

FAST RECOVERY RECTIFIER DIODE
MAIN PRODUCT CHARACTERISTICS

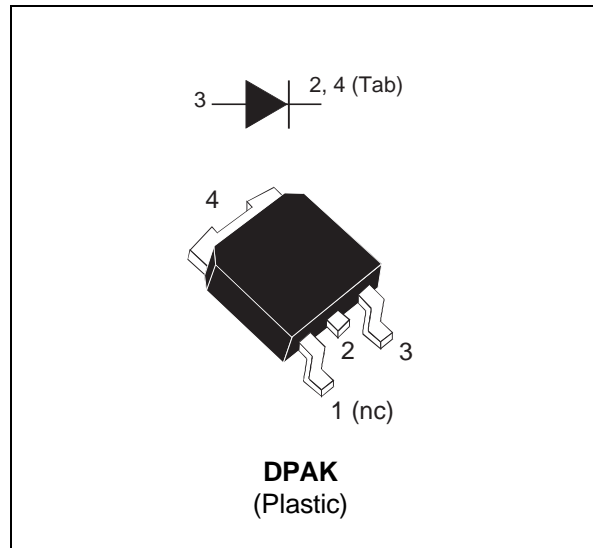
$I_{F(AV)}$	3 A
V_{RRM}	400 V
$V_F(max)$	1.4 V

PRELIMINARY DATASHEET
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	$T_{case} = ^\circ C \quad \delta = 0.5$	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	Max. Junction Temperature	150	$^\circ C$	

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{TH(j-c)}$	Junction to Case Thermal Resistance	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	μA
		$T_j = 100^\circ C$			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 : * $t_p = 5 \text{ ms}$, duty cycle < 2 %

** $t_p = 380 \mu s$, duty cycle < 2%

BYT3400B(-TR)

RECOVERY CHARACTERISTICS

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
t_{rr}	$T_j = 25^\circ\text{C}$	$I_F = 0.5\text{A}$ $I_R = 1\text{A}$			25	ns
		$I_F = 1\text{A}$ $V_R = 30\text{V}$			60	ns

TURN-OFF SWITCHING CHARACTERISTICS

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
t_{IRM}	$V_{CC} = 200\text{V}$ $T_j = 100^\circ\text{C}$	$I_F = 3\text{A}$ $dI_F/dt = -50\text{ A}/\mu\text{s}$		35	50	ns
I_{RM}						1.5

To evaluate the maximum conduction losses use the following equation :

$$P = 1.1 \times I_F(AV) + 0.08 I_F^2(RMS)$$

PACKAGE MECHANICAL DATA

DPAK

REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.094
A1	0.90		1.10	0.035		0.043
B	0.64		0.90	0.025		0.035
B2	5.20		5.40	0.204		0.212
C	0.45		0.60	0.017		0.023
C1	0.48		0.60	0.018		0.023
D	6.00		6.20	0.236		0.244
E	6.40		6.60	0.251		0.259
G	4.40		4.60	0.173		0.181
H	9.35		10.10	0.368		0.397
L1	0.60		1.00	0.023		0.039
L2		0.80			0.031	

Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics 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 SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied.

SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

© 1995 SGS-THOMSON Microelectronics - Printed in Italy - All rights reserved.

SGS-THOMSON Microelectronics GROUP OF COMPANIES

Australia - Brazil - France - Germany - Hong Kong - Italy - Japan - Korea - Malaysia - Malta - Morocco - The Netherlands - Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A.