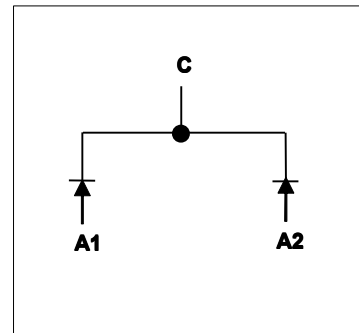


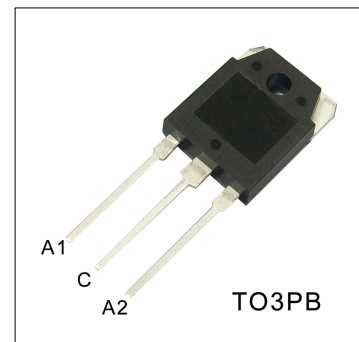
Features

- Ultrafast recovery time
- Low forward voltage drop
- Low leakage current
- High reliability by planer design
- Maximum Junction Temperature Range(175°C)



General Description

Winsemi's WSAD92-02 is the state of the are Ultra fast Recovery rectifiers designed with optimized performance of forward voltage drop and ultra fast recovery time .The planar structure and the platinum doped life time,control guarantee the best over all performance,ruggedness and reliability characteristics.



Applications

- Switching power Supplies
- Uninterruptable Power Supplies
- Power Switching circuits
- General Purpose

Absolute Maximum Ratings

| Symbol | Parameter | Value | Units |
|----------------------------------|--|---------|-------|
| V _{RRM} | Peak Repetitive Reverse voltage | 200 | V |
| I _{F(AV)} | Average Out Current Square wave,duty=1/2,Tc=115°C | 20 | A |
| I _{FSM} | Repetitive Peak Surge Current | 100 | A |
| T _{STG} ,T _J | Operating Junction Temperature & Storage Temperature | -55~175 | °C |

Electical Characteristics (Tc=25°C unless otherwise noted)

| Symbol | Parameter | Test Conditions | Value | | | Units |
|----------------------|-----------------------|---------------------|-------|-----|------|-------|
| | | | Min | Typ | Max | |
| V _F | Forward Voltage Dorp | IF=20A | - | - | 1.15 | V |
| | | IF=10A,Tc=125°C | - | - | 0.8 | V |
| I _{RRM} | Reverse Current | VR=200V | - | 5 | 15 | µA |
| | | VR=200V,Tc=150°C | - | - | 4 | mA |
| t _{rr} | Reverse Recovery Time | IF=20A,dIF/dt=100µs | - | - | 30 | ns |
| R _{th(J-C)} | Thermal Resistance | | - | - | 1.5 | °C/W |

