



JECR1002KCT EPI HYPERFAST SOFT RECOVERY RECTIFIER

Preliminary

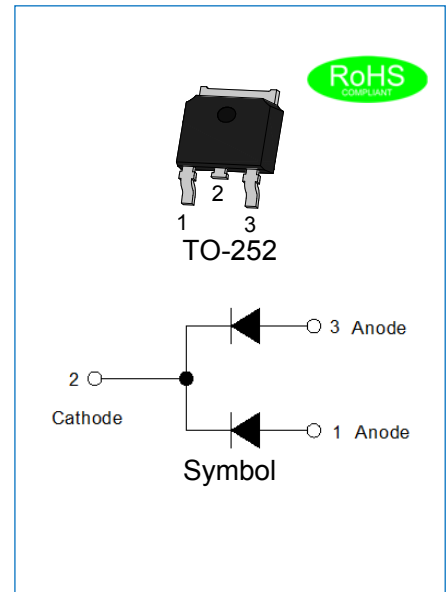
Rev.0.2

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 output rectifiers in high-frequency switched-mode power supplies

MECHANICAL DATA

- ✧ Case: TO-252 molded plastic over passivated junction
- ✧ Terminals: Solder plated, solderable per J-STD-002
- ✧ Weight:0.329gram



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

| Parameter | Symbol | JECR1002KCT | Unit |
|--|----------------|-------------|------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 200 | V |
| Maximum RMS voltage | V_{RMS} | 140 | V |
| Maximum DC blocking voltage | V_{DC} | 200 | V |
| Maximum average forward current at $T_C=120^\circ\text{C}$ | $I_{F(AV)}$ | 10 | A |
| Peak forward surge current: 10ms single half sine-wave superimposed on rated load | I_{FSM} | 50 | A |
| Peak forward surge current: 8.3ms single half sine-wave superimposed on rated load | I_{FSM} | 55 | A |
| Junction temperature and storage temperature range | T_j, T_{stg} | -55 to +175 | °C |

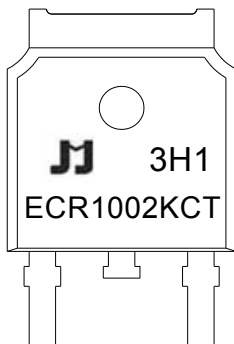
ELECTRICAL CHARACTERISTICS (Rating at 25°C case temperature unless otherwise specified.)

| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|---|----------|------|------|-------|---------------|
| Forward voltage | V_F | - | - | 1.1 | V |
| | | | | 0.895 | |
| DC reverse current at rated DC blocking voltage | I_R | - | - | 5 | μA |
| | | | | 200 | |
| Reverse recovery time | t_{rr} | - | - | 25 | ns |

THERMAL RESISTANCES

| Symbol | Parameter | Min. | Typ. | Max. | Unit |
|---------------|--|------|------|------|------|
| $R_{th(j-c)}$ | Thermal resistance from junction to case | - | - | 14 | °C/W |

MARKING



| | |
|-----|----------------------------------|
| ECR | EPI Hyperfast Recovery Rectifier |
| 10 | $I_{F(AV)}=10A$ |
| 02 | $V_{RRM}:200V$ |
| K | Package:TO-252 |
| CT | Common cathode |

xH1: Month, 1、2、3 ~ 9、A、B、C

3x1:

