



## JPUR6006SCT

### EPI PLANAR ULTRAFAST SOFT RECOVERY RECTIFIER

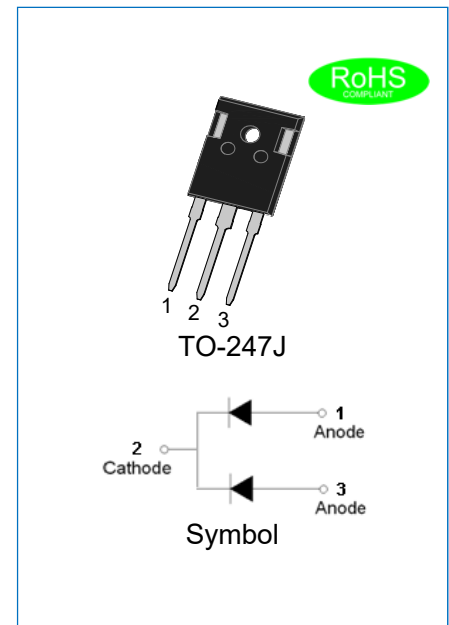
Rev.1.4

#### 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
- ✧ Ultrafast recovery time
- ✧ Epitaxial planar technology
- ✧ 5th Generation soft fast recovery characteristics
- ✧ Low recovery loss

#### MECHANICAL DATA

- ✧ Case: TO-247J molded plastic over passivated junction
- ✧ Terminals: Solder plated, solderable per J-STD-002
- ✧ Weight: 6gram



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

| Parameter                                                                                               | Symbol         | JPUR6006SCT | Unit               |
|---------------------------------------------------------------------------------------------------------|----------------|-------------|--------------------|
| Maximum repetitive peak reverse voltage<br>(Pin1~2 or Pin3~2)                                           | $V_{RRM}$      | 600         | V                  |
| Maximum DC blocking voltage(Pin1~2 or Pin3~2)                                                           | $V_{DC}$       | 600         | V                  |
| Average forward current at $T_C=135^{\circ}\text{C}$ (Pin1,3~2)                                         | $I_{F(AV)}$    | 60          | A                  |
| Peak forward surge current: 8.3ms single half sine-wave<br>superimposed on rated load(Pin1~2 or Pin3~2) | $I_{FSM}$      | 330         | A                  |
| Peak forward surge current: 10ms single half sine-wave<br>superimposed on rated load(Pin1~2 or Pin3~2)  |                | 300         |                    |
| Junction temperature and storage temperature range                                                      | $T_j, T_{stg}$ | -55 to +175 | $^{\circ}\text{C}$ |

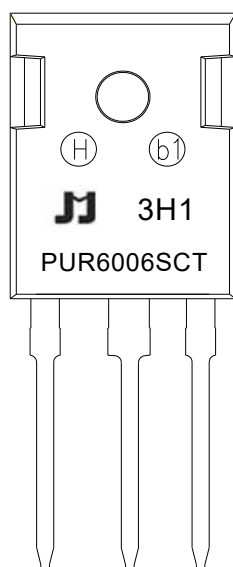
**ELECTRICAL CHARACTERISTICS**(Rating at 25°C ambient temperature unless otherwise specified.)

| Parameter                                      |                                                                | Symbol   | Min. | Typ. | Max. | Unit    |
|------------------------------------------------|----------------------------------------------------------------|----------|------|------|------|---------|
| Forward voltage<br>(Pin1~2 or Pin3~2)          | $I_F=30A, T_J=25^{\circ}C$                                     | $V_F$    | -    | 1.35 | 1.6  | V       |
|                                                | $I_F=30A, T_J=150^{\circ}C$                                    |          | -    | 1.1  | -    | V       |
| Reverse current<br>(Pin1~2 or Pin3~2)          | $V_R=600V, T_J=25^{\circ}C$                                    | $I_R$    | -    | -    | 5    | $\mu A$ |
|                                                | $V_R=600V, T_J=150^{\circ}C$                                   |          | -    | -    | 400  |         |
| Reverse recovery time<br>(Pin1~2 or Pin3~2)    | $I_F=1A, V_R=30V,$<br>$dI_F/dt=200A/\mu s, T_J=25^{\circ}C$    | $t_{rr}$ | -    | 28   | 45   | ns      |
|                                                | $I_F=30A, V_R=200V,$<br>$dI_F/dt=200A/\mu s, T_J=25^{\circ}C$  |          | -    | 80   | -    |         |
|                                                | $I_F=30A, V_R=200V,$<br>$dI_F/dt=200A/\mu s, T_J=125^{\circ}C$ |          | -    | 160  | -    |         |
| Reverse recovery current<br>(Pin1~2 or Pin3~2) | $I_F=30A, V_R=200V,$<br>$dI_F/dt=200A/\mu s, T_J=25^{\circ}C$  | $I_{RM}$ | -    | 7.5  | -    | A       |
|                                                | $I_F=30A, V_R=200V,$<br>$dI_F/dt=200A/\mu s, T_J=125^{\circ}C$ |          | -    | 17.5 | -    |         |
| Reverse charge<br>(Pin1~2 or Pin3~2)           | $I_F=30A, V_R=200V,$<br>$dI_F/dt=200A/\mu s, T_J=25^{\circ}C$  | $Q_r$    | -    | 350  | -    | nC      |
|                                                | $I_F=30A, V_R=200V,$<br>$dI_F/dt=200A/\mu s, T_J=125^{\circ}C$ |          | -    | 1550 | -    |         |

