

## BYW100-200

### THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-a)}$	Junction to ambient*	45	°C/W

\* On infinite heatsink with 10mm lead length.

### STATIC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Tests conditions		Min.	Typ.	Max.	Unit
$I_R^*$	Reverse leakage current	$T_j = 25^\circ\text{C}$	$V_R = V_{RRM}$			10	$\mu\text{A}$
		$T_j = 100^\circ\text{C}$				0.5	mA
$V_F^{**}$	Forward voltage drop	$T_j = 25^\circ\text{C}$	$I_F = 4.5\text{A}$			1.2	V
		$T_j = 100^\circ\text{C}$	$I_F = 1.5\text{A}$		0.78	0.85	

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

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

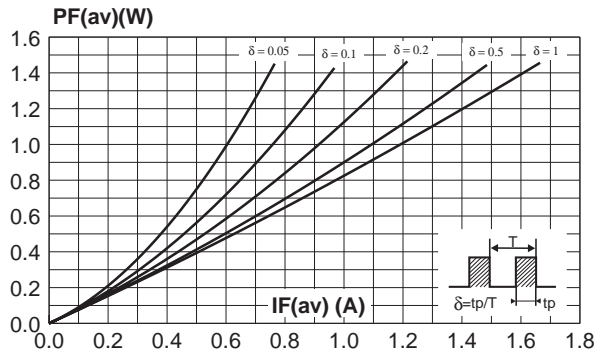
To evaluate the maximum conduction losses use the following equation :

$$P = 0.75 \times I_{F(AV)} + 0.075 \times I_{F(RMS)}^2$$

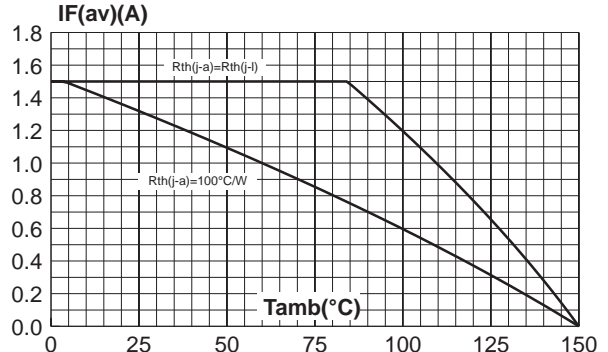
### RECOVERY CHARACTERISTICS

Symbol	Tests conditions		Min.	Typ.	Max.	Unit
$t_{rr}$	$I_F = 1\text{A}$	$di_F/dt = -50\text{A}/\mu\text{s}$ $V_R = 30\text{V}$			35	ns
$t_{fr}$	$I_F = 1.5\text{A}$	$di_F/dt = -50\text{A}/\mu\text{s}$ Measured at $1.1 \times V_{Fmax}$		30		ns
$V_{FP}$	$I_F = 1.5\text{A}$	$di_F/dt = -50\text{A}/\mu\text{s}$		5		V
$Q_{rr}$	$I_F = 1.5\text{A}$	$di_F/dt = -20\text{A}/\mu\text{s}$ $V_R \leq 30\text{V}$		10		nC

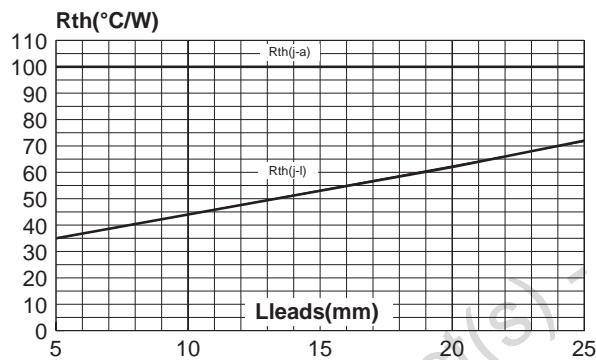
**Fig. 1:** Average forward power dissipation versus average forward current.



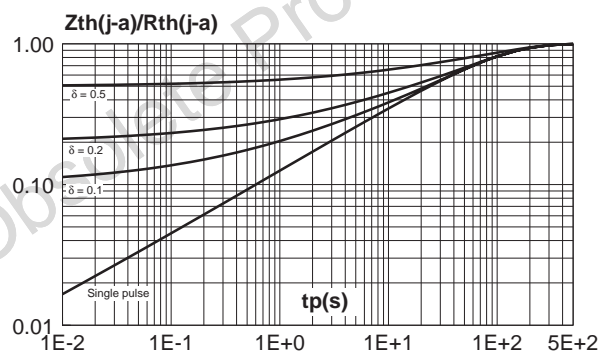
**Fig. 2:** Average forward current versus ambient temperature ( $\delta=0.5$ ).



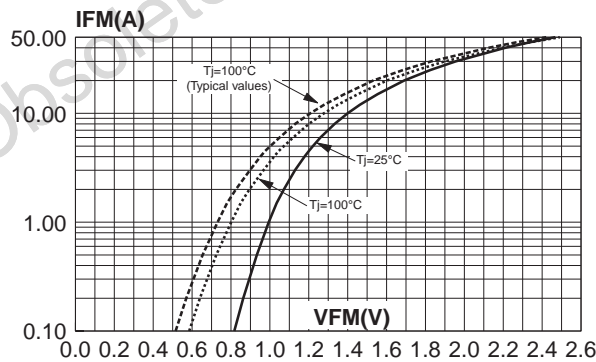
**Fig. 3:** Thermal resistance versus lead length.



**Fig. 4:** Variation of thermal impedance to ambient versus pulse duration (recommended pad layout, epoxy FR4,  $e(\text{Cu}) = 35\mu\text{m}$ ).



