

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	μA
		$T_j = 100^\circ\text{C}$				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 : * $t_p = 5\text{ ms}$, $\delta < 2\%$

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

To evaluate the maximum conduction losses use the following equation :

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

RECOVERY CHARACTERISTICS

Symbol	Tests conditions			Min.	Typ.	Max.	Unit
t_{rr}	$I_F = 1\text{A}$	$di_F/dt = -50\text{A}/\mu\text{s}$	$V_R = 30\text{V}$	$T_j = 25^\circ\text{C}$		35	ns
t_{fr}	$I_F = 1.5\text{A}$	$di_F/dt = -50\text{A}/\mu\text{s}$	Measured at $1.1 \times V_{Fmax}$	$T_j = 25^\circ\text{C}$	30		ns
V_{FP}	$I_F = 1.5\text{A}$	$di_F/dt = -50\text{A}/\mu\text{s}$	$T_j = 25^\circ\text{C}$		5		V
Q_{rr}	$I_F = 1.5\text{A}$	$di_F/dt = -20\text{A}/\mu\text{s}$	$V_R \leq 30\text{V}$	$T_j = 25^\circ\text{C}$	10		nC

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

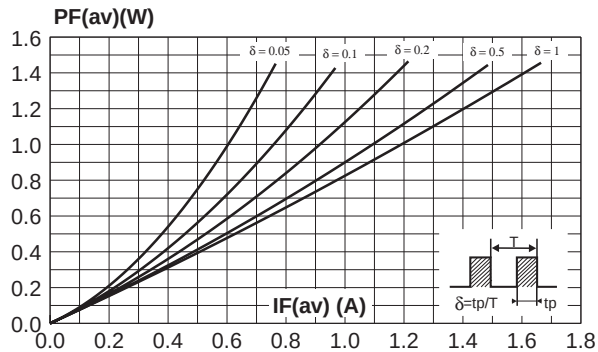


Fig. 2: Average forward current versus ambient temperature ($\delta=0.5$).

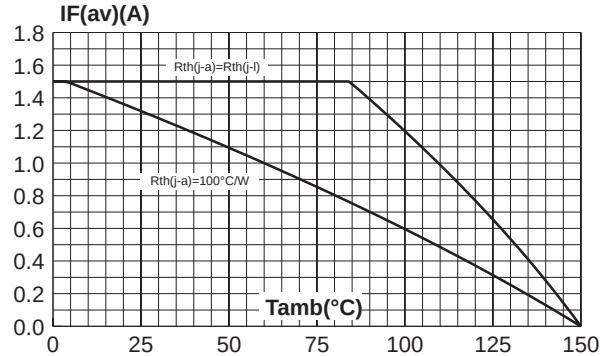


Fig. 3: Thermal resistance versus lead length.

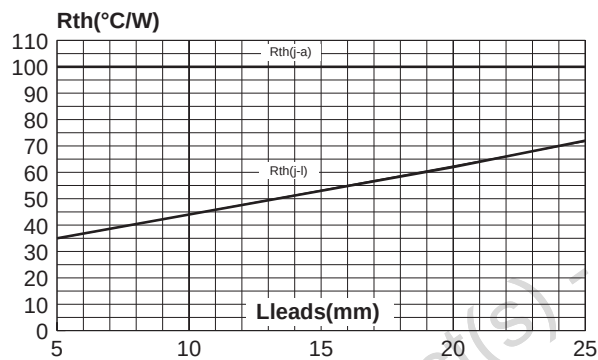


Fig. 4: Variation of thermal impedance to ambient versus pulse duration (recommended pad layout, epoxy FR4, e(Cu) = 35 μm).

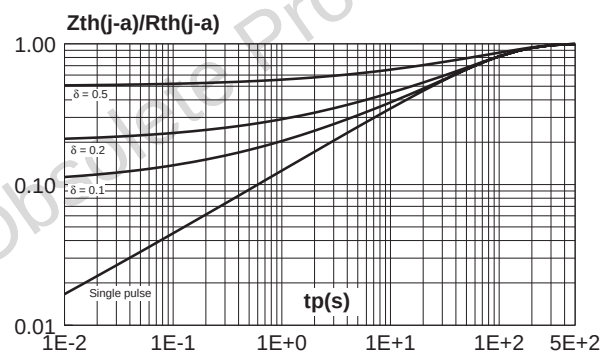


Fig. 5: Forward voltage drop versus forward current (maximum values).

