



# BYT3400B(-TR)

## FAST RECOVERY RECTIFIER DIODE

### MAIN PRODUCT CHARACTERISTICS

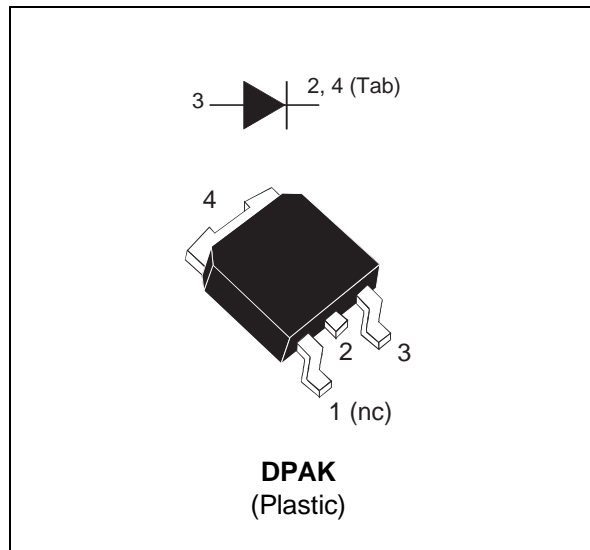
|             |       |
|-------------|-------|
| $I_{F(AV)}$ | 3 A   |
| $V_{RRM}$   | 400 V |
| $V_F$ (max) | 1.4 V |

### FEATURES AND BENEFITS

- VERY LOW REVERSE RECOVERY TIME
- VERY LOW SWITCHING LOSSES
- LOW NOISE TURN-OFF SWITCHING
- SURFACE MOUNT PACKAGE
- TAPE AND REEL OPTION : -TR

### DESCRIPTION

Single high voltage rectifier suited to Switch Mode Power Supplies and other power converters.



### ABSOLUTE MAXIMUM RATINGS

| Symbol       | Parameter                            | Value                              | Unit       |   |
|--------------|--------------------------------------|------------------------------------|------------|---|
| $V_{RRM}$    | Repetitive peak reverse voltage      | 400                                | V          |   |
| $I_{F(RMS)}$ | RMS forward current                  | 10                                 | A          |   |
| $I_{F(AV)}$  | Average forward current              | $T_{case} = ^\circ C \delta = 0.5$ | 3          | A |
| $I_{FSM}$    | Surge non repetitive forward current | $t_p = 10 \text{ ms Sinusoidal}$   | 60         | A |
| $T_{stg}$    | Storage temperature range            | - 40 to + 150                      | $^\circ C$ |   |
| $T_j$        | Maximum junction temperature         | 150                                | $^\circ C$ |   |

### THERMAL RESISTANCES

| Symbol        | Parameter        | Value | Unit         |
|---------------|------------------|-------|--------------|
| $R_{TH(j-c)}$ | Junction to case | TBD   | $^\circ C/W$ |

### STATIC ELECTRICAL CHARACTERISTICS

| Symbol   | Tests Conditions        | Tests Conditions    | Min.                | Typ. | Max. | Unit    |
|----------|-------------------------|---------------------|---------------------|------|------|---------|
| $I_R$ *  | Reverse leakage current | $T_j = 25^\circ C$  | $V_R = V_{RRM}$     |      | 20   | $\mu A$ |
|          |                         | $T_j = 100^\circ C$ |                     |      | 0.5  | mA      |
| $V_F$ ** | Forward voltage drop    | $T_j = 25^\circ C$  | $I_F = 3 \text{ A}$ |      | 1.5  | V       |
|          |                         | $T_j = 100^\circ C$ | $I_F = 3 \text{ A}$ |      | 1.4  |         |

Pulse test : \*  $t_p = 5 \text{ ms}, \delta < 2 \%$   
 \*\*  $t_p = 380 \mu s, \delta < 2\%$

