

## HIGH EFFICIENCY FAST RECOVERY DIODES

### MAIN PRODUCT CHARACTERISTICS

$I_{F(AV)}$	4 A
$V_{RRM}$	200 V
$V_F (max)$	0.85 V

### PRELIMINARY DATASHEET

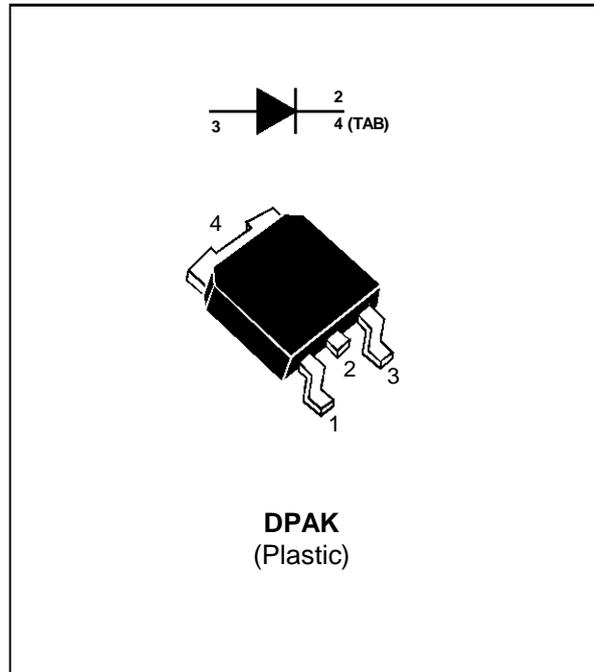
### FEATURES AND BENEFITS

- SUITED TO SMPS AND DRIVES
- SURFACE MOUNT PACKAGE
- VERY LOW FORWARD LOSSES
- NEGLIGIBLE SWITCHING LOSSES
- HIGH SURGE CURRENT CAPABILITY
- TAPE AND REEL OPTION : -TR

### DESCRIPTION

Single chip rectifier suited to Switch Mode Power Supplies and high frequency converters.

Packaged in DPAK, this surface mount device is intended for use in low voltage, high frequency inverters, free wheeling and rectification applications.



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
$V_{RRM}$	Repetitive Peak Reverse Voltage	200	V
$V_{RSM}$	Non Repetitive Surge Reverse Voltage	220	V
$I_{F(RMS)}$	RMS Forward Current	10	A
$I_{F(AV)}$	Average Forward Current	4	A
		$T_{case} = 130^{\circ}C$ $\delta = 0.5$	
$I_{FSM}$	Surge Non Repetitive Forward Current	70	A
		$t_p = 10\ ms$ Sinusoidal	
Tstg	Storage Temperature Range	- 40 to + 150	$^{\circ}C$
Tj	Max. Junction Temperature	150	$^{\circ}C$

## BYW4200B(-TR)

### THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{TH(j-c)}$	Junction to Case Thermal Resistance	5	°C/W

### STATIC ELECTRICAL CHARACTERISTICS

Symbol	Tests Conditions	Tests Conditions	Min.	Typ.	Max.	Unit
$I_R^*$	Reverse leakage Current	$T_j = 25^\circ\text{C}$			20	$\mu\text{A}$
		$T_j = 100^\circ\text{C}$			0.15	0.5
$V_F^{**}$	Forward Voltage drop	$T_j = 25^\circ\text{C}$			1.25	V
		$T_j = 100^\circ\text{C}$			0.8	

Pulse test : \*  $t_p = 5 \text{ ms}$ , duty cycle < 2 %

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

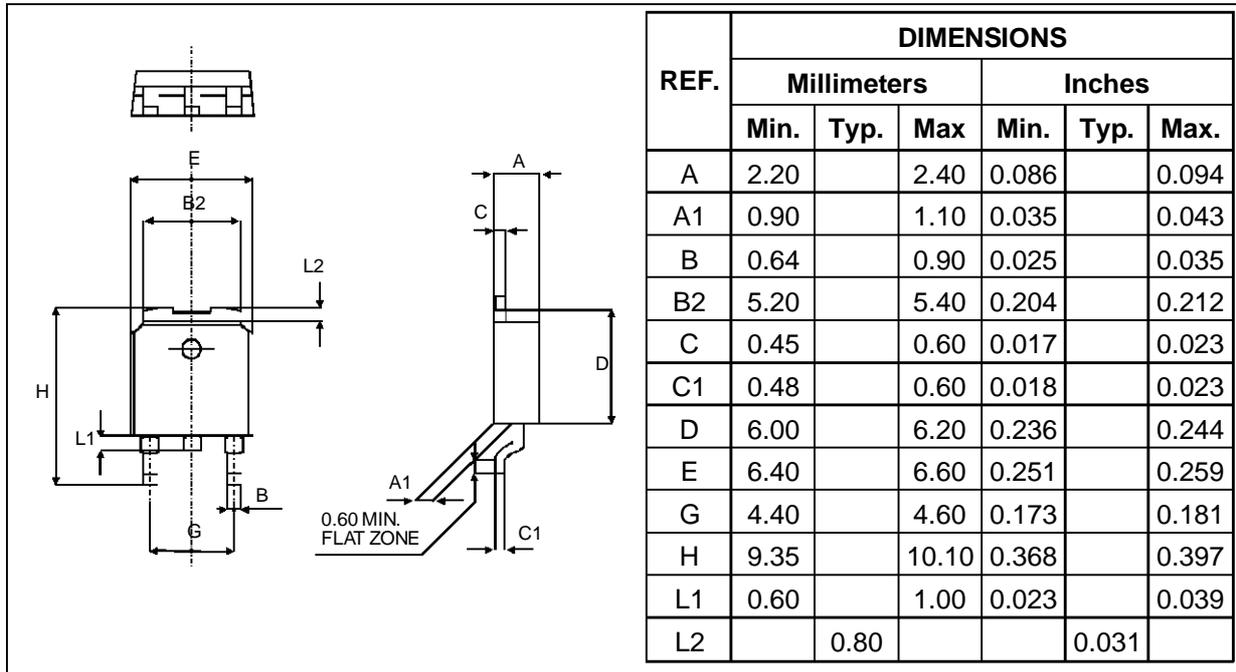
To evaluate the maximum conduction losses use the following equation :

$$P = 0.7 \times I_{F(AV)} + 0.030 I_{F(RMS)}^2$$

### RECOVERY CHARACTERISTICS

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
$t_{rr}$	$T_j = 25^\circ\text{C}$	$I_F = 1\text{A}$ $V_F = 30\text{V}$	$di_F/dt = -50 \text{ A}/\mu\text{s}$		30	35	ns
$t_{fr}$	$T_j = 25^\circ\text{C}$	$I_F = 1\text{A}$ $V_{FR} = 1.1 \times V_F$	$t_r = 10 \text{ ns}$		20		ns
$V_{FP}$	$T_j = 25^\circ\text{C}$	$I_F = 1\text{A}$	$t_r = 10 \text{ ns}$		5		V

**PACKAGE MECHANICAL DATA**  
DPAK



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