
| B0   | 5.69 ± 0.3  | 0.224 ± 0.012  |
| C    | 330.0       | 13.0           |
| D0   | 1.55 ± 0.1  | 0.061 ± 0.004  |
| E    | 1.75 ± 0.2  | 0.069 ± 0.008  |
| E1   | 13.3 ± 0.3  | 0.524 ± 0.012  |
| F    | 5.5 ± 0.2   | 0.217 ± 0.008  |
| P0   | 4.00 ± 0.2  | 0.157 ± 0.008  |
| P1   | 8.00 ± 0.2  | 0.3145 ± 0.008 |
| P2   | 2.00 ± 0.2  | 0.079 ± 0.008  |
| W    | 12.0 ± 0.2  | 0.472 ± 0.008  |
| W1   | 15.7 ± 2.0  | 0.618 ± 0.079  |

| OUTLINE | UNIT WEIGHT (g/PCS) TYP | REEL (PCS) | PER CARTON (PCS) | REEL DIAMETERS (mm) |
|---------|-------------------------|------------|------------------|---------------------|
| TAPING  | 0.1                     | 3,000      | 48,000           | 330                 |

CHARACTERISTICS CURVE

FIG.1: Typical forward characteristics

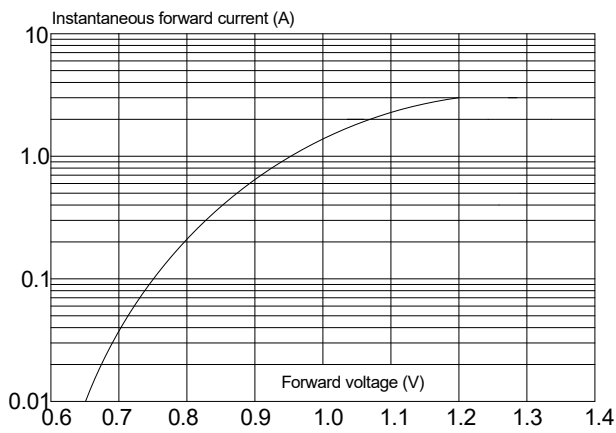


FIG.2: Typical reverse characteristics

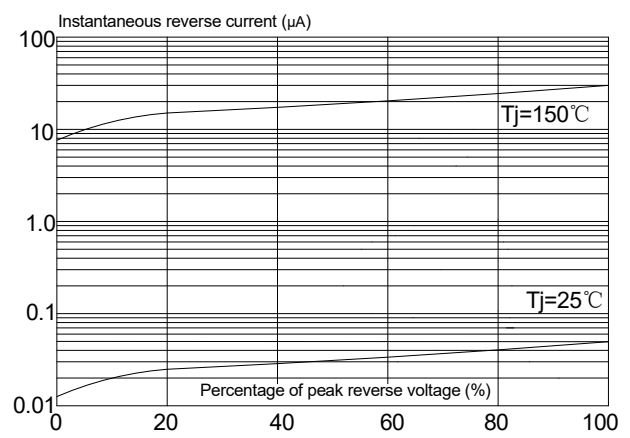


FIG.3: Maximum non-repetitive peak forward surge current

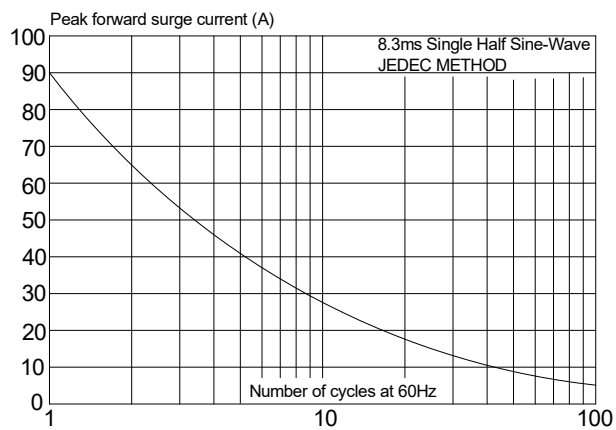
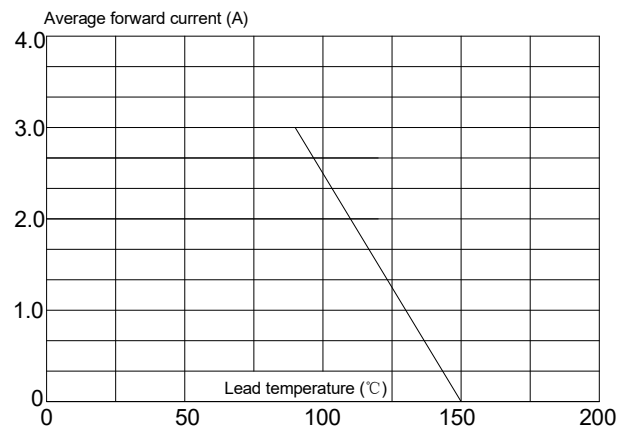


FIG.4: Forward current derating curve




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