**Fig. 5:** Forward voltage drop versus forward current (maximum values).



**Fig. 6:** Junction capacitance versus reverse voltage applied (typical values).

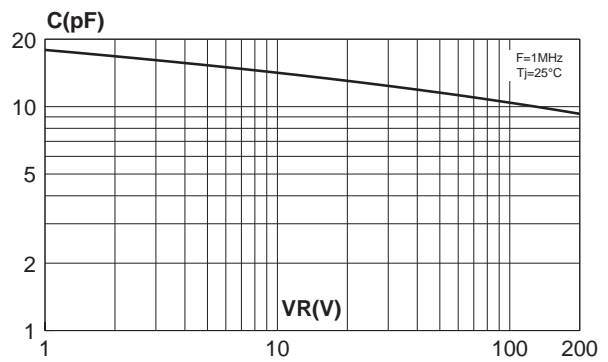


Fig. 7: Reverse recovery time versus  $dl_F/dt$ .

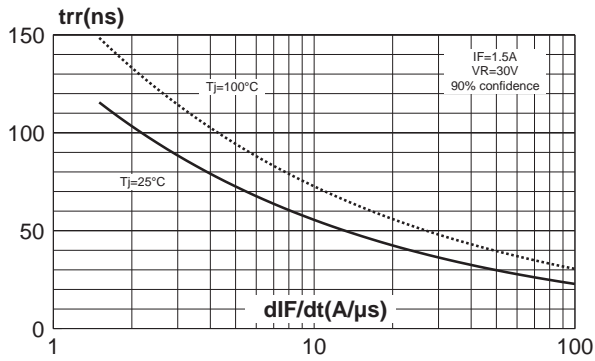


Fig. 8: Peak reverse recovery current versus  $dl_F/dt$ .

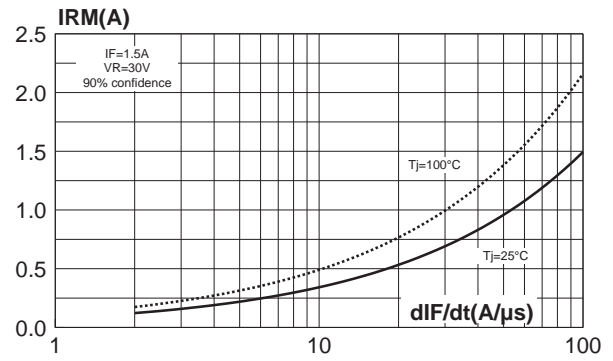
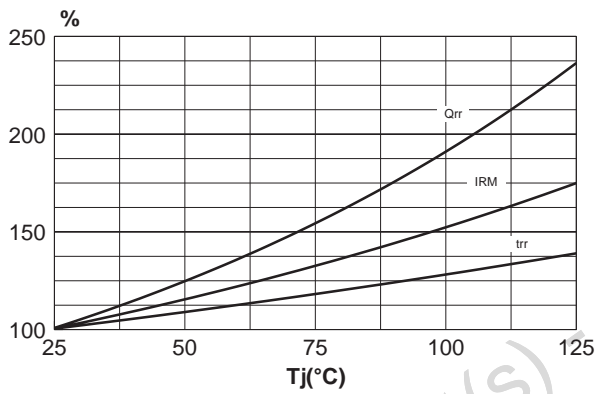
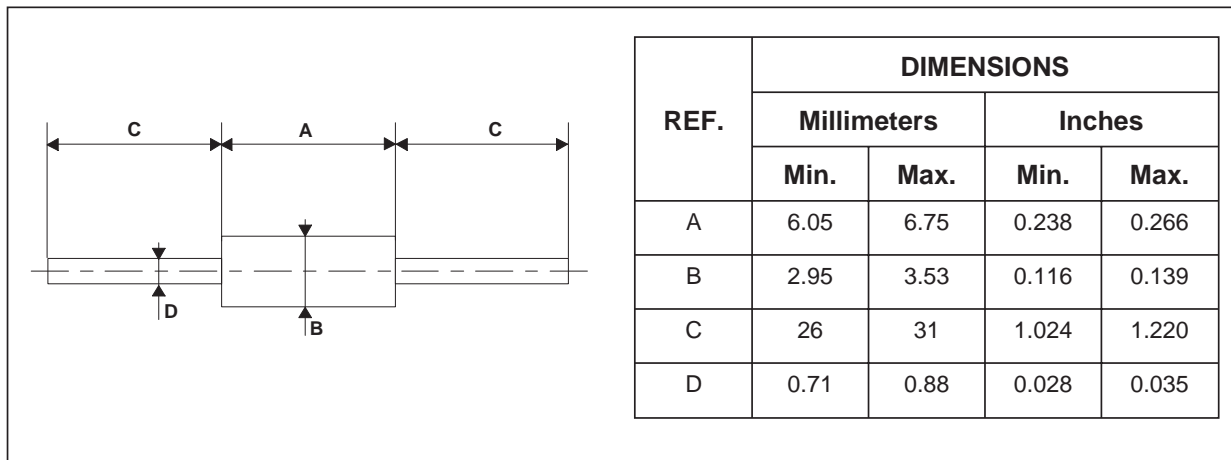


Fig. 9: Dynamic parameters versus junction temperature.



**PACKAGE MECHANICAL DATA**  
DO-15



Ordering code	Marking	Package	Weight	Base qty	Delivery mode
BYW100-200	BYW100-200	DO-15	0.4 g	1000	Ammopack
BYW100-200RL	BYW100-200	DO-15	0.4 g	6000	Tape and reel

- White band indicates cathode
- Epoxy meets UL 94,V0

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