



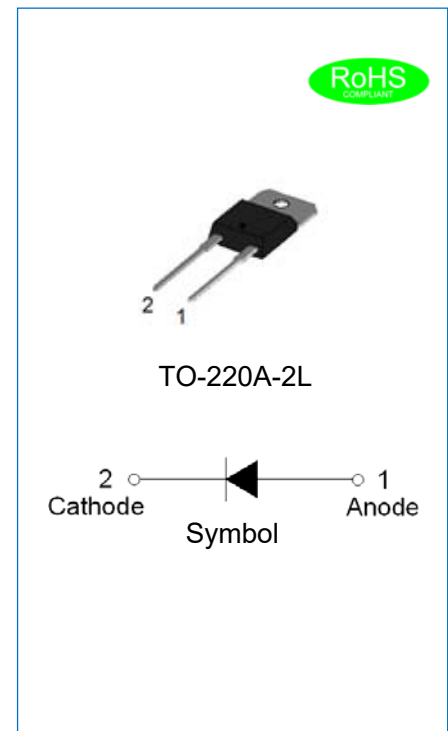
## JECR0806AL-D

### TANDEM EPI HYPERFAST RECOVERY RECTIFIER

Rev.1.3

#### 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
- ✧ Internal ceramic insulated devices with equal thermal conditions for both 300V diodes
- ✧ Applications for continuous current mode (CCM) power factor correction (PFC)
- ✧ Insulation (2500V<sub>RMS</sub>) allows placement on same heatsink as mosfet and flexible heatsinking on common or separate heatsink



#### MECHANICAL DATA

- ✧ Case: TO-220A-2L molded plastic over passivated junction
- ✧ Terminals: Solder plated, solderable per J-STD-002
- ✧ Internally constructed isolated package is offered for ease of heat sinking with highest isolation voltage
- ✧ Weight: 2.1gram

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

| Parameter                                                                         | Symbol         | JECR0806AL-D | Unit               |
|-----------------------------------------------------------------------------------|----------------|--------------|--------------------|
| Maximum repetitive peak reverse voltage                                           | $V_{RRM}$      | 600          | V                  |
| Maximum DC blocking voltage                                                       | $V_{DC}$       | 600          | V                  |
| Maximum average forward current at $T_C=100^{\circ}\text{C}$                      | $I_{F(AV)}$    | 8            | A                  |
| Peak forward surge current: 10ms single half sine-wave superimposed on rated load | $I_{FSM}$      | 150          | A                  |
| Junction temperature and storage temperature range                                | $T_j, T_{stg}$ | -55 to +150  | $^{\circ}\text{C}$ |

**ISOLATION CHARACTERISTICS**

| Symbol          | Parameter             | Conditions                                                                                      | Min. | Typ. | Max. | Unit |
|-----------------|-----------------------|-------------------------------------------------------------------------------------------------|------|------|------|------|
| $V_{isol(RMS)}$ | RMS isolation voltage | 50Hz≤f≤60Hz;RH≤65%;from all pins to external heatsink; sinusoidal waveform; clean and dust free | -    | -    | 2500 | V    |
| $C_{isol}$      | Isolation capacitance | from cathode to external heatsink                                                               | -    | 10   | -    | pF   |

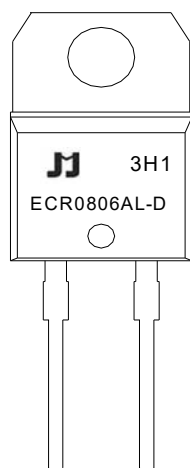
**ELECTRICAL CHARACTERISTICS**(Rating at 25°C case temperature unless otherwise specified.)

