



JECR7506TL EPI HYPERFAST SOFT RECOVERY RECTIFIER

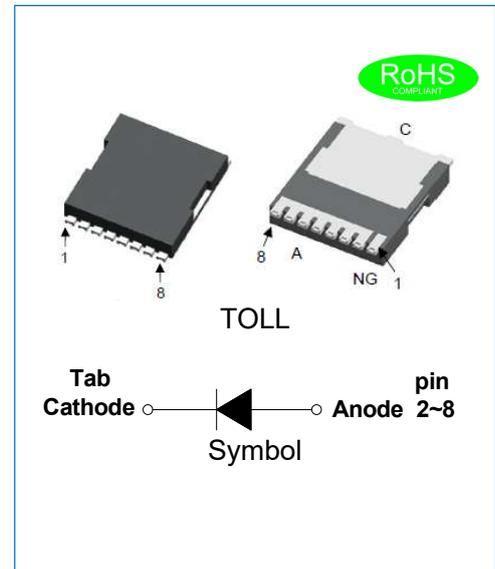
Rev.1.0

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: TOLL molded plastic
- ✧ Terminals: Solder plated, solderable per J-STD-002



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

| Parameter | Symbol | JECR7506TL | 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 |
| 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 +150 | $^\circ\text{C}$ |

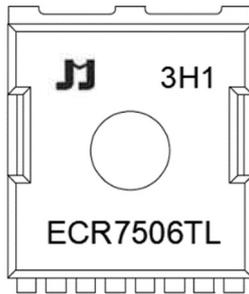
ELECTRICAL CHARACTERISTICS(Rating at 25°C case temperature unless otherwise specified.)

| 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 | μA |
| | $V_R=600V, T_j=150^\circ C$ | | - | - | 500 | |
| Reverse recovery time | $I_F=1A, V_R=30V,$ $di/dt=50A/\mu s, T_j=25^\circ C$ | t_{rr} | - | - | 50 | ns |
| | $I_F=75A, V_R=400V,$ $di/dt=200A/\mu s, T_j=25^\circ C$ | | - | 42 | - | |
| | $I_F=75A, V_R=400V,$ $di/dt=200A/\mu s, T_j=125^\circ C$ | | - | 106 | - | |
| Peak reverse recovery current | $I_F=75A, V_R=400V,$ $di/dt=200A/\mu s, T_j=25^\circ C$ | I_{RM} | - | 4.1 | - | A |
| | $I_F=75A, V_R=400V,$ $di/dt=200A/\mu s, T_j=125^\circ C$ | | - | 12.2 | - | |
| Reverse charge | $I_F=75A, V_R=400V,$ $di/dt=200A/\mu s, T_j=25^\circ C$ | Q_r | - | 85 | - | nC |
| | $I_F=75A, V_R=400V,$ $di/dt=200A/\mu s, T_j=125^\circ C$ | | - | 640 | - | |

THERMAL RESISTANCES

| Symbol | Parameter | Min. | Typ. | Max. | Unit |
|---------------|---|------|------|------|--------------|
| $R_{th(j-c)}$ | Thermal resistance from junction to case | - | 2.9 | - | $^\circ C/W$ |
| $R_{th(j-a)}$ | Thermal resistance from junction to ambient | - | 25 | - | $^\circ C/W$ |

MARKING



| | |
|-----|----------------------------------|
| ECR | EPI Hyperfast Recovery Rectifier |
| 75 | $I_{F(AV)}=75A$ |
| 06 | $V_{RRM}:600V$ |
| TL | Package:TOLL |