Typical performance Curves

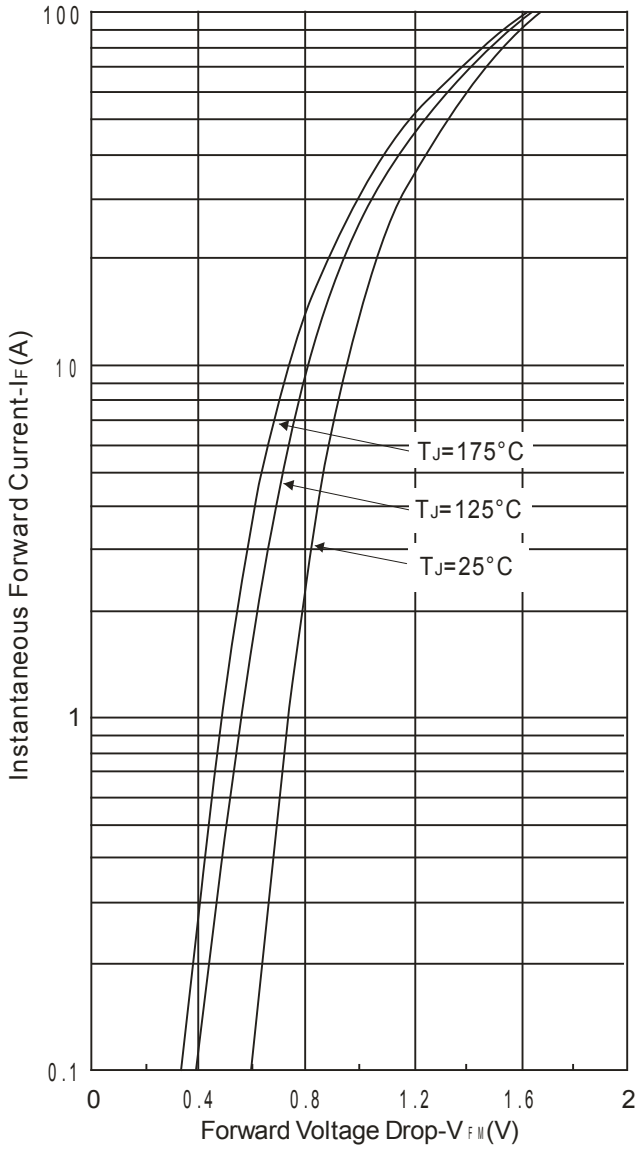


Fig.1 Forward Characteristics

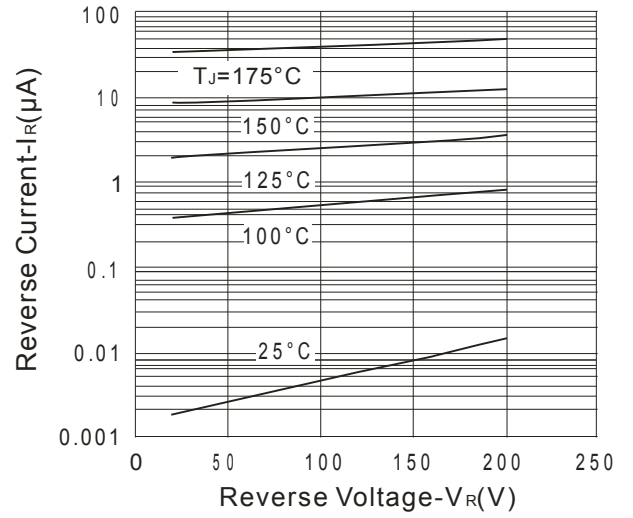


Fig.2 Reverse Characteristics

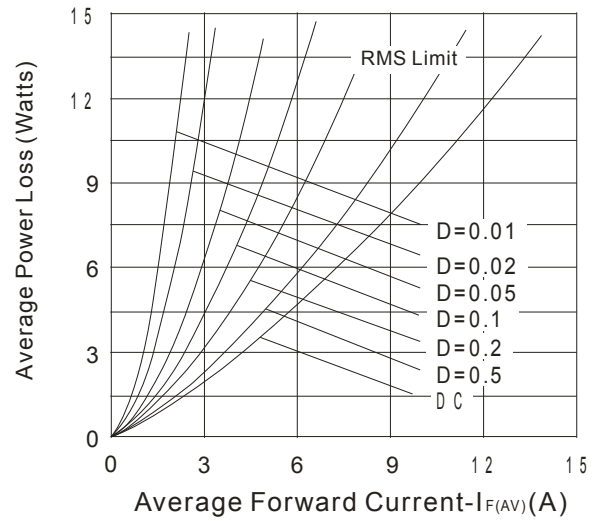


Fig.3 Forward Power Dissipation

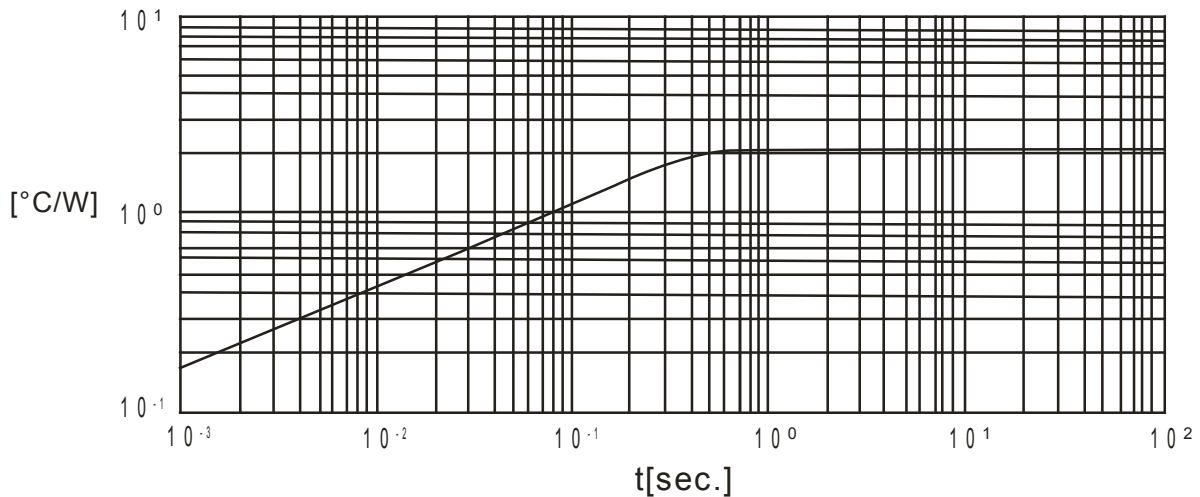


Fig.4 Transient Thermal Impedance

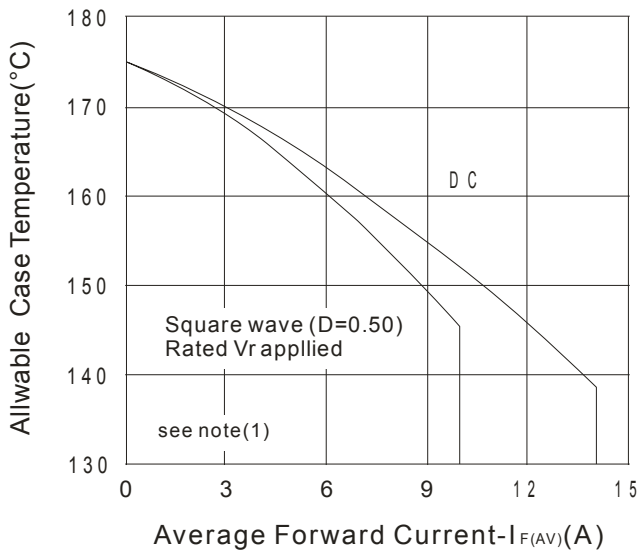


Fig.5 Case Temperature vs Out Current

