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# BYW 78-50 →200

## HIGH EFFICIENCY FAST RECOVERY RECTIFIER DIODES

**DESCRIPTION**

Low voltage drop rectifiers suited for switching mode power supply.

**ABSOLUTE MAXIMUM RATINGS** (limiting values)

| Symbol | Parameter | | Value | Unit |
|---|---|---|---|---|
| $I_{FRM}$ | Repetive Peak Forward Current | $t_p \leq 20\mu s$ | 1000 | A |
| $I_{F\ (RMS)}$ | RMS Forward Current | | 100 | A |
| $I_{F\ (AV)}$ | Average Forward Current | $T_C = 100°C$<br>$\delta = 0.5$ | 50 | A |
| $I_{FSM}$ | Surge non Repetitive Forward Current | $t_p = 10ms$<br>Sinusoidal | 1500 | A |
| $P_{tot}$ | Power Dissipation | T = 90°C | 60 | W |
| $T_{stg}$<br>$T_j$ | Storage and Junction Temperature Range | | - 40 to + 150<br>- 40 to + 150 | °C |

| Symbol | Parameter | BYT 78- | | | | Unit |
|---|---|---|---|---|---|---|
| | | 50 | 100 | 150 | 200 | |
| $V_{RRM}$ | Repetitive Peak Reverse Voltage | 50 | 100 | 150 | 200 | V |
| $V_{RSM}$ | Non Repetitive Peak Reverse Voltage | 55 | 110 | 165 | 220 | V |

**THERMAL RESISTANCE**

| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $R_{th\ (j-c)}$ | Junction-case | 1 | °C/W |

Quality Semi-Conductors

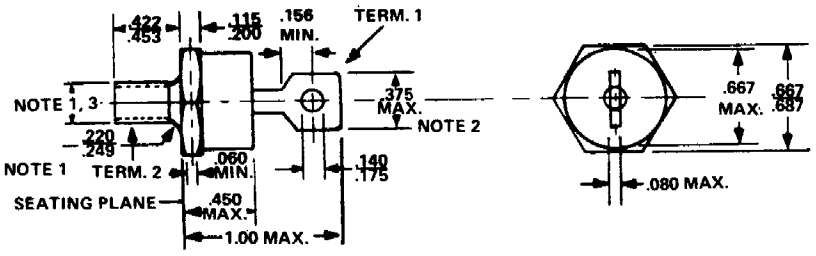
## ELECTRICAL CHARACTERISTICS

### STATIC CHARACTERISTICS

| Symbol | Test Conditions | | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| $I_R$ | $T_j$ = 25°C | $V_R = V_{RRM}$ | | | 50 | µA |
| | $T_j$ = 100°C | | | | 5 | mA |
| $V_F$ | $T_j$ = 25°C | $I_F$ = 160A | | | 1.1 | V |
| | $T_j$ = 100°C | $I_F$ = 50A | | | 0.85 | |

### RECOVERY CHARACTERISTICS

| Symbol | | | | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|---|
| $t_{rr}$ | $T_j$ = 25°C<br>$V_R$ = 30V | $I_F$ = 1A<br>see figure 12 | $di_F/dt$ = - 50A/µs | | | 60 | ns |
| $t_{fr}$ | $T_j$ = 25°C<br>Measured at 1.1 x $V_F$ | $I_F$ = 1A | $t_r$ = 5ns | | 10 | | ns |
| $V_{FP}$ | $T_j$ = 25°C | $I_F$ = 1A | $t_r$ = 5ns | | 1.5 | | V |




NOTES:

1. COMPLETE THREADS TO EXTEND TO WITHIN 2-1/2 THREADS OF SEATING PLANE.
2. ANGULAR ORIENTATION OF THIS TERMINAL IS UNDEFINED.
3. 1/4-28 UNF-2A. MAXIMUM PITCH DIAMETER OF PLATED THREADS SHALL BE BASIC PITCH DIAMETER (.2268", 5.74 MM) REF. (SCREW THREAD STANDARDS FOR FEDERAL SERVICES 1957) HANDBOOK H28 1957 P1.
4. MINIMUM FLAT.