**THERMAL RESISTANCES**

| Symbol        | Parameter                                          | Min. | Typ. | Max. | Unit          |
|---------------|----------------------------------------------------|------|------|------|---------------|
| $R_{th(j-c)}$ | Thermal resistance from junction to case(Pin1,3~2) | -    | -    | 1    | $^{\circ}C/W$ |

## MARKING



|     |                                     |
|-----|-------------------------------------|
| PUR | Planar Ultrafast Recovery Rectifier |
| 60  | $I_{F(AV)}=60A$                     |
| 06  | $V_{RRM}:600V$                      |
| S   | Package:TO-247J                     |
| CT  | Common cathode                      |

xH1: Month, 1/2/3~9/A/B/C3x1:

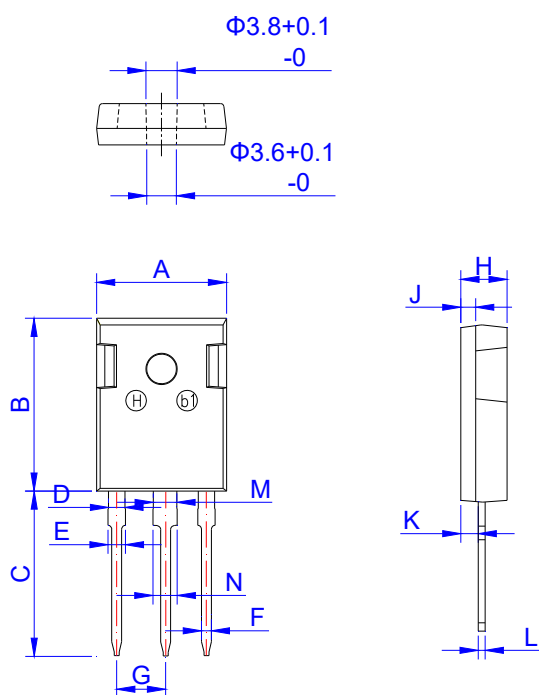
|      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|
| 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| H    | I    | J    | K    | L    | M    | N    |
| 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | ...  |
| O    | P    | Q    | R    | S    | T    | ...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

3Hx: Batch number

## ORDERING INFORMATION

|                            |            |            |           |                 |                |                 |                |
|----------------------------|------------|------------|-----------|-----------------|----------------|-----------------|----------------|
| J                          | P          | U          | R         | 60              | 06             | S               | CT             |
| JieJie<br>Microelectronics | Epi planar | Ultra fast | Rectifier | $I_{F(AV)}=60A$ | $V_{RRM}:600V$ | Package:TO-247J | Common cathode |

## PACKAGE MECHANICAL DATA



TO-247J

| 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    | 5.25        |       | 5.65  | 0.207  |       | 0.222 |
| 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 |
| M    | 2.80        | 3.00  | 3.20  | 0.110  | 0.118 | 0.126 |
| N    | 2.90        | 3.10  | 3.30  | 0.114  | 0.122 | 0.130 |

## PACKAGE INFORMATION-TO-247J

| OUTLINE | UNIT WEIGHT<br>(g/PCS) TYP | TUBE<br>(PCS) | PER CARTON<br>(PCS) |
|---------|----------------------------|---------------|---------------------|
| TUBE    | 6                          | 30            | 2,250               |

