

FAST RECOVERY RECTIFIER DIODE
MAIN PRODUCT CHARACTERISTICS

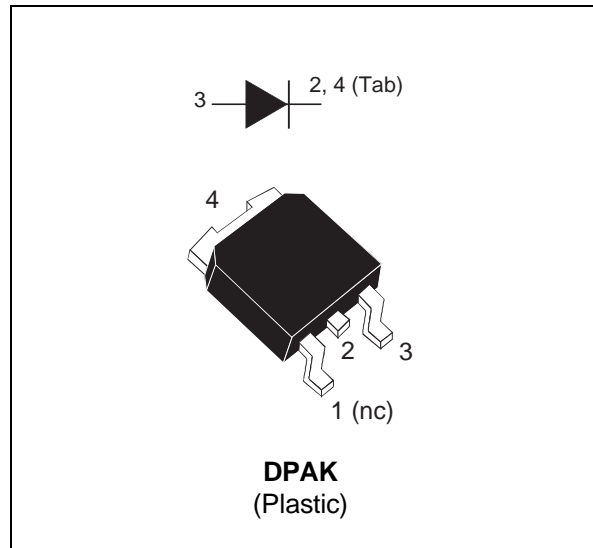
$I_{F(AV)}$	3 A
V_{RRM}	400 V
$V_F(max)$	1.4 V

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	$T_{case} = ^\circ C \quad \delta = 0.5$	A
I_{FSM}	Surge Non Repetitive Forward Current	$t_p = 10 \text{ ms Sinusoidal}$	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}	$V_{CC} = 200\text{V}$ $T_j = 100^\circ\text{C}$	$I_F = 3\text{A}$ $dI_F/dt = -50\text{ A}/\mu\text{s}$	$L_p \leq 0.05\mu\text{H}$		35	50	ns
I_{RM}					1.5	2	A

To evaluate the maximum conduction losses use the following equation :

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

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	

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