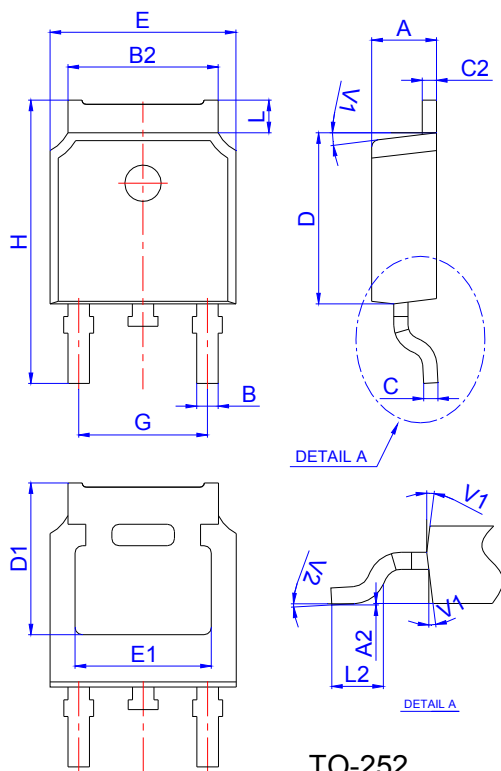
| | | | | | | |
|------|------|------|------|------|------|------|
| 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| H | I | J | K | L | M | N |
| 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | ... |
| O | P | Q | R | S | T | ... |

3Hx: Batch number

ORDERING INFORMATION

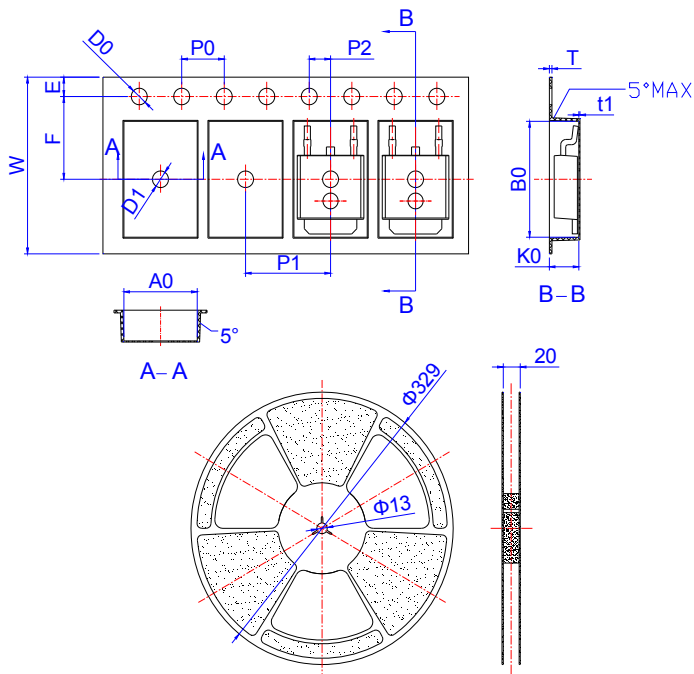
| | | | | | | | |
|----------------------------|--------------------------------|---|---|-----------------|----------------|----------------|----------------|
| J | E | C | R | 10 | 02 | K | CT |
| JIEJIE Microelectronics | Epi Hyper fast Rectifier | C | R | $I_{F(AV)}=10A$ | $V_{RRM}:200V$ | Package:TO-252 | Common cathode |

PACKAGE MECHANICAL DATA



| Ref. | Dimensions | | | | | |
|------|-------------|------|-------|----------|------|-------|
| | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| A | 2.10 | | 2.50 | 0.083 | | 0.098 |
| A2 | 0 | | 0.10 | 0 | | 0.004 |
| B | 0.66 | | 0.86 | 0.026 | | 0.034 |
| B2 | 5.18 | | 5.48 | 0.202 | | 0.216 |
| C | 0.40 | | 0.60 | 0.016 | | 0.024 |
| C2 | 0.44 | | 0.58 | 0.017 | | 0.023 |
| D | 5.90 | | 6.30 | 0.232 | | 0.248 |
| D1 | 5.30REF | | | 0.209REF | | |
| E | 6.40 | | 6.80 | 0.252 | | 0.268 |
| E1 | 4.63 | | | 0.182 | | |
| G | 4.47 | | 4.67 | 0.176 | | 0.184 |
| H | 9.50 | | 10.70 | 0.374 | | 0.421 |
| L | 1.09 | | 1.21 | 0.043 | | 0.048 |
| L2 | 1.35 | | 1.65 | 0.053 | | 0.065 |
| V1 | | 7° | | | 7° | |
| V2 | 0° | | 6° | 0° | | 6° |