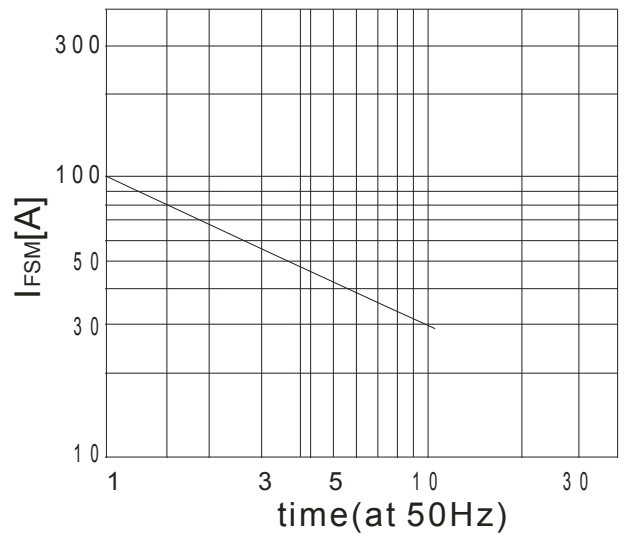


Fig.6 Surge Capability

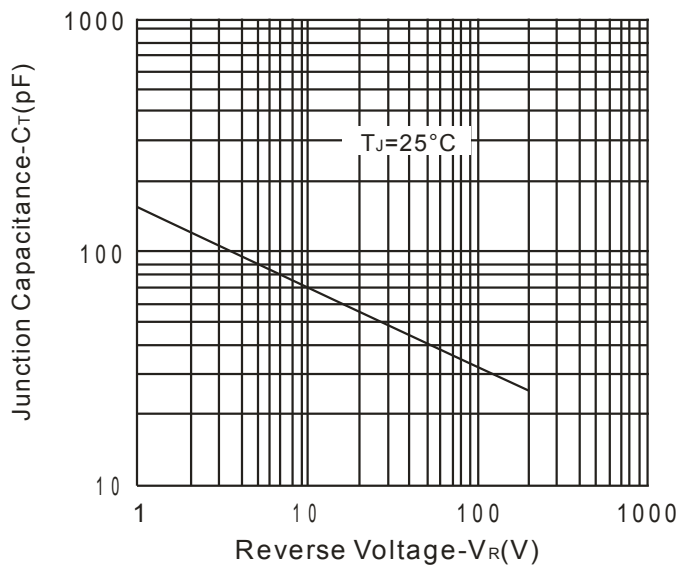


Fig.7 Junction Capacitance Characteristics

- (1) Formula used: $T_c = T_J - (P_d + P_{dREV}) \times R_{thjc}$;
 $P_d = \text{Forward Power Loss} = I_{F(AV)} \times V_{FM} @ (I_{F(AV)}/D)$ (see Fig.3)
 $P_{dREV} = \text{Inverse Power Loss} = V_{R1} \times I_R(1-D)$; $I_R @ V_{R1} = \text{rated } V_R$

