



## JEER2006ECT EPI SUPERFAST RECOVERY RECTIFIER

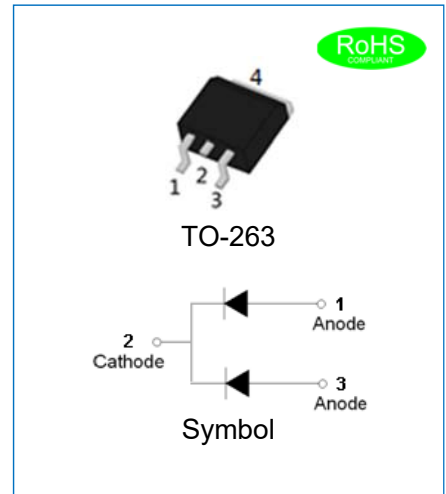
Rev.1.7

### 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
- ✧ Superfast recovery time and soft recovery characteristics
- ✧ Low recovery loss

### MECHANICAL DATA

- ✧ Case: TO-263 molded plastic over passivated junction
- ✧ Terminals: Solder plated, solderable per J-STD-002
- ✧ Weight:1.55 gram



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

| Parameter   | Symbol         | JEER2006ECT | Unit             |
|---|----------------|-------------|------------------|
| Maximum repetitive peak reverse voltage   | $V_{RRM}$      | 600         | V                |
| Maximum DC blocking voltage   | $V_{DC}$       | 600         | V                |
| Average forward current at $T_C=110^\circ\text{C}$  | $I_{F(AV)}$    | 20          | A                |
| Peak forward surge current: 8.3ms single half sine-wave superimposed on rated load(per diode) | $I_{FSM}$      | 150         | A                |
| Peak forward surge current: 10ms single half sine-wave superimposed on rated load(per diode)  |                | 120         |                  |
| Junction temperature and storage temperature range  | $T_j, T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |

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

| Parameter       | Symbol | Min. | Typ.                                     | Max. | Unit |               |
|-----------------|--------|------|--|------|------|---------------|
| Forward voltage | $V_F$  | -    | $I_F=10\text{A}, T_j=25^\circ\text{C}$   | 1.3  | 1.7  | V             |
|                 |        |      | $I_F=10\text{A}, T_j=150^\circ\text{C}$  | 1.0  | 1.35 |               |
| Reverse current | $I_R$  | -    | $V_R=600\text{V}, T_j=25^\circ\text{C}$  | -    | 5    | $\mu\text{A}$ |
|                 |        |      | $V_R=600\text{V}, T_j=150^\circ\text{C}$ | -    | 200  |               |

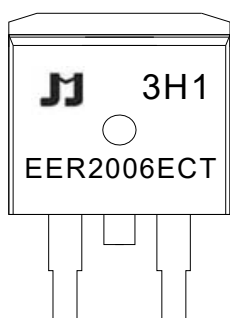
## ELECTRICAL CHARACTERISTICS (Rating at 25°C ambient temperature unless otherwise specified.)

| Parameter             |   | Symbol   | Min. | Typ. | Max. | Unit |
|-----------------------|---|----------|------|------|------|------|
| Reverse recovery time | $I_F=0.5A, I_R=1A, I_{rr}=0.25A$                    | $t_{rr}$ | -    | -    | 35   | ns   |
|                       | $I_F=1A, V_R=30V, di/dt=100A/\mu s, T_j=25^\circ C$ |          | -    | 30   | 50   |      |
|                       | $I_F=1A, V_R=30V, di/dt=50A/\mu s, T_j=25^\circ C$  |          | -    | 40   | 55   |      |

## THERMAL RESISTANCES

| Symbol        | Parameter                                | Min. | Typ. | Max. | Unit |
|---------------|--|------|------|------|------|
| $R_{th(j-c)}$ | Thermal resistance from junction to case | -    | 2.0  | -    | °C/W |

## MARKING



|     |                                  |
|-----|----------------------------------|
| EER | EPI Superfast Recovery Rectifier |
| 20  | $I_{F(AV)}=20A$                  |
| 06  | $V_{RRM}:600V$                   |
| E   | Package:TO-263                   |
| CT  | Common cathode                   |

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

$3\underline{x}1$ :

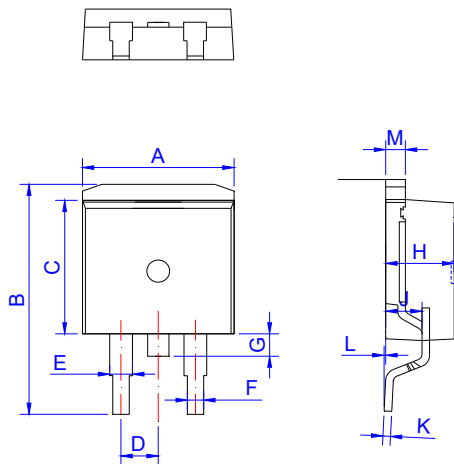
|      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|
| 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| H    | I    | J    | K    | L    | M    | N    |
| 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | ...  |
| O    | P    | Q    | R    | S    | T    | ...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

$3H\underline{x}$ : Batch number

## ORDERING INFORMATION

|                            |                  |           |                 |           |                |                |                |                              |
|----------------------------|------------------|-----------|-----------------|-----------|----------------|----------------|----------------|------------------------------|
| <b>J</b>                   | <b>E</b>         | <b>E</b>  | <b>R</b>        | <b>20</b> | <b>06</b>      | <b>E</b>       | <b>CT</b>      | <b>-R</b>                    |
| JieJie<br>Microelectronics | Epi<br>Superfast | Rectifier | $I_{F(AV)}=20A$ |           | $V_{RRM}:600V$ | Package:TO-263 | Common cathode | Null:Tube<br>R:Tape and reel |

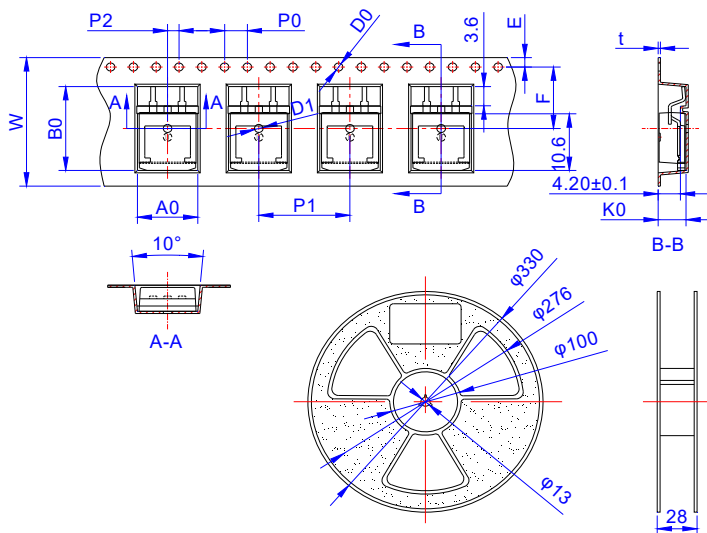
## PACKAGE MECHANICAL DATA



TO-263

| Ref. | Dimensions  |      |       |        |       |       |
|------|-------------|------|-------|--------|-------|-------|
|      | Millimeters |      |       | Inches |       |       |
|      | Min.        | Typ. | Max.  | Min.   | Typ.  | Max.  |
| A    | 9.90        |      | 10.20 | 0.390  |       | 0.402 |
| B    | 14.70       |      | 15.80 | 0.579  |       | 0.622 |
| C    | 8.80        |      | 9.60  | 0.346  |       | 0.378 |
| D    |             | 2.54 |       |        | 0.100 |       |
| E    | 1.20        |      | 1.40  | 0.047  |       | 0.055 |
| F    | 0.75        |      | 0.85  | 0.030  |       | 0.033 |
| G    |             |      | 1.75  |        |       | 0.069 |
| H    | 4.40        |      | 4.70  | 0.173  |       | 0.185 |
| J    | 2.30        |      | 2.70  | 0.091  |       | 0.106 |
| K    | 0.38        |      | 0.55  | 0.015  |       | 0.022 |
| L    | 0           | 0.10 | 0.25  | 0      | 0.004 | 0.010 |
| M    | 1.17        |      | 1.37  | 0.046  |       | 0.054 |