| Parameter                        |                                                         | Symbol   | Min. | Typ. | Max. | Unit    |
|----------------------------------|---------------------------------------------------------|----------|------|------|------|---------|
| Forward voltage                  | $I_F=8A, T_J=25^{\circ}C$                               | $V_F$    | -    | -    | 3.6  | V       |
|                                  | $I_F=8A, T_J=150^{\circ}C$                              |          | -    | 1.95 | 2.4  |         |
| Reverse current                  | $V_R=600V, T_J=25^{\circ}C$                             | $I_R$    | -    | -    | 5    | $\mu A$ |
|                                  | $V_R=600V, T_J=150^{\circ}C$                            |          | -    | -    | 200  |         |
| Reverse recovery time            | $I_F=0.5A, I_{rr}=0.25A, I_R=1A, T_J=25^{\circ}C$       | $t_{rr}$ | -    | 13   | -    | ns      |
|                                  | $I_F=1A, V_R=30V, di/dt=-50A/\mu s, T_J=25^{\circ}C$    |          | -    | -    | 30   |         |
| Peak reverse recovery current    | $I_F=8A, V_R=400V, di/dt=-200A/\mu s, T_J=125^{\circ}C$ | $I_{RM}$ | -    | 4    | 5.5  | A       |
| Recovered charge                 | $I_F=8A, V_R=400V, di/dt=-200A/\mu s, T_J=125^{\circ}C$ | $Q_r$    | -    | 50   | -    | nC      |
| Reverse recovery softness factor | $I_F=8A, V_R=400V, di/dt=-200A/\mu s, T_J=125^{\circ}C$ | S        | -    | 0.4  | -    | -       |

**THERMAL RESISTANCES**

| Symbol        | Parameter                                | Min. | Typ. | Max. | Unit          |
|---------------|------------------------------------------|------|------|------|---------------|
| $R_{th(j-c)}$ | Thermal resistance from junction to case | -    | 2.6  | -    | $^{\circ}C/W$ |

## MARKING



|     |                                  |
|-----|----------------------------------|
| ECR | EPI Hyperfast Recovery Rectifier |
| 08  | $I_{F(AV)}=8A$                   |
| 06  | $V_{RRM}:600V$                   |
| AL  | Package:TO-220A-2L               |
| D   | Double chip                      |

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

$3\underline{x}1$ :

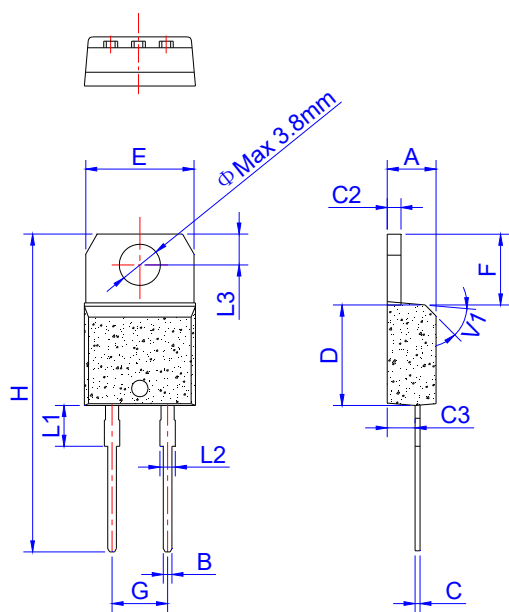
|      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|
| 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| H    | I    | J    | K    | L    | M    | N    |
| 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | ...  |
| O    | P    | Q    | R    | S    | T    | ...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

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

## ORDERING INFORMATION

|                            |     |           |           |                |                |                        |             |
|----------------------------|-----|-----------|-----------|----------------|----------------|------------------------|-------------|
| J                          | E   | C         | R         | 08             | 06             | AL                     | -D          |
| JieJie<br>Microelectronics | Epi | Hyperfast | Rectifier | $I_{F(AV)}=8A$ | $V_{RRM}:600V$ | Package:<br>TO-220A-2L | Double chip |

