



## JECR7506SL

### EPI HYPERFAST SOFT RECOVERY RECTIFIER

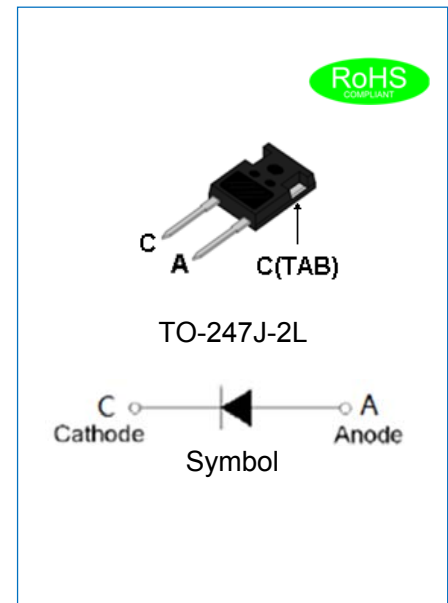
Rev.1.2

#### 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
- ✧ Applications for UPS, EV charger, welding machine, and air conditioner

#### MECHANICAL DATA

- ✧ Case: TO-247J-2L molded plastic
- ✧ Terminals: Solder plated, solderable per J-STD-002
- ✧ Weight: 5.75 gram



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

| Parameter                                                                                           | Symbol         | JECR7506SL  | Unit             |
|-----------------------------------------------------------------------------------------------------|----------------|-------------|------------------|
| Maximum repetitive peak reverse voltage                                                             | $V_{RRM}$      | 600         | V                |
| Maximum RMS voltage                                                                                 | $V_{RMS}$      | 420         | V                |
| Maximum DC blocking voltage                                                                         | $V_{DC}$       | 600         | V                |
| Maximum average forward current( $\delta=0.5$ , square-wave pulse, $T_{mb} \leq 56^\circ\text{C}$ ) | $I_{F(AV)}$    | 75          | A                |
| Peak forward surge current: 10ms single half sine-wave superimposed on rated load                   | $I_{FSM}$      | 700         | A                |
| Peak forward surge current: 8.3ms single half sine-wave superimposed on rated load                  |                | 750         |                  |
| Junction temperature and storage temperature range                                                  | $T_j, T_{stg}$ | -55 to +175 | $^\circ\text{C}$ |

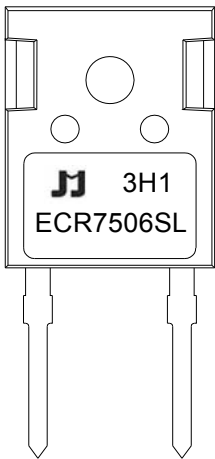
**ELECTRICAL CHARACTERISTICS**(Rating at 25°C case temperature unless otherwise specified.)

| Parameter                     |                                                              | Symbol   | Min. | Typ. | Max. | Unit    |
|-------------------------------|--------------------------------------------------------------|----------|------|------|------|---------|
| Forward voltage               | $I_F=75A; T_J=25^{\circ}C$                                   | $V_F$    | -    | 2.2  | 2.75 | V       |
|                               | $I_F=75A; T_J=150^{\circ}C$                                  |          | -    | 1.6  | 2.1  |         |
| Reverse current               | $V_R=600V; T_J=25^{\circ}C$                                  | $I_R$    | -    | -    | 5    | $\mu A$ |
|                               | $V_R=600V; T_J=150^{\circ}C$                                 |          | -    | -    | 500  |         |
| Reverse recovery time         | $I_F=1A, V_R=30V,$<br>$di/dt=50A/\mu s, T_J=25^{\circ}C$     | $t_{rr}$ | -    | -    | 50   | ns      |
|                               | $I_F=75A, V_R=400V,$<br>$di/dt=200A/\mu s, T_J=25^{\circ}C$  |          | -    | 42   | -    |         |
|                               | $I_F=75A, V_R=400V,$<br>$di/dt=200A/\mu s, T_J=125^{\circ}C$ |          | -    | 106  | -    |         |
| Peak reverse recovery current | $I_F=75A, V_R=400V,$<br>$di/dt=200A/\mu s, T_J=25^{\circ}C$  | $I_{RM}$ | -    | 4.1  | -    | A       |
|                               | $I_F=75A, V_R=400V,$<br>$di/dt=200A/\mu s, T_J=125^{\circ}C$ |          | -    | 12.2 | -    |         |
| Reverse charge                | $I_F=75A, V_R=400V,$<br>$di/dt=200A/\mu s, T_J=25^{\circ}C$  | $Q_r$    | -    | 85   | -    | nC      |
|                               | $I_F=75A, V_R=400V,$<br>$di/dt=200A/\mu s, T_J=125^{\circ}C$ |          | -    | 640  | -    |         |