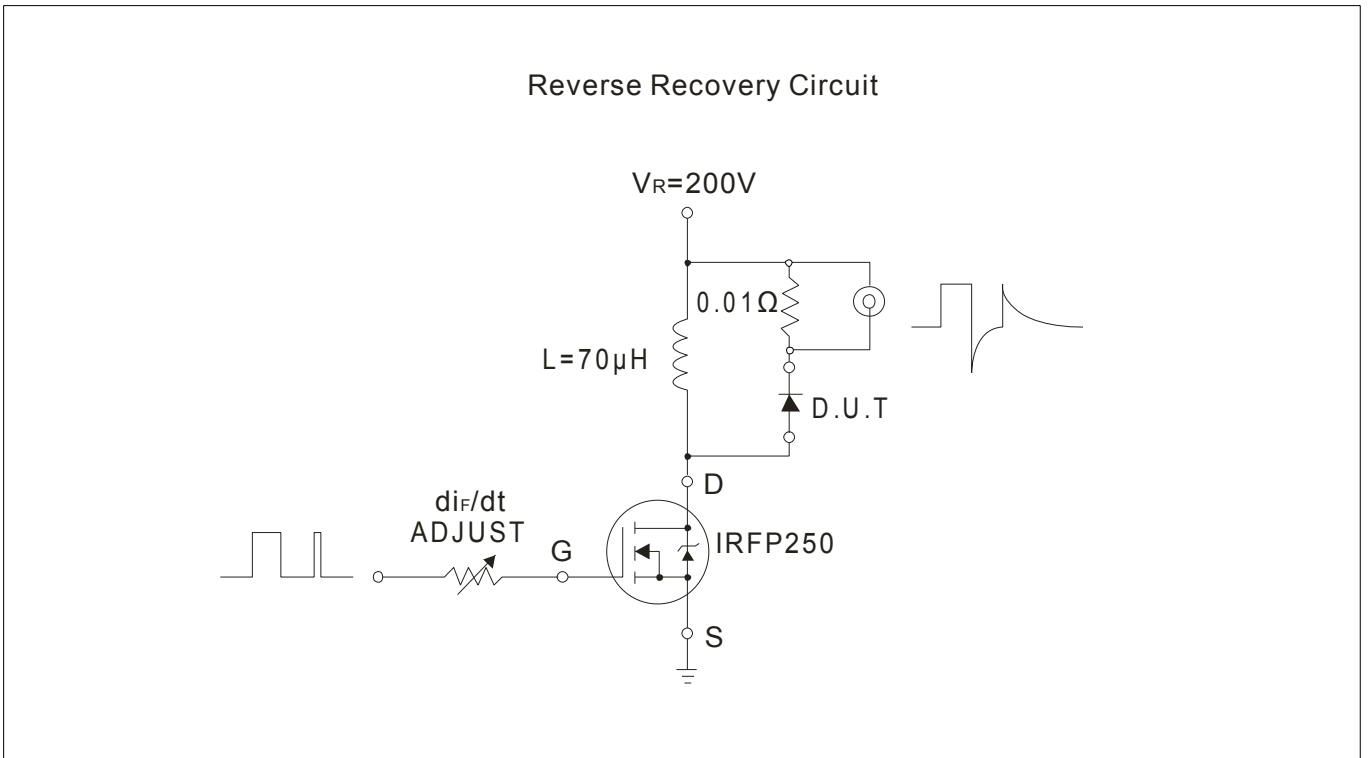


Fig.8 Reverse Recovery Parameter Test Circuit

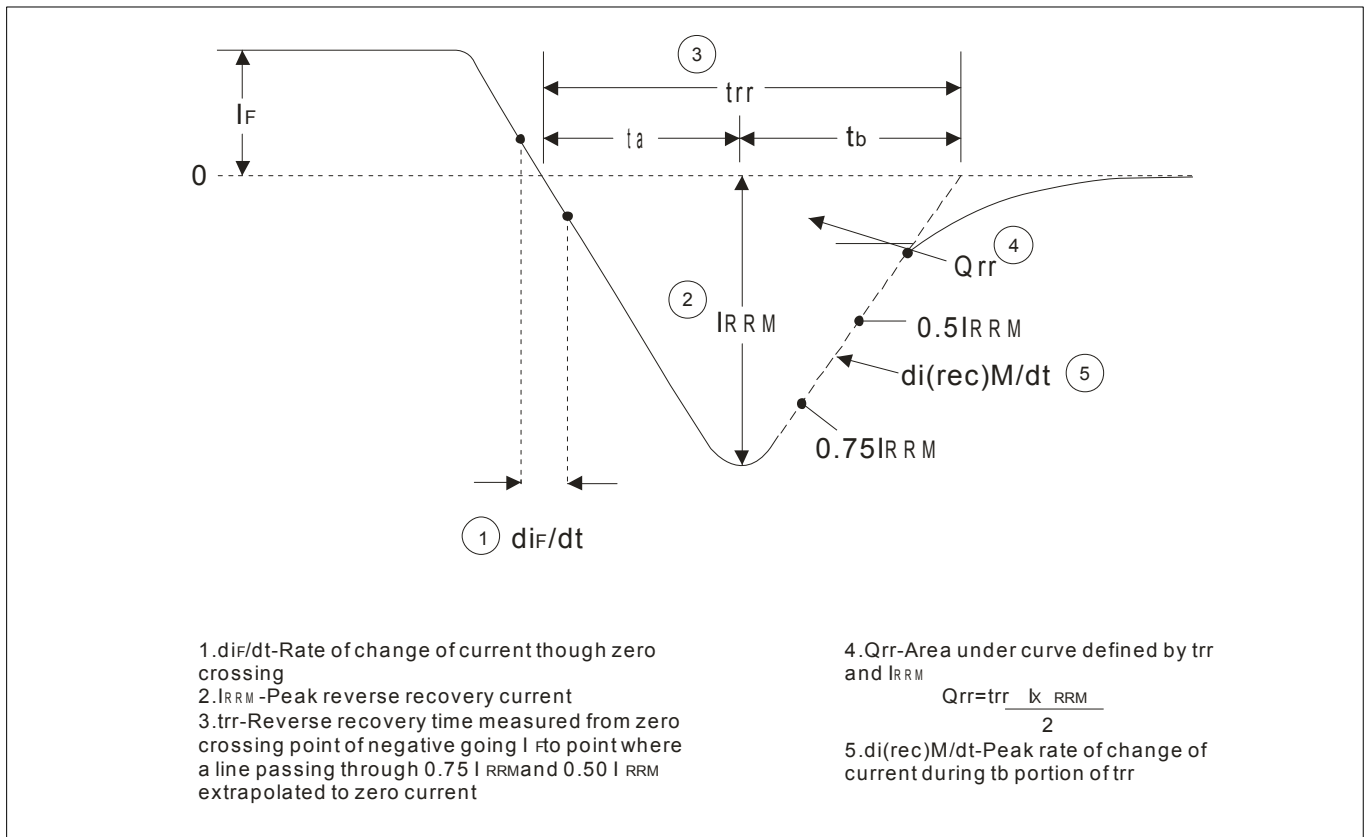
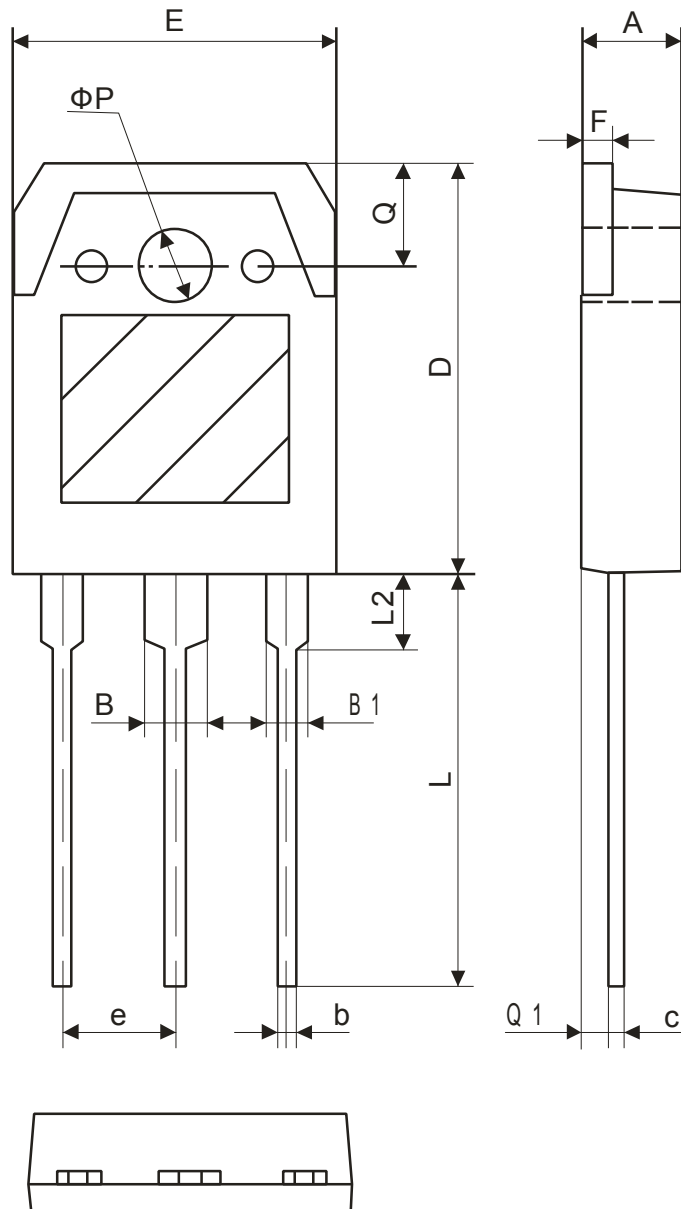


Fig.9 Reverse Recovery Waveform and Definitions

TO-3PB Package Dimension

Unit:mm



| 符号 symbol | Min | Max |
|--------------|------------|-------|
| A | 4.60 | 5.00 |
| B | 2.90 | 3.20 |
| B1 | 1.90 | 2.20 |
| b | 0.90 | 1.10 |
| c | 0.50 | 0.70 |
| D | 19.40 | 20.40 |
| E | 15.40 | 15.80 |
| e | 5.45 (TYP) | |
| F | 1.40 | 1.60 |
| L | 19.50 | 20.50 |
| L2 | 3.30 | 3.70 |
| Q | 4.90 | 5.10 |
| Q1 | 1.30 | 1.50 |
| P | 3.10 | 3.50 |

NOTE:

- 1.We strongly recommend customers check carefully on the trademark when buying our product, if there is any question, please don't be hesitate to contact us.
- 2.Please do not exceed the absolute maximum ratings of the device when circuit designing.
- 3.Winsemi Microelectronics Co., Ltd reserved the right to make changes in this specification sheet and is subject to change without prior notice.

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