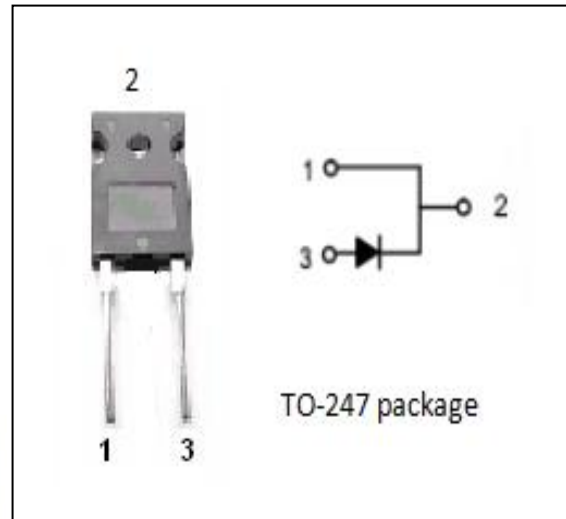


Ultra fast Rectifier
40EPF04
FEATURES

- With TO-247 packaging
- High performance fast recovery diode
- Low loss and soft recovery
- Low forward voltage drop
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Switching power supply
- Power switching circuits
- General purpose


ABSOLUTE MAXIMUM RATINGS($T_a=25^{\circ}\text{C}$)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---------------------------------|---|----------------------------|--------------------|
| V_{RRM} V_{RWM} V_R | Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | 400 | V |
| $I_{F(AV)}$ | Average Rectified Forward Current @ $T_c=106^{\circ}\text{C}$ | 40 | A |
| I_{FSM} | Nonrepetitive Peak Surge Current (Surge applied at rated load conditions half-wave, single phase,) | 50HZ 60HZ 400 475 | A |
| T_J | Junction Temperature | -40~150 | $^{\circ}\text{C}$ |
| T_{stg} | Storage Temperature Range | -40~150 | $^{\circ}\text{C}$ |

Ultra fast Rectifier

40EPF04

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|---|------|------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 0.60 | °C/W |
| $R_{th\ j-a}$ | Thermal Resistance, Junction to Ambient | 40 | °C/W |

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$) (Pulse Test: Pulse Width=300 μ s, Duty Cycle \leq 2%)

| SYMBOL | PARAMETER | CONDITIONS | MAX | UNIT |
|----------|---------------------------------------|---|--------------|------|
| V_F | Maximum Instantaneous Forward Voltage | $I_F=40\text{A}; T_c=25^\circ\text{C}$ $T_c=125^\circ\text{C}$ | 1.25 1.10 | V |
| I_R | Maximum Instantaneous Reverse Current | $V_R=V_{RWM}; T_j=25^\circ\text{C}$ $V_R=V_{RWM}; T_j=150^\circ\text{C}$ | 0.1 70 | mA |
| t_{rr} | Maximum Reverse Recovery Time | $I_F=40\text{A}; diF/dt=25\text{A}/\mu\text{s}$ | 180 | ns |

NOTICE:

ISC reserves the rights to make changes of the content herein the datasheet at any time without notification. The information contained herein is presented only as a guide for the applications of our products.

ISC products are intended for usage in general electronic equipment. The products are not designed for use in equipment which require specialized quality and/or reliability, or in equipment which could have applications in hazardous environments, aerospace industry, or medical field. Please contact us if you intend our products to be used in these special applications.

ISC makes no warranty or guarantee regarding the suitability of its products for any particular purpose, nor does ISC assume any liability arising from the application or use of any products, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages.