

**BYW81P-200 / BYW81PI-200 / BYW81G-200**

**THERMAL RESISTANCE**

Symbol	Parameter		Value	Unit
Rth (j-c)	Junction to case	BYW81P	2.0	°C/W
		BYW81PI / G	3.5	

**ELECTRICAL CHARACTERISTICS  
STATIC CHARACTERISTICS**

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
I <sub>R</sub> *	T <sub>j</sub> = 25°C	V <sub>R</sub> = V <sub>RRM</sub>			20	μA
	T <sub>j</sub> = 100°C				1.5	mA
V <sub>F</sub> **	T <sub>j</sub> = 125°C	I <sub>F</sub> = 12 A			0.85	V
	T <sub>j</sub> = 125°C	I <sub>F</sub> = 25 A			1.05	
	T <sub>j</sub> = 25°C	I <sub>F</sub> = 25 A			1.15	

Pulse test :

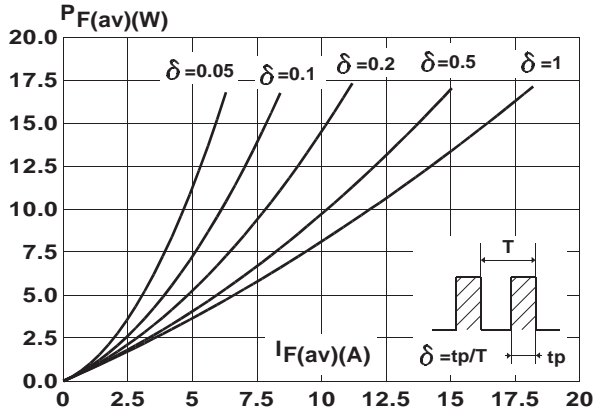
\* tp = 5 ms, duty cycle < 2 %

\*\* tp = 380 μs, duty cycle < 2 %

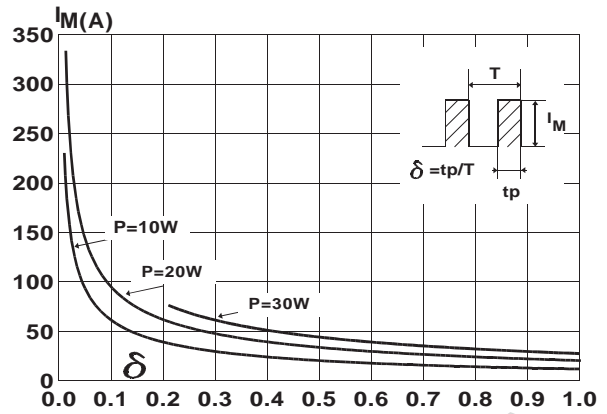
**RECOVERY CHARACTERISTICS**

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
trr	T <sub>j</sub> = 25°C	I <sub>F</sub> = 0.5A I <sub>R</sub> = 1A	I <sub>rr</sub> = 0.25A			25	ns
		I <sub>F</sub> = 1A V <sub>R</sub> = 30V	dI <sub>F</sub> /dt = -50A/μs			40	
tfr	T <sub>j</sub> = 25°C	I <sub>F</sub> = 1A V <sub>FR</sub> = 1.1 x V <sub>F</sub>	tr = 10 ns		15		ns
V <sub>FP</sub>	T <sub>j</sub> = 25°C	I <sub>F</sub> = 1A	tr = 10 ns		2		V

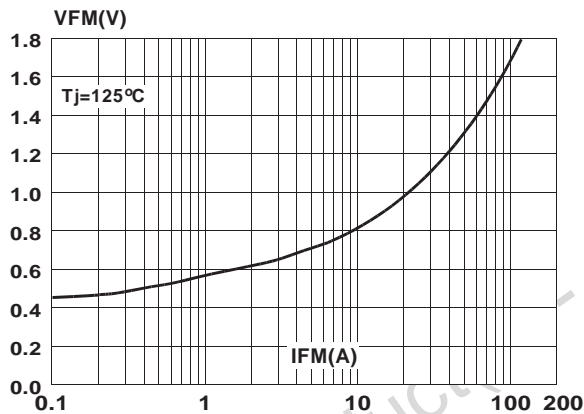
**Fig. 1:** Average forward power dissipation versus average forward current.



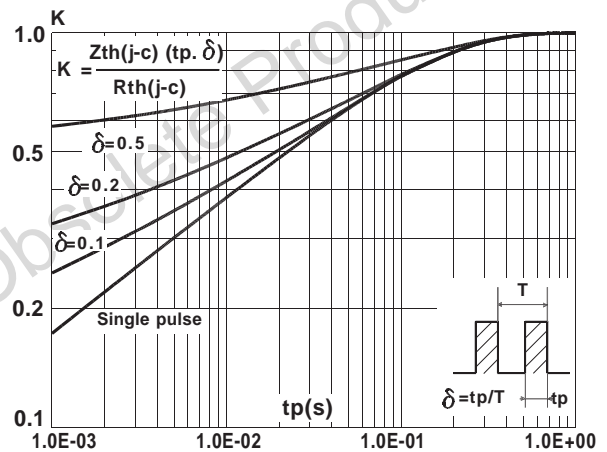
**Fig. 2:** Peak current versus form factor.



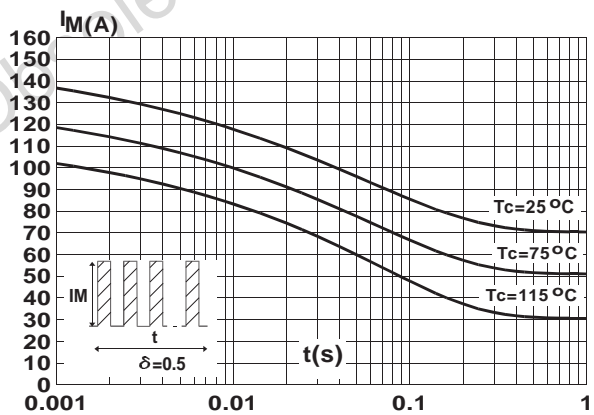
**Fig. 3:** Forward voltage drop versus forward current (maximum values).



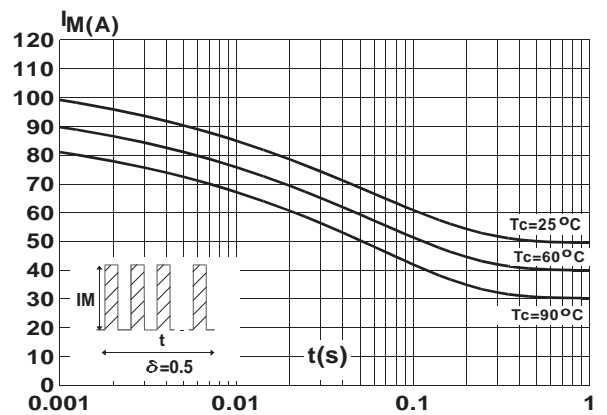
**Fig. 4:** Relative variation of thermal impedance junction to case versus pulse duration.



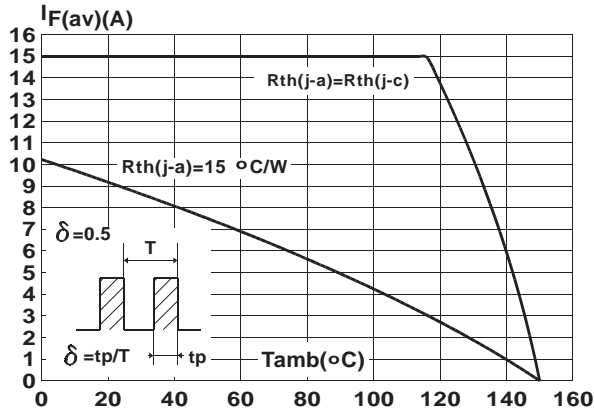
**Fig. 5:** Non repetitive surge peak forward current versus overload duration (BYW81P).



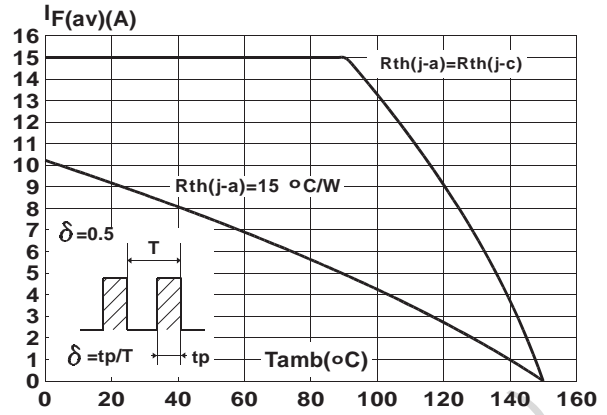
**Fig. 6:** Non repetitive surge peak forward current versus overload duration (BYW81PI / BYW81G).



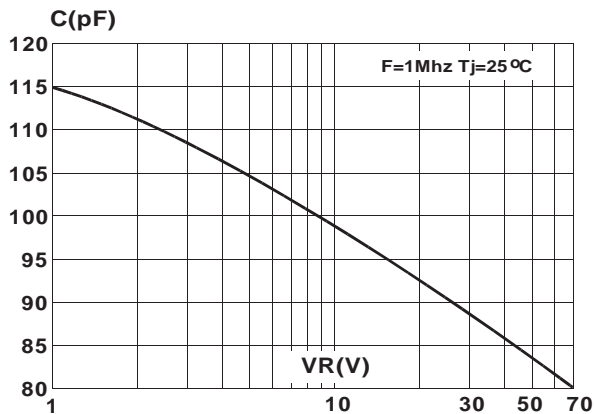
**Fig. 7:** Average current versus ambient temperature.  
(duty cycle : 0.5) (BYW81P)



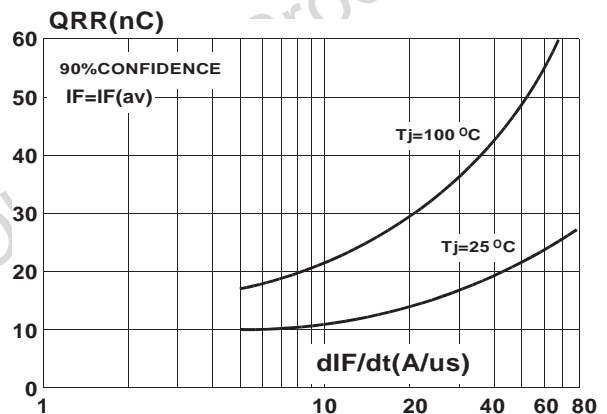
**Fig. 8:** Average current versus ambient temperature.  
(duty cycle : 0.5) (BYW81PI / BYW81G)



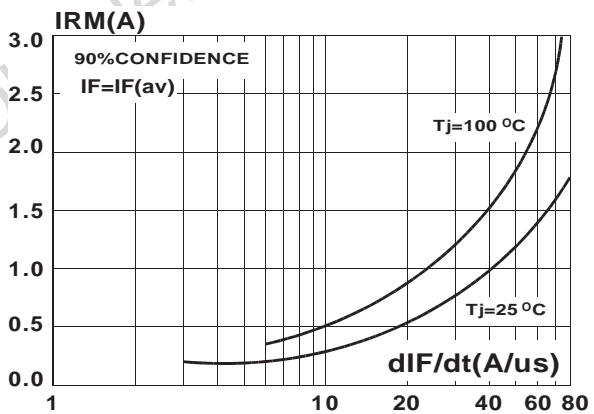
**Fig. 9:** Junction capacitance versus reverse voltage applied (Typical values).



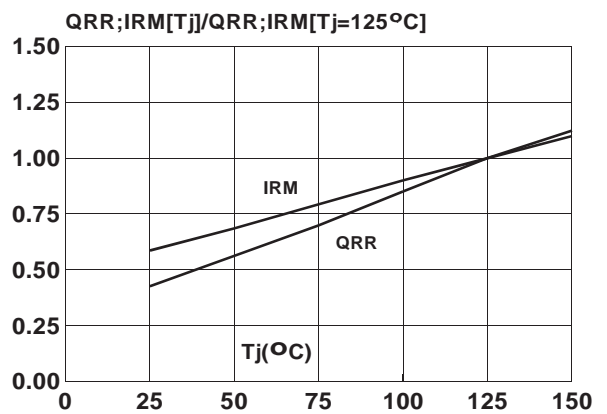
**Fig. 10:** Recovery charges versus  $dI_F/dt$ .



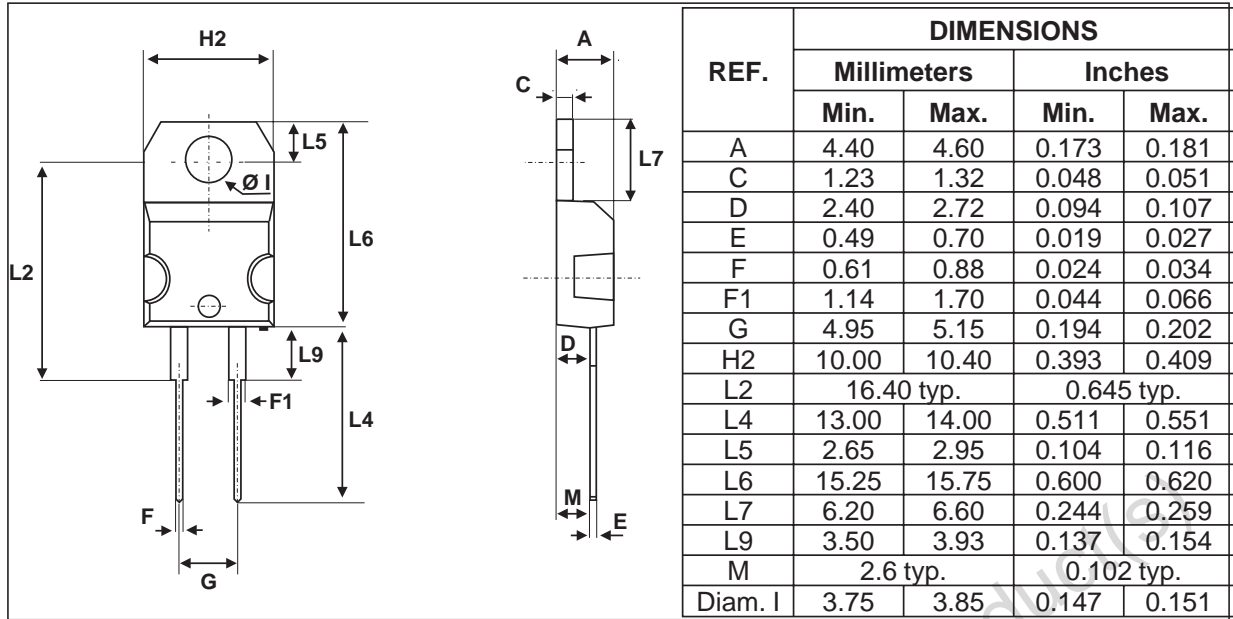
**Fig. 11:** Peak reverse current versus  $dI_F/dt$ .



**Fig. 12:** Dynamic parameters versus junction temperature.

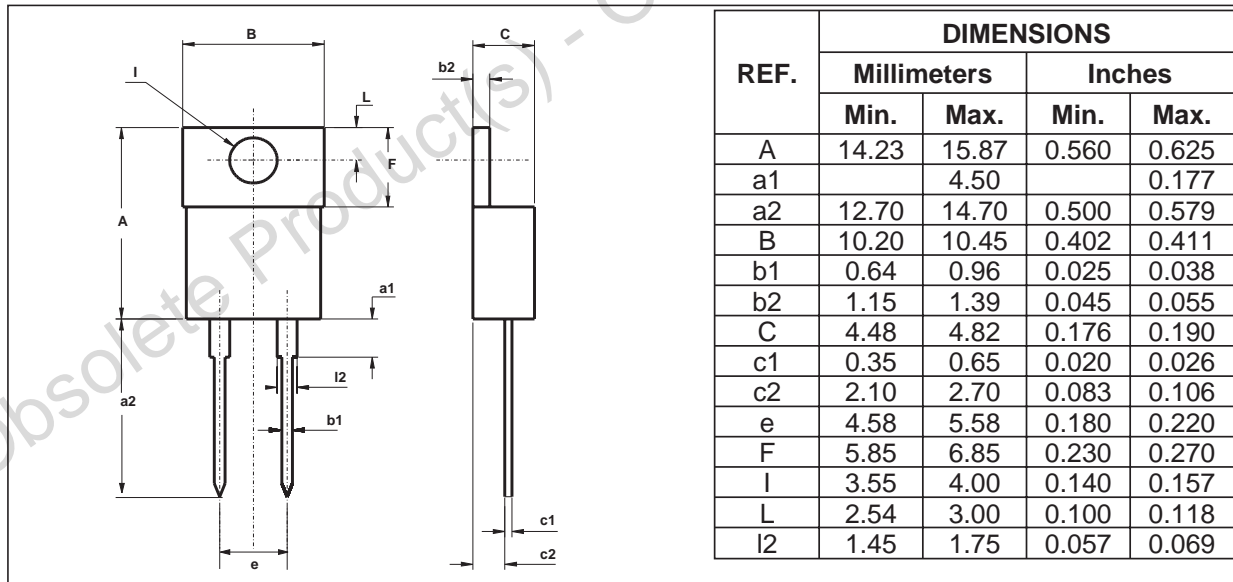


**PACKAGE MECHANICAL DATA**  
TO-220AC (JEDEC outline)



- **Marking** : Type number
- Cooling method : C
- Weight : 1.9 g
- Recommended torque value : 0.8m.N
- Maximum torque value : 1.0m.N