## PACKAGE MECHANICAL DATA



TO-220A-2L Ins

| Ref. | Dimensions  |      |      |        |       |       |
|------|-------------|------|------|--------|-------|-------|
|      | Millimeters |      |      | Inches |       |       |
|      | Min.        | Typ. | Max. | Min.   | Typ.  | Max.  |
| A    | 4.40        |      | 4.60 | 0.173  |       | 0.181 |
| B    | 0.61        |      | 0.88 | 0.024  |       | 0.035 |
| C    | 0.46        |      | 0.70 | 0.018  |       | 0.028 |
| C2   | 1.21        |      | 1.32 | 0.048  |       | 0.052 |
| C3   | 2.40        |      | 2.72 | 0.094  |       | 0.107 |
| D    | 8.60        |      | 9.70 | 0.339  |       | 0.382 |
| E    | 9.80        |      | 10.4 | 0.386  |       | 0.409 |
| F    | 6.55        |      | 6.95 | 0.258  |       | 0.274 |
| G    |             | 5.08 |      |        | 0.1   |       |
| H    | 28.0        |      | 29.8 | 1.102  |       | 1.173 |
| L1   |             | 3.75 |      |        | 0.148 |       |
| L2   | 1.14        |      | 1.70 | 0.045  |       | 0.067 |
| L3   | 2.65        |      | 2.95 | 0.104  |       | 0.116 |
| V1   |             | 45°  |      |        | 45°   |       |

## PACKAGE INFORMATION-TO-220A-2L

| OUTLINE | UNIT WEIGHT<br>(g/PCS) typ. | TUBE<br>(PCS) | PER CARTON<br>(PCS) |
|---------|-----------------------------|---------------|---------------------|
| TUBE    | 2.1                         | 50            | 5,000               |