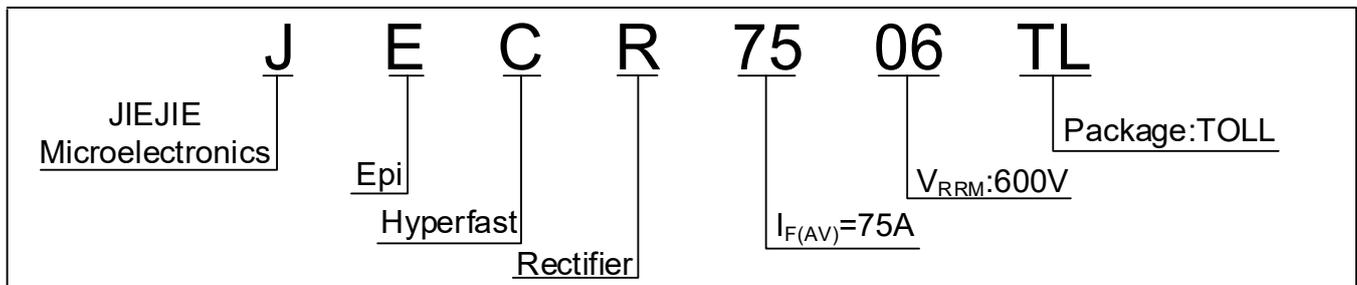
xH1: Month, 1、2、3 ~ 9、A、B、C

3x1:

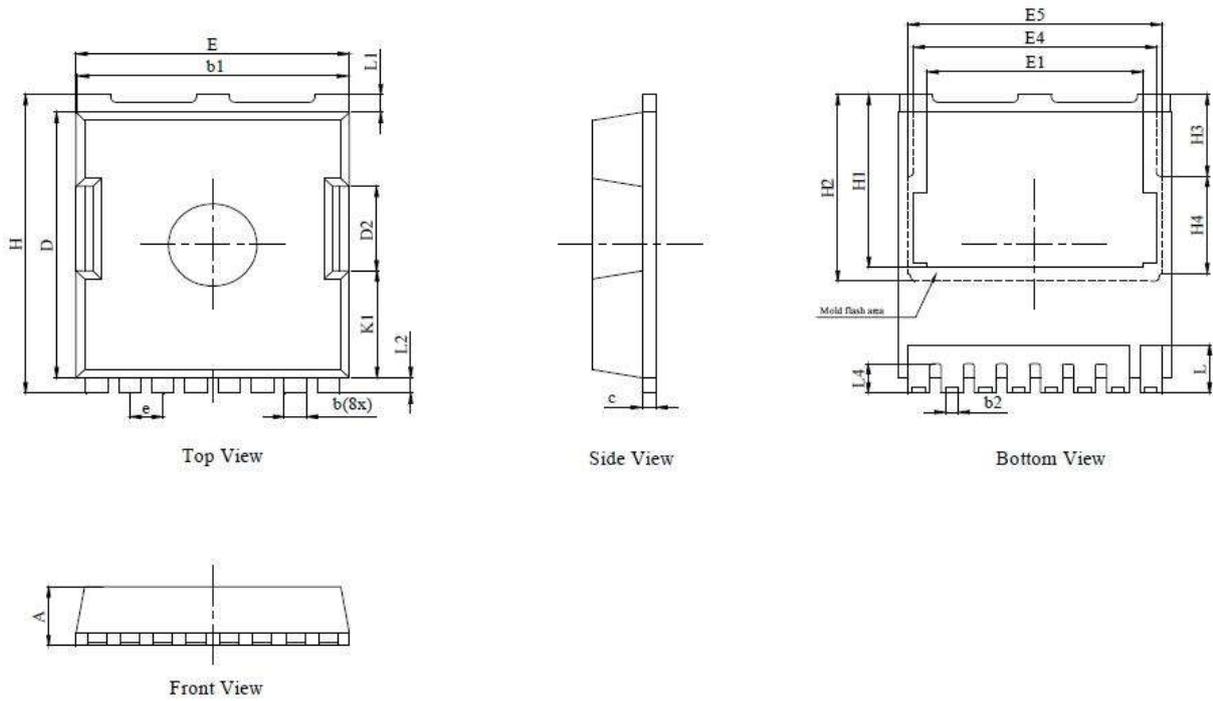
| | | | | | | |
|------|------|------|------|------|------|------|
| 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| H | I | J | K | L | M | N |
| 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | ... |
| O | P | Q | R | S | T | ... |