**THERMAL RESISTANCES**

| Symbol         | Parameter                                            | Min. | Typ. | Max. | Unit          |
|----------------|------------------------------------------------------|------|------|------|---------------|
| $R_{th(j-mb)}$ | Thermal resistance from junction to mounting base    | -    | -    | 0.6  | $^{\circ}C/W$ |
| $R_{th(j-a)}$  | Thermal resistance from junction to ambient free air | -    | 45   | -    | $^{\circ}C/W$ |

MARKING



|     |                                  |
|-----|----------------------------------|
| ECR | EPI Hyperfast Recovery Rectifier |
| 75  | $I_{F(AV)}=75A$                  |
| 06  | $V_{RRM}:600V$                   |
| SL  | Package:TO-247J-2L               |

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

3 $\underline{x}1$ :

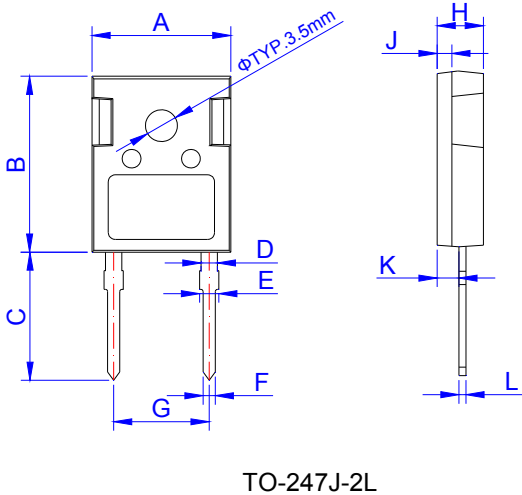
|      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|
| 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| H    | I    | J    | K    | L    | M    | N    |
| 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | ...  |
| O    | P    | Q    | R    | S    | T    | ...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

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

ORDERING INFORMATION

|                            |                  |           |   |                 |                |                    |
|----------------------------|------------------|-----------|---|-----------------|----------------|--------------------|
| J                          | E                | C         | R | 75              | 06             | SL                 |
| JIEJIE<br>Microelectronics | Epi<br>Hyperfast | Rectifier |   | $I_{F(AV)}=75A$ | $V_{RRM}:600V$ | Package:TO-247J-2L |

PACKAGE MECHANICAL DATA



| Ref. | Dimensions  |       |       |        |       |       |
|------|-------------|-------|-------|--------|-------|-------|
|      | Millimeters |       |       | Inches |       |       |
|      | Min.        | Typ.  | Max.  | Min.   | Typ.  | Max.  |
| A    | 15.50       | 15.80 | 16.10 | 0.610  | 0.622 | 0.634 |
| B    | 20.80       | 21.00 | 21.20 | 0.819  | 0.827 | 0.835 |
| C    | 19.70       | 20.00 | 20.30 | 0.776  | 0.787 | 0.799 |
| D    | 1.80        | 2.00  | 2.20  | 0.071  | 0.079 | 0.087 |
| E    | 1.90        | 2.10  | 2.30  | 0.075  | 0.083 | 0.091 |
| F    | 1.00        | 1.20  | 1.40  | 0.039  | 0.047 | 0.055 |
| G    |             | 10.88 |       |        | 0.428 |       |
| H    | 4.80        | 5.00  | 5.20  | 0.189  | 0.197 | 0.205 |
| J    | 1.90        | 2.00  | 2.10  | 0.075  | 0.079 | 0.083 |
| K    | 2.20        | 2.35  | 2.50  | 0.087  | 0.093 | 0.098 |
| L    | 0.41        | 0.60  | 0.79  | 0.016  | 0.024 | 0.031 |

## PACKAGE INFORMATION-TO-247J-2L

| OUTLINE | UNIT WEIGHT<br>(g/PCS) typ. | TUBE<br>(PCS) | PER CARTON<br>(PCS) |
|---------|-----------------------------|---------------|---------------------|
| TUBE    | 5.75                        | 30            | 2,250               |

