BYW 100-200

HIGH EFFICIENCY FAST RECOVERY RECTIFIER DIODES

- VERY LOW CONDUCTION LOSSES
- NEGLIGIBLE SWITCHING LOSSES
- LOW FORWARD AND REVERSE RECOVERY TIMES
- HIGH SURGE CURRENT
- THE SPECIFICATIONS AND CURVES ENABLE THE DETERMINATION OF t_{rr} AND I_{RM} AT 100°C UNDER USERS CONDITIONS

F 126
(Plastic)

DESCRIPTION

Low voltage drop and rectifier suited for switching mode base drive and transistor circuits.

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
I_{FRM}	Repetive peak forward current	$t_p \leq 20\mu s$	50	A
$I_{F\,(AV)}$	Average forward current*	$T_{a\,=}$ 90°C $\delta = 0.5$	1.5	A
I_{FSM}	Surge non repetitive forward current	t_p = 10ms Sinusoidal	50	A
P_{tot}	Power dissipation*	$T_{a\,=}$ 90°C	1.3	W
T_{stg} T_j	Storage and junction temperature range		- 40 to + 150 - 40 to + 150	°C
T_L	Maximum lead temperature for soldering during 10s at 4mm from case		230	°C

Symbol	Parameter	Value	Unit
V_{RRM}	Repetitive peak reverse voltage	200	V
V_{RSM}	Non repetitive peak reverse voltage	220	V

THERMAL RESISTANCE

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

* On infinite heatsink with 10mm lead length.

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

Synbol	Test Conditions		Min.	Typ.	Max.	Unit
I_R	