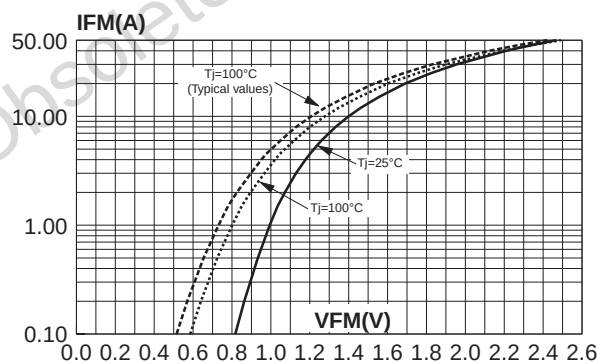


Fig. 6: Junction capacitance versus reverse voltage applied (typical values).

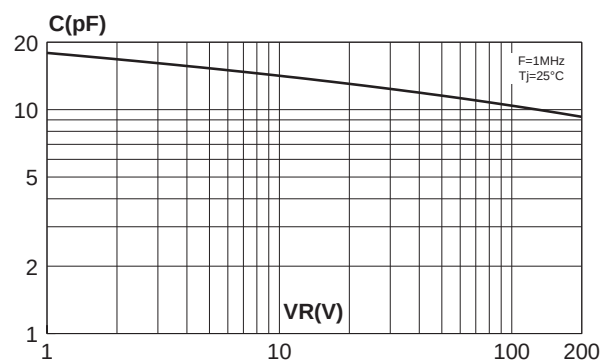


Fig. 7: Reverse recovery time versus dI_F/dt .

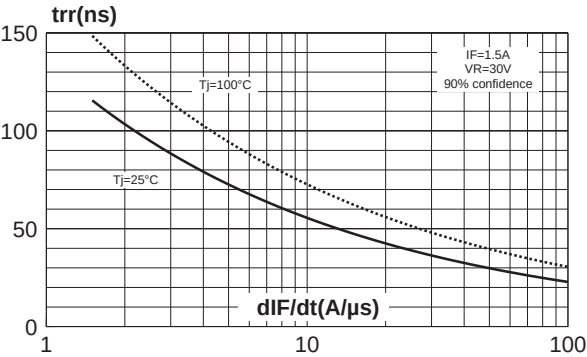


Fig. 8: Peak reverse recovery current versus dI_F/dt .

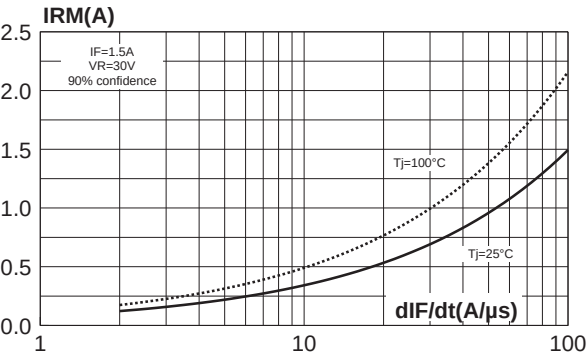
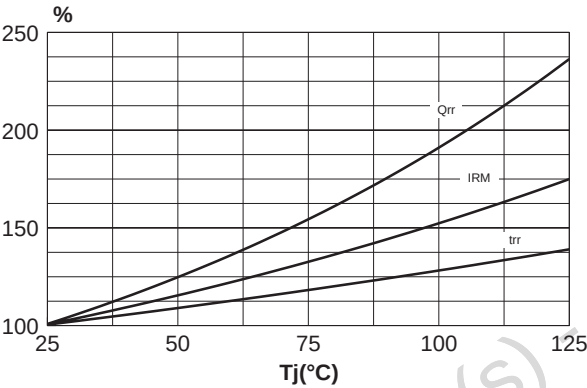


Fig. 9: Dynamic parameters versus junction temperature.



PACKAGE MECHANICAL DATA

DO-15

REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	6.05	6.75	0.238	0.266
B	2.95	3.53	0.116	0.139
C	26	31	1.024	1.220
D	0.71	0.88	0.028	0.035

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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