## CHARACTERISTICS CURVE

FIG.1: Typical forward characteristics

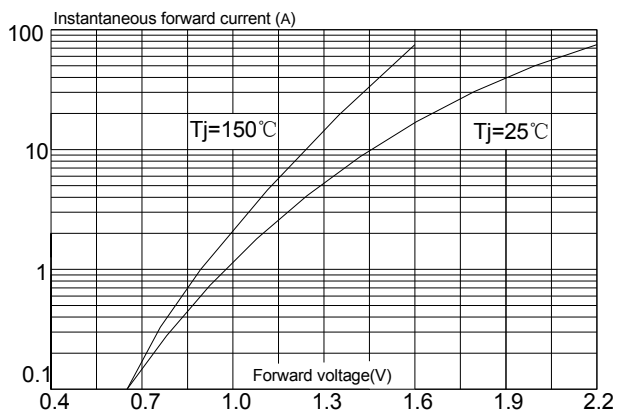


FIG.2: Typical reverse characteristics

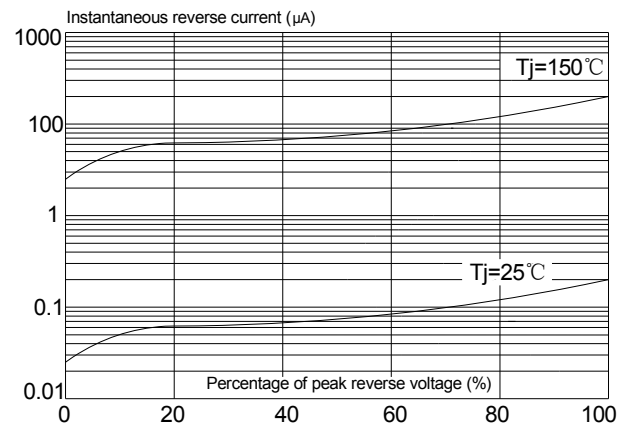


FIG.3: Maximum non-repetitive peak forward surge current(10ms single half sine-wave)

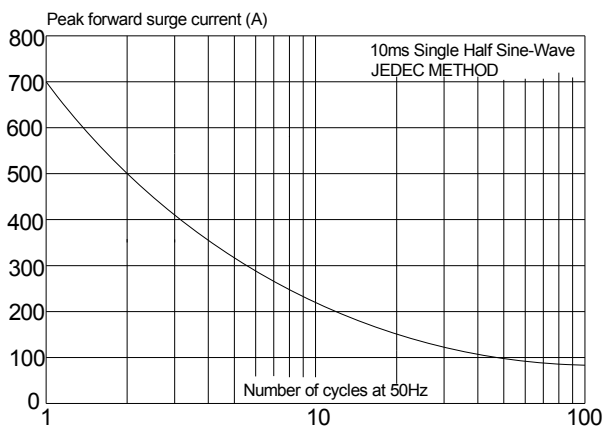


FIG.4: Maximum non-repetitive peak forward surge current(8.3ms single half sine-wave)

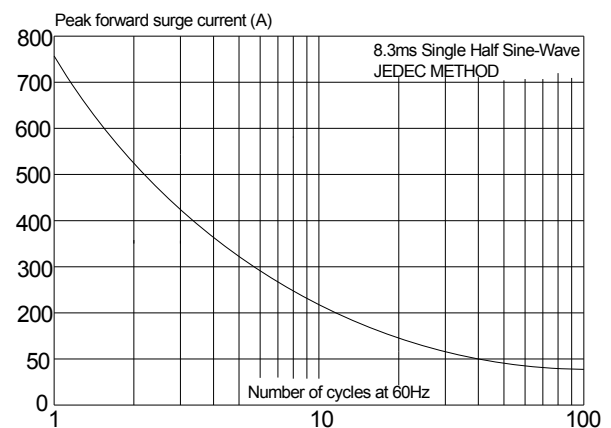


FIG.5: Forward current derating curve

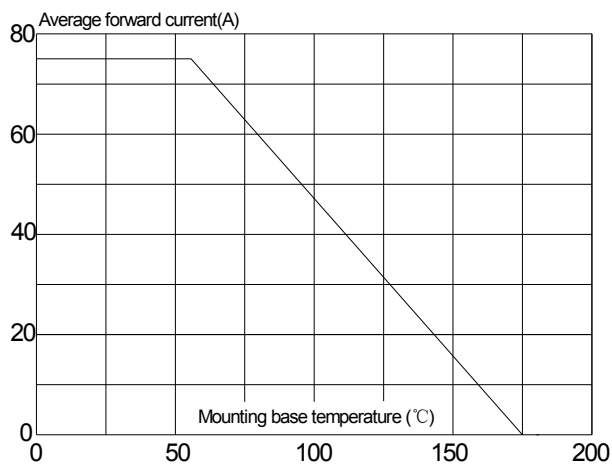
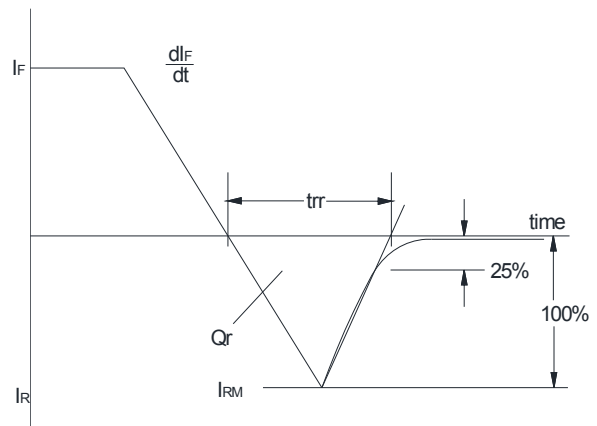


FIG.6: Reverse recovery definitions



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