3Hx: Batch number

ORDERING INFORMATION



PACKAGE MECHANICAL DATA



TOLL

| Ref. | Dimensions | | | | | |
|------|-------------|-------|-------|------------|-------|-------|
| | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| A | 2.20 | 2.30 | 2.40 | 0.087 | 0.091 | 0.095 |
| b | 0.70 | 0.80 | 0.90 | 0.028 | 0.031 | 0.035 |
| b1 | 9.70 | 9.80 | 9.90 | 0.382 | 0.386 | 0.390 |
| b2 | 0.42 | 0.46 | 0.50 | 0.017 | 0.018 | 0.020 |
| c | 0.40 | 0.50 | 0.60 | 0.016 | 0.020 | 0.024 |
| D | 10.28 | 10.38 | 10.58 | 0.405 | 0.409 | 0.417 |
| D2 | | 3.30 | | | 0.130 | |
| E | 9.70 | 9.90 | 10.10 | 0.382 | 0.390 | 0.398 |
| E1 | | 7.80 | | | 0.307 | |
| E4 | | 8.80 | | | 0.346 | |
| E5 | | 9.20 | | | 0.362 | |
| e | 1.20(BSC) | | | 0.047(BSC) | | |
| H | 11.48 | 11.68 | 11.88 | 0.452 | 0.460 | 0.468 |
| H1 | 6.55 | 6.75 | 6.85 | 0.258 | 0.266 | 0.270 |
| H2 | | 7.30 | | | 0.287 | |
| H3 | | 3.20 | | | 0.126 | |
| H4 | | 3.80 | | | 0.150 | |
| K1 | | 4.18 | | | 0.165 | |
| L | 1.70 | 1.90 | 2.10 | 0.067 | 0.075 | 0.083 |
| L1 | | 0.70 | | | 0.028 | |
| L2 | | 0.60 | | | 0.024 | |
| L4 | 1.00 | 1.15 | 1.30 | 0.039 | 0.045 | 0.051 |

CHARACTERISTICS CURVE

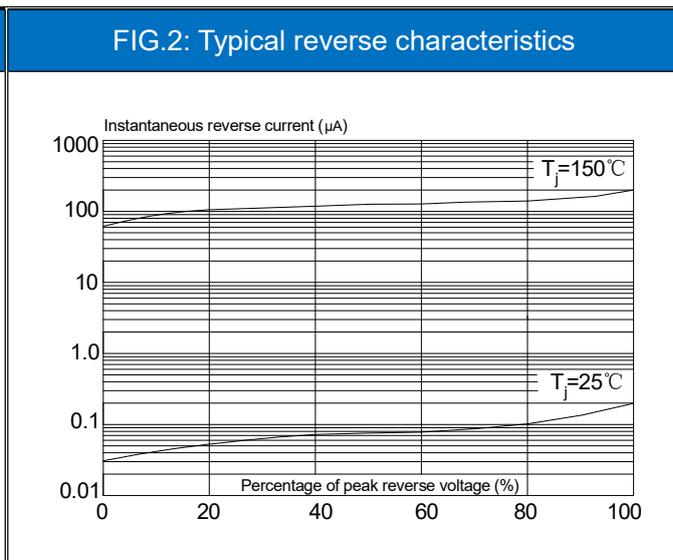
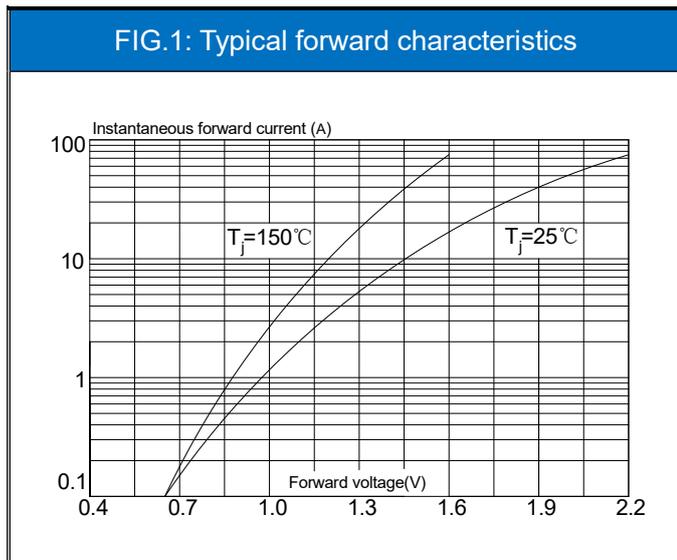


FIG.3: Maximum non-repetitive peak forward surge current(10ms single half sine-wave)