REEL SPECIFICATION -TO-252



| Ref. | Dimensions | | | | | |
|------|-------------|-------|-------|--------|-------|-------|
| | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| W | 15.90 | 16.00 | 16.10 | 0.626 | 0.630 | 0.634 |
| E | 1.65 | 1.75 | 1.85 | 0.065 | 0.069 | 0.073 |
| F | 7.40 | 7.50 | 7.60 | 0.291 | 0.295 | 0.299 |
| D0 | 1.40 | 1.50 | 1.60 | 0.055 | 0.059 | 0.063 |
| D1 | 1.40 | 1.50 | 1.60 | 0.055 | 0.059 | 0.063 |
| P0 | 3.90 | 4.00 | 4.10 | 0.154 | 0.157 | 0.161 |
| P1 | 7.90 | 8.00 | 8.10 | 0.311 | 0.315 | 0.319 |
| P2 | 1.90 | 2.00 | 2.10 | 0.075 | 0.079 | 0.083 |
| A0 | 6.85 | 6.90 | 7.00 | 0.270 | 0.271 | 0.276 |
| B0 | 10.45 | 10.50 | 10.60 | 0.411 | 0.413 | 0.417 |
| K0 | 2.68 | 2.78 | 2.88 | 0.105 | 0.109 | 0.113 |
| T | 0.24 | | 0.27 | 0.009 | | 0.011 |
| t1 | 0.10 | | | 0.004 | | |
| 10P0 | 39.80 | 40.00 | 40.20 | 1.567 | 1.575 | 1.583 |

| OUTLINE | UNIT WEIGHT (g/PCS) typ. | REEL (PCS) | PER CARTON (PCS) | TAPE & REEL |
|---------|--------------------------|------------|------------------|-------------|
| TAPING | 0.329 | 2,500 | 25,000 | 13inch |

CHARACTERISTICS CURVE

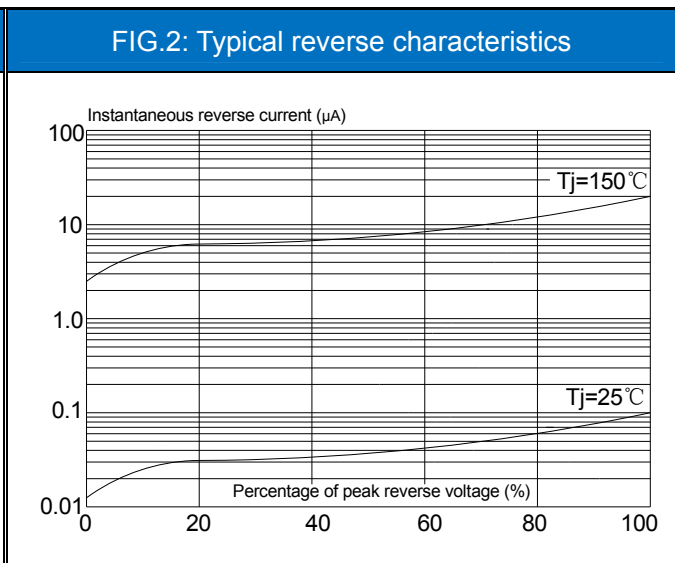
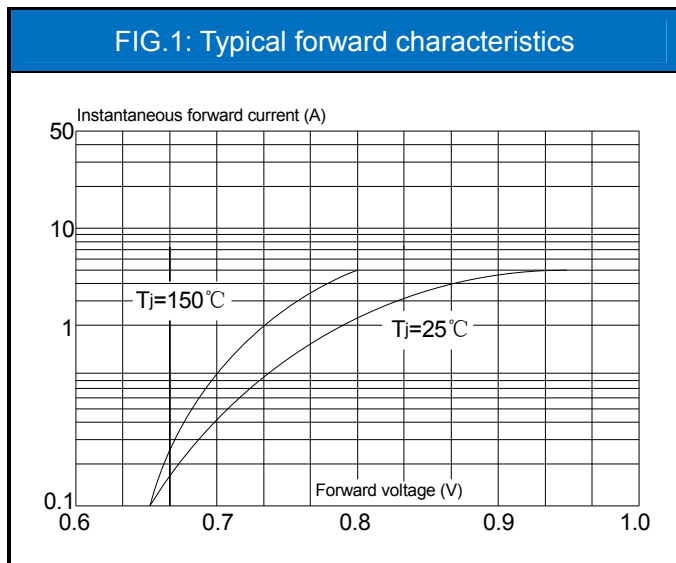