**PACKAGE MECHANICAL DATA**  
TO-220AC (isolated)



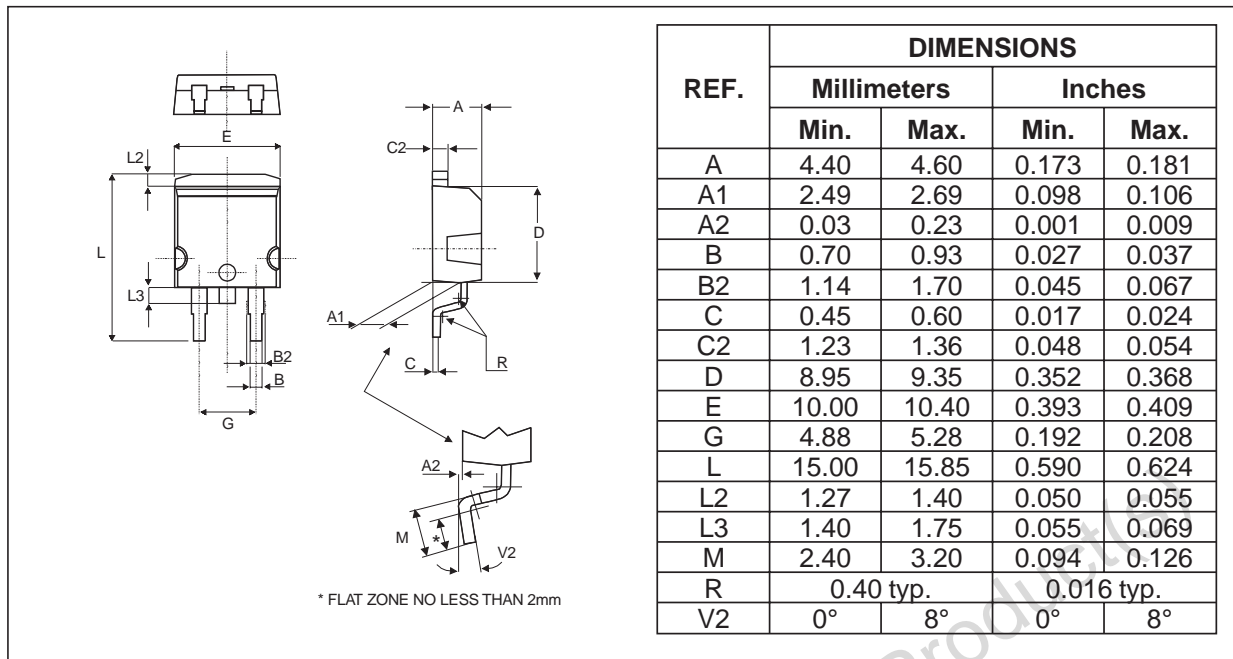
- **Marking** : Type number
- Cooling method : C
- Weight : 2.2 g
- Recommended torque value : 0.8m.N
- Maximum torque value : 1.0m.N



**BYW81P-200 / BYW81PI-200 / BYW81G-200**

**PACKAGE MECHANICAL DATA**

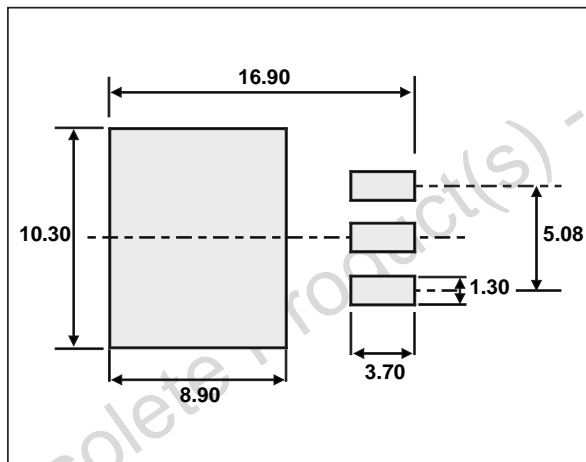
D<sup>2</sup>PAK (Plastic)



- Cooling method: by conduction (method C)

**FOOT PRINT DIMENSIONS (in millimeters)**

D<sup>2</sup>PAK



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