## TAPE AND REEL SPECIFICATION-TO-263



| Ref. | Dimensions  |       |       |        |       |       |
|------|-------------|-------|-------|--------|-------|-------|
|      | Millimeters |       |       | Inches |       |       |
|      | Min.        | Typ.  | Max.  | Min.   | Typ.  | Max.  |
| W    | 23.70       | 24.00 | 24.30 | 0.933  | 0.945 | 0.957 |
| E    | 1.65        | 1.75  | 1.85  | 0.065  | 0.069 | 0.073 |
| F    | 11.40       | 11.50 | 11.60 | 0.449  | 0.453 | 0.457 |
| D0   | -           | 1.50  | 1.60  | -      | 0.059 | 0.063 |
| D1   | -           | 1.50  | 1.60  | -      | 0.059 | 0.063 |
| P0   | 3.90        | 4.00  | 4.10  | 0.154  | 0.157 | 0.161 |
| P1   | 15.90       | 16.00 | 16.10 | 0.626  | 0.630 | 0.634 |
| P2   | 1.90        | 2.00  | 2.10  | 0.075  | 0.079 | 0.083 |
| A0   | 10.80       | 10.90 | 11.00 | 0.425  | 0.429 | 0.433 |
| B0   | 16.20       | 16.30 | 16.40 | 0.638  | 0.642 | 0.646 |
| K0   | 4.80        | 4.90  | 5.00  | 0.189  | 0.193 | 0.197 |
| t    | 0.35        | 0.40  | 0.45  | 0.014  | 0.016 | 0.018 |

## PACKAGE INFORMATION-TO-263

| PART No.      | UNIT WEIGHT (g/PCS) TYP | TUBE (PCS) | PER CARTON (PCS) |
|---------------|-------------------------|------------|------------------|
| JEER2006ECT   | 1.55                    | 50         | 5,000            |
| PART No.      | UNIT WEIGHT (g/PCS) TYP | REEL (PCS) | PER CARTON (PCS) |
| JEER2006ECT-R | 1.55                    | 800        | 4,000            |

CHARACTERISTICS CURVE

FIG.1 Typical forward characteristics

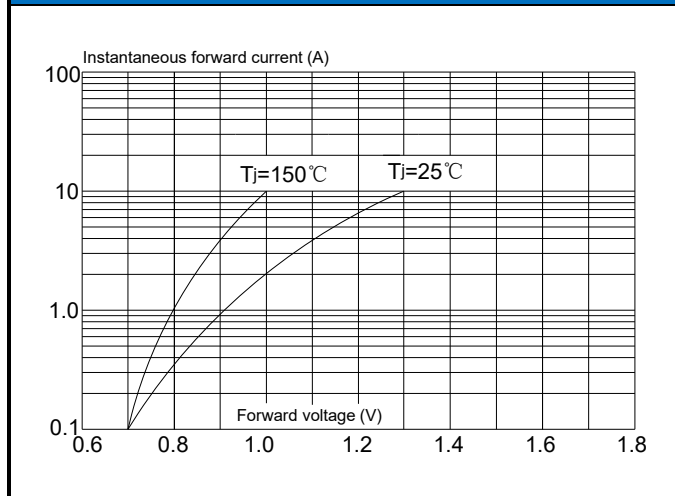


FIG.2 Typical reverse characteristics

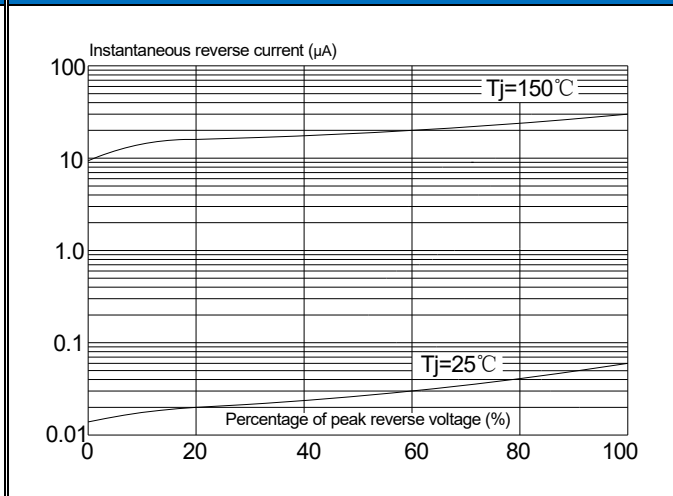


FIG.3 Maximum non-repetitive peak forward surge current(8.3ms single half sine-wave)

