



MER1602FCT

Super Fast Recovery Rectifier

| | | | |
|----------------|--------------|----------------|-------------|
| Voltage | 200 V | Current | 16 A |
|----------------|--------------|----------------|-------------|

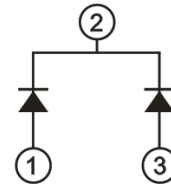
Features

- Superfast recovery times-epitaxial construction
- Low forward voltage, high current capability
- Low leakage
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case : ITO-220AB Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 1.6 grams

ITO-220AB



Maximum Ratings and Thermal Characteristics (T_A = 25 °C unless otherwise noted)

| PARAMETER | SYMBOL | LIMIT | UNITS |
|--|---------------------------|---------|-------|
| 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 | I _{F(AV)} | 16 | A |
| per device | | 8 | |
| Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load Per Diode | I _{FSM} | 120 | A |
| Typical Junction Capacitance | C _J | 80 | pF |
| Measured at 1 MHz And Applied V _R = 4 V | | | |
| Typical Thermal Resistance Per Diode | (Note 1) R _{θJC} | 6 | °C/W |
| | (Note 1) R _{θJL} | 6.5 | |
| Operating Junction Temperature Range | T _J | -55~175 | °C |
| Storage Temperature Range | T _{STG} | -55~175 | °C |



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Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| PARAMETER | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNITS |
|---------------------------|-----------|---|------|-------|------|-------|
| Forward Voltage Per Diode | V_F | $I_F = 2\text{ A}, T_J = 25^\circ\text{C}$ | - | 0.77 | - | V |
| | | $I_F = 4\text{ A}, T_J = 25^\circ\text{C}$ | - | 0.83 | - | V |
| | | $I_F = 8\text{ A}, T_J = 25^\circ\text{C}$ | - | - | 0.95 | V |
| | | $I_F = 2\text{ A}, T_J = 125^\circ\text{C}$ | - | 0.63 | - | V |
| | | $I_F = 4\text{ A}, T_J = 125^\circ\text{C}$ | - | 0.7 | - | V |
| | | $I_F = 8\text{ A}, T_J = 125^\circ\text{C}$ | - | 0.8 | - | V |
| Reverse Current Per Diode | I_R | $V_R = 160\text{ V}, T_J = 25^\circ\text{C}$ | - | 0.004 | - | uA |
| | | $V_R = 200\text{ V}, T_J = 25^\circ\text{C}$ | - | - | 1 | |
| | | $V_R = 200\text{ V}, T_J = 125^\circ\text{C}$ | - | - | 75 | |
| Reverse Recovery Time | T_{RR} | $I_F = 0.5\text{ A}, I_R = 1\text{ A},$ $I_{RR} = 0.25\text{ A}, T_J = 25^\circ\text{C}$ | - | - | 35 | ns |
| Reverse Recovery Time | T_{RR} | $I_F = 8\text{ A}, V_R = 200\text{ V}$ | - | 28 | - | ns |
| Peak Recovery Current | I_{RRM} | $di/dt = 300\text{ A/uS}$ | - | 6.5 | - | A |
| Reverse Recovery Charge | Q_{RR} | $T_J = 25^\circ\text{C}$ | - | 96 | - | nC |
| Reverse Recovery Time | T_{RR} | $I_F = 8\text{ A}, V_R = 200\text{ V}$ | - | 43 | - | ns |
| Peak Recovery Current | I_{RRM} | $di/dt = 300\text{ A/uS}$ | - | 10 | - | A |
| Reverse Recovery Charge | Q_{RR} | $T_J = 125^\circ\text{C}$ | - | 216 | - | nC |

NOTES :

1. Device mounted on a infinite heatsink.



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TYPICAL CHARACTERISTIC CURVES