## CHARACTERISTICS CURVE

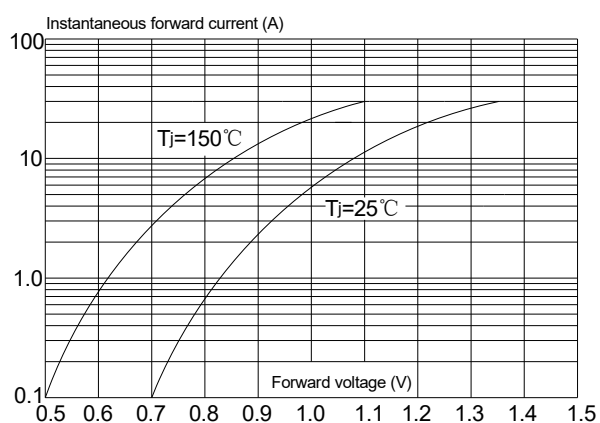
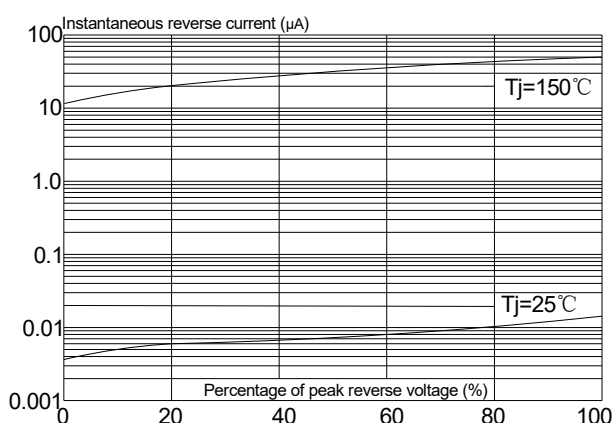
FIG.1 Typical forward characteristics  
(Pin1~2 or Pin3~2)FIG.2 Typical reverse characteristics  
(Pin1~2 or Pin3~2)

FIG.3 Maximum non-repetitive peak forward surge current(8.3ms single half sine-wave, Pin1~2 or Pin3~2)

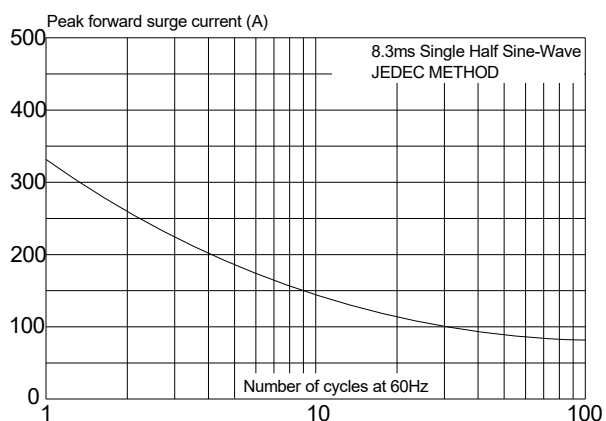


FIG.4: Maximum non-repetitive peak forward surge current(10ms single half sine-wave, Pin1~2 or Pin3~2)

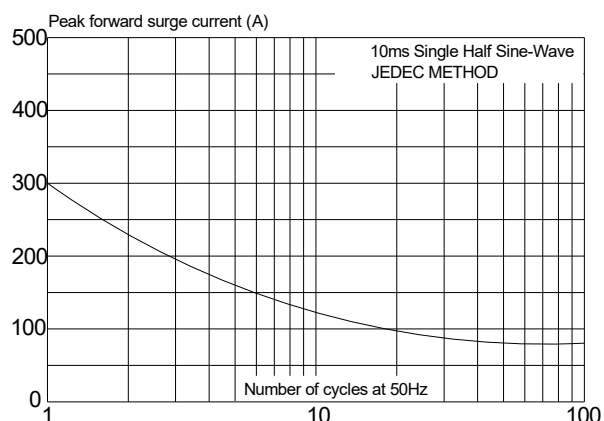


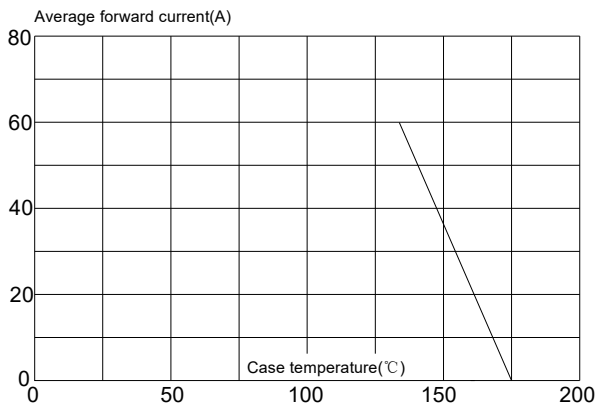
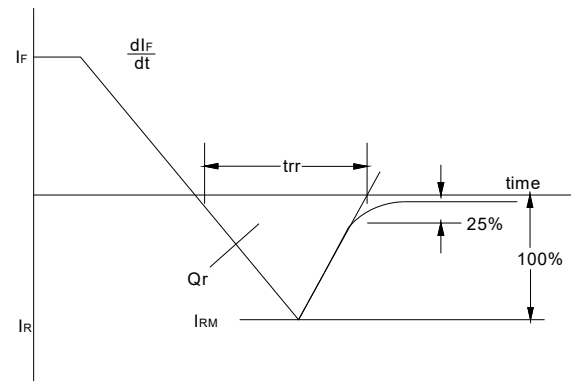
FIG.5: Forward current derating curve  
(Pin1,3~2)

FIG.6: Reverse recovery definitions



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