FD1000FX-90

- **Average forward current**: 800A
- **Repetitive peak reverse voltage**: 4500V
- **Reverse recovery charge**: 2000μC
- **Press pack type

**APPLICATION**

High-power inverters, Fly-wheel diodes in DC choppers, Power supplies as high frequency rectifiers

**MAXIMUM RATINGS**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Parameter</th>
<th>Conditions</th>
<th>Ratings</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>VRRM</td>
<td>Repetitive peak reverse voltage</td>
<td>f = 60Hz, sine wave θ = 180°, Tj = 77°C</td>
<td>4500</td>
<td>V</td>
</tr>
<tr>
<td>VRSM</td>
<td>Non-repetitive peak reverse voltage</td>
<td></td>
<td>4500</td>
<td>V</td>
</tr>
<tr>
<td>VR(DC)</td>
<td>DC reverse voltage</td>
<td></td>
<td>3600</td>
<td>V</td>
</tr>
<tr>
<td>VLTDS</td>
<td>Long term DC stability</td>
<td></td>
<td>3000</td>
<td>V</td>
</tr>
</tbody>
</table>

- **IF(RMS)**: RMS forward current
- **IF(AV)**: Average forward current
- **IFSM**: Surge forward current
- **Pt**: Current-squared, time integration
- **Tj**: Junction temperature
- **Tsd**: Storage temperature
- **Mounting force required**: Recommended value
- **Weight**: Standard value

**ELECTRICAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Parameter</th>
<th>Test conditions</th>
<th>Limits</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>VRPM</td>
<td>Repetitive peak reverse current</td>
<td>Tj = 125°C, VRPM Applied</td>
<td>— — 150</td>
<td>mA</td>
</tr>
<tr>
<td>VFM</td>
<td>Forward voltage</td>
<td>Tj = 125°C, IFM = 2500A, Instantaneous measurement</td>
<td>— — 3.5</td>
<td>V</td>
</tr>
<tr>
<td>QRR</td>
<td>Reverse recovery charge</td>
<td>IFM = 800A, dI/dt = −30Aμs, VR = 150V, Tj = 125°C</td>
<td>— — 2000</td>
<td>μC</td>
</tr>
<tr>
<td>Rθ(fj)</td>
<td>Thermal resistance</td>
<td>Junction to fin</td>
<td>— — 0.017</td>
<td>°C/W</td>
</tr>
</tbody>
</table>
MITSUBISHI HIGH-FREQUENCY RECTIFIER DIODES

FD1000FX-90
HIGH POWER, HIGH FREQUENCY,
PRESS PACK TYPE

PERFORMANCE CURVES

MAXIMUM FORWARD CHARACTERISTICS

RATED SURGE FORWARD CURRENT

MAXIMUM THERMAL IMPEDANCE CHARACTERISTIC (JUNCTION TO FIN)

MAXIMUM POWER DISSIPATION CHARACTERISTICS

ALLOWABLE FIN TEMPERATURE VS. AVERAGE FORWARD CURRENT

REVERSE RECOVERY CHARGE, REVERSE RECOVERY TIME VS. JUNCTION TEMPERATURE

MITSUBISHI ELECTRIC

Aug.1998
MITSUBISHI HIGH-FREQUENCY RECTIFIER DIODES

FD1000FX-90
HIGH POWER, HIGH FREQUENCY, PRESS PACK TYPE

REVERSE RECOVERY CHARGE, REVERSE RECOVERY TIME VS. FORWARD CURRENT

REVERSE RECOVERY CHARGE, REVERSE RECOVERY TIME VS. RATE OF DECREASE OF REVERSE CURRENT

FORWARD CURRENT (A)
RATE OF DECREASE OF REVERSE CURRENT (A/μS)

Aug. 1998