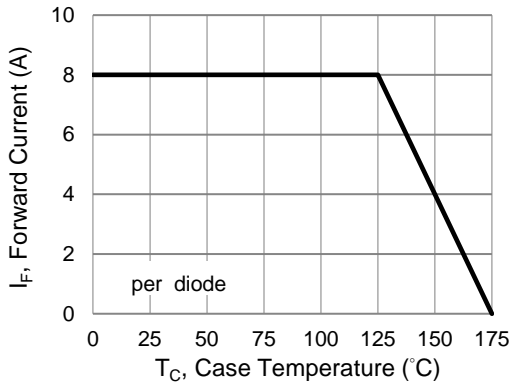


Fig.1 Forward Current Derating Curve

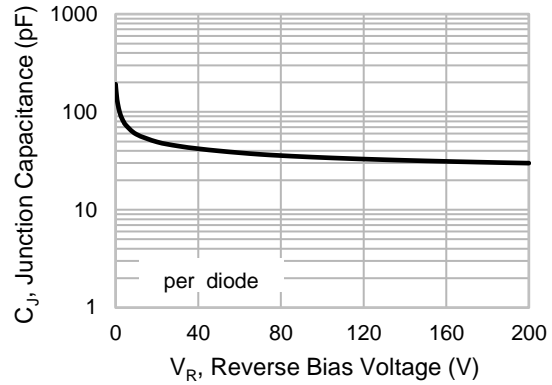


Fig.2 Typical Junction Capacitance

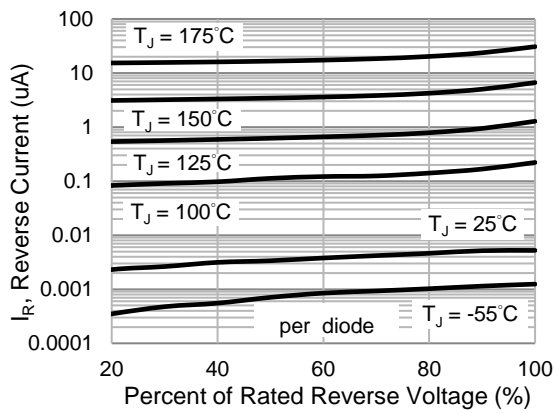


Fig.3 Typical Reverse Characteristics

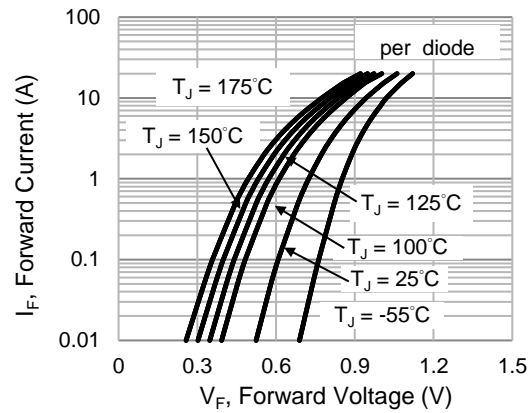


Fig.4 Typical Forward Characteristics

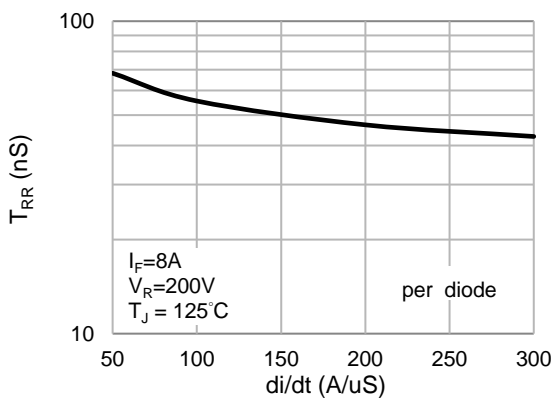


Fig.5 Typical Reverse Recovery Time Versus di/dt

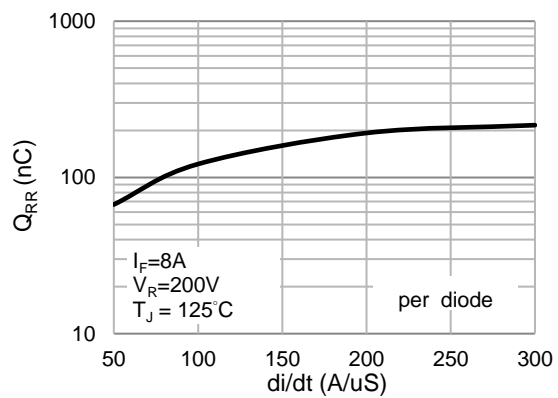


Fig.6 Typical Reverse Recovery Charge Versus di/dt