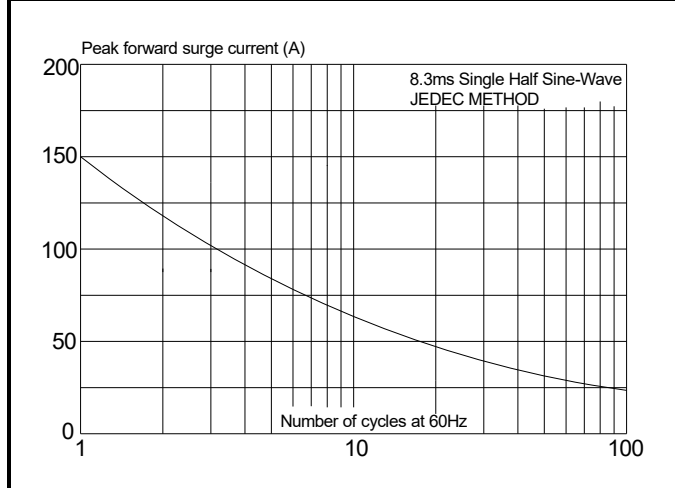


FIG.4 Maximum non-repetitive peak forward surge current(10ms single half sine-wave)

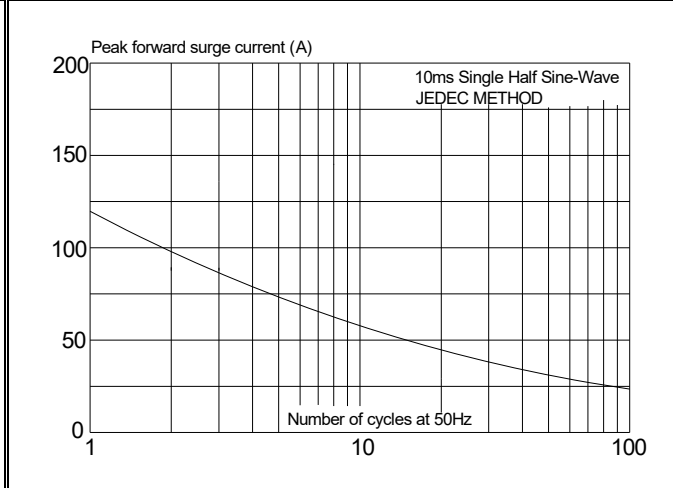


FIG.5: Forward current derating curve

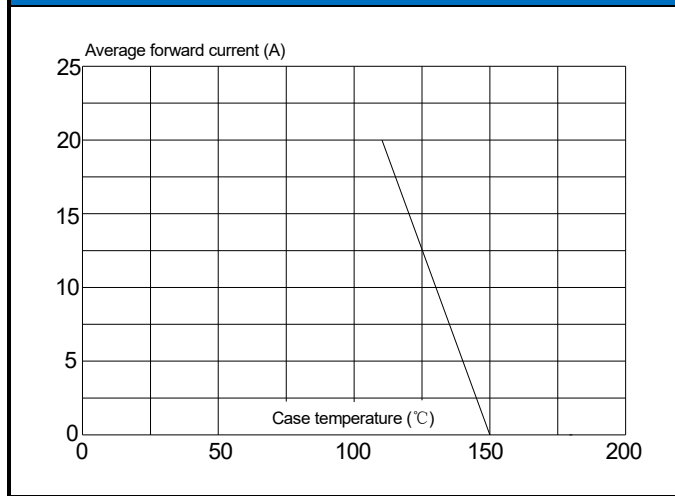
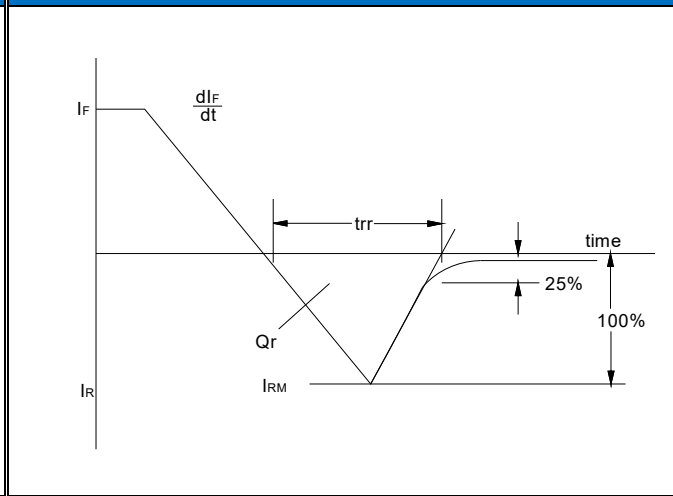


FIG.6: Reverse recovery definitions




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