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

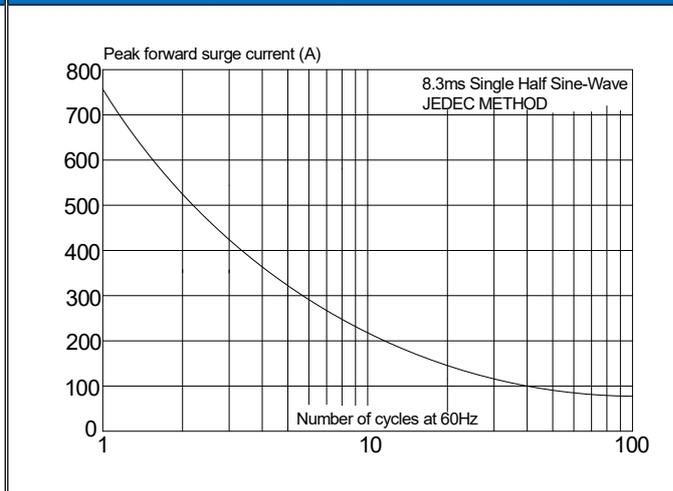
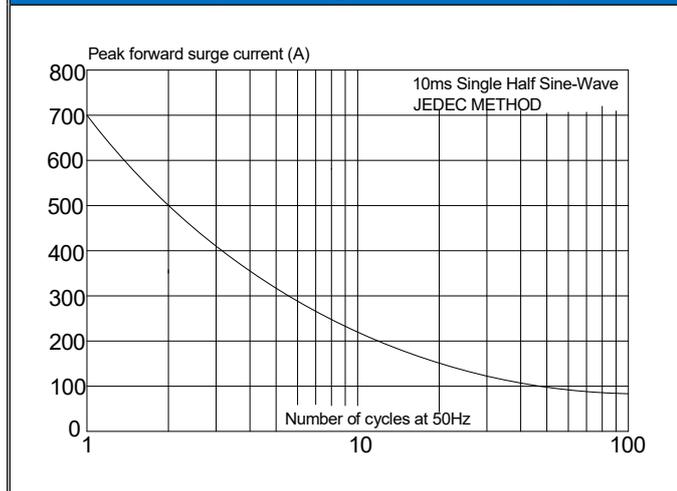
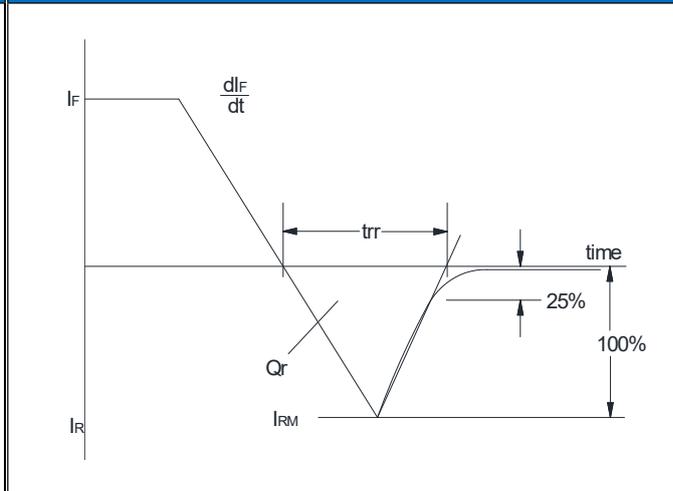
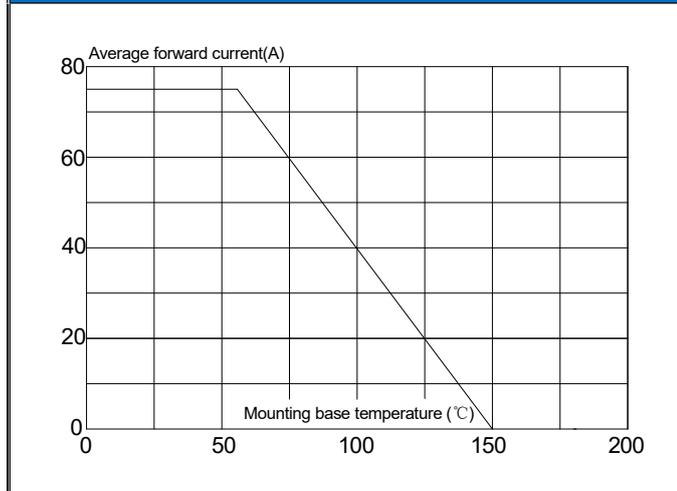


FIG.5: Forward current derating curve

FIG.6: Reverse recovery definitions



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