FIG.3: Maximum non-repetitive peak forward surge current(8.3ms single half sine-wave)

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

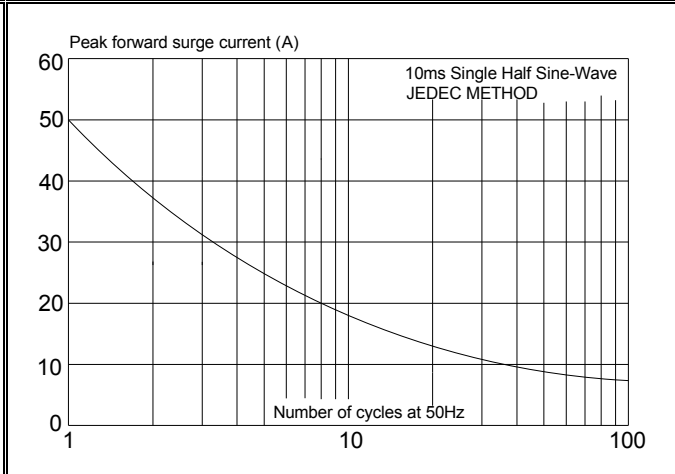
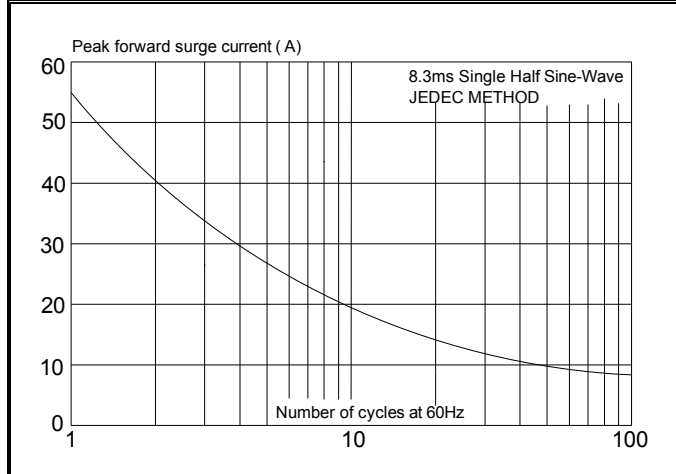
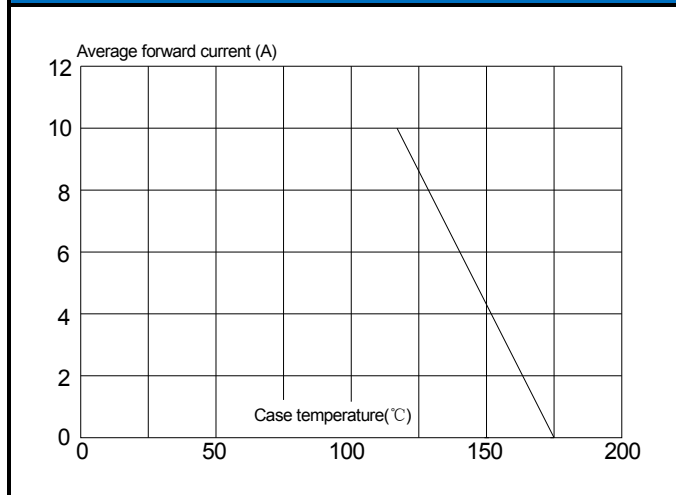


FIG.5: Forward current derating curve




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