## CHARACTERISTICS CURVE

FIG.1: Typical forward characteristics

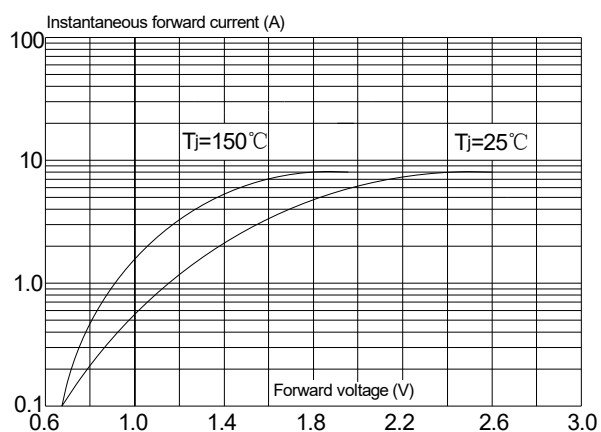


FIG.2: Typical reverse characteristics

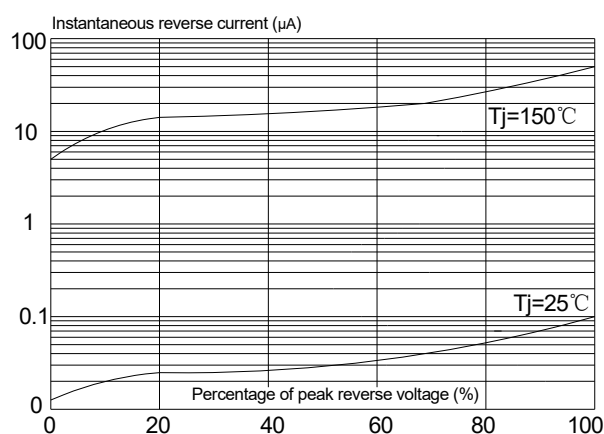


FIG.3: Maximum non-repetitive peak forward surge current

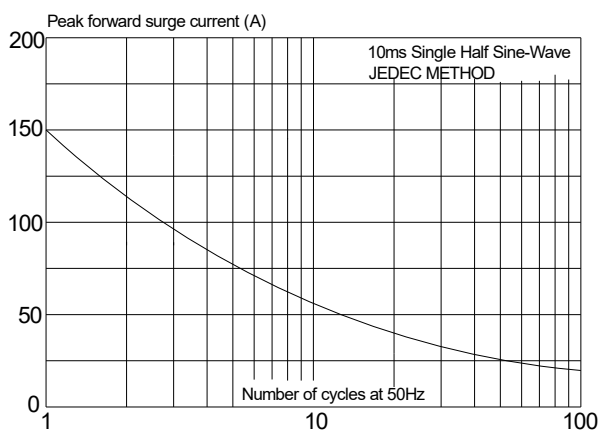


FIG.4: Forward current derating curve

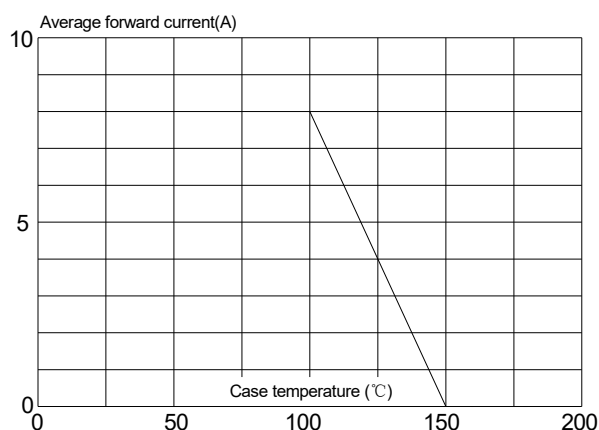


FIG.5: Forward power dissipation vs. average forward current (square waveform)

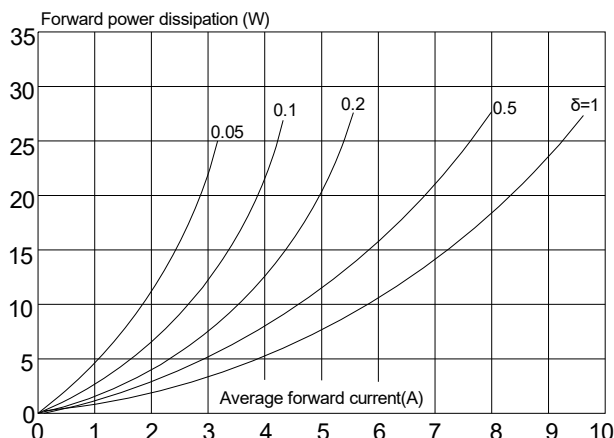
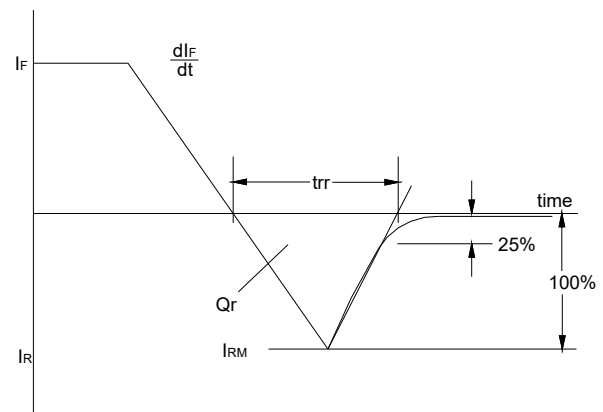


FIG.6: Reverse recovery definitions



JieJie products are not designed for, and shall not be used for, any purpose (including, without limitation, automotive, military, aerospace, medical, life-saving, life-sustaining or nuclear facility applications, devices intended for surgical implant into the body, or any other application in which the failure or lack of desired operation of the product may result in personal injury, death, or property damage) other than those expressly set forth in applicable JieJie product documentation. Warranties granted by JieJie shall be deemed void for products used for any purpose not expressly set forth in applicable JieJie documentation. JieJie shall not be liable for any claims or damages arising out of products used in applications not expressly intended by JieJie as set forth in applicable JieJie documentation. The sale and use of JieJie products is subject to JieJie terms and conditions of sale, unless otherwise agreed by JieJie.

Information furnished in this document is believed to be accurate and reliable. However, Jiangsu JieJie Microelectronics Co., Ltd. assumes no responsibility for the consequences of use without consideration for such information nor use beyond it.

Information mentioned in this document is subject to change without notice, apart from that when an agreement is signed, Jiangsu JieJie complies with the agreement.

Products and information provided in this document have no infringement of patents. Jiangsu JieJie assumes no responsibility for any infringement of other rights of third parties which may result from the use of such products and information.

This document is the 1.3rd version which is made in 10-July-2025. This document supersedes and replaces all information previously supplied.



is a registered trademark of Jiangsu JieJie Microelectronics Co., Ltd.

Copyright ©2025 Jiangsu JieJie Microelectronics Co., Ltd. Printed All rights reserved.