## BYT3400B(-TR)

---

### RECOVERY CHARACTERISTICS

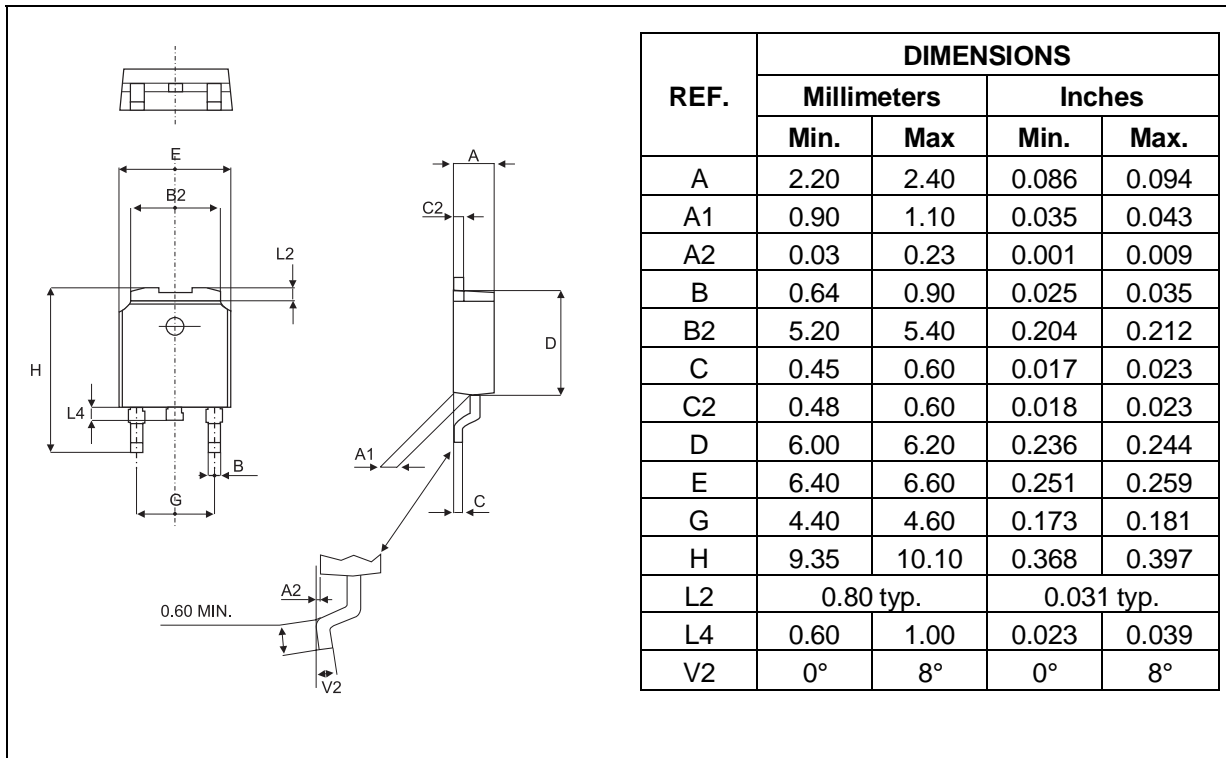
| Symbol | Test Conditions |  | Min. | Typ. | Max. | Unit |
|--------|-----------------|--|------|------|------|------|
| trr    | Tj = 25°C       | I <sub>F</sub> = 0.5A<br>I <sub>R</sub> = 1A |      |      | 25   | ns   |
|        |                 | I <sub>F</sub> = 1A<br>V <sub>R</sub> = 30V  |      |      | 60   | ns   |

### TURN-OFF SWITCHING CHARACTERISTICS

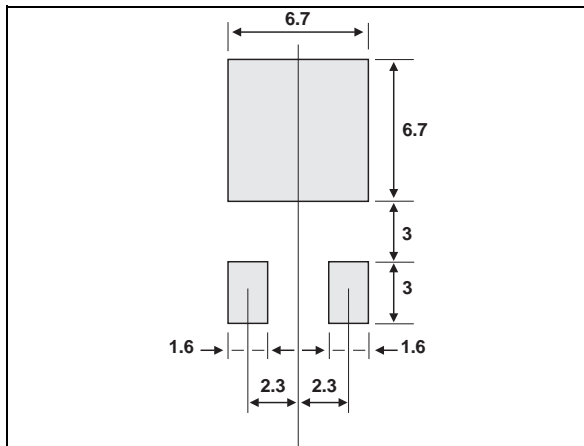
| Symbol           | Test Conditions        |                                | Min. | Typ. | Max. | Unit |
|------------------|------------------------|--------------------------------|------|------|------|------|
| t <sub>IRM</sub> | V <sub>CC</sub> = 200V | I <sub>F</sub> = 3A            |      | 35   | 50   | ns   |
| I <sub>RM</sub>  | Tj = 100°C             | dI <sub>F</sub> /dt = -50 A/μs |      | 1.5  | 2    | A    |

To evaluate the maximum conduction losses use the following equation :  
$$P = 1.1 \times I_{F(AV)} + 0.08 I_{F(RMS)}^2$$

**PACKAGE MECHANICAL DATA**  
DPAK



**FOOT PRINT (in millimeters)**



Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

The ST logo is a registered trademark of STMicroelectronics

© 1999 STMicroelectronics - Printed in Italy - All rights reserved.

STMicroelectronics GROUP OF COMPANIES

Australia - Brazil - China - Finland - France - Germany - Hong Kong - India - Italy - Japan - Malaysia  
Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - U.S.A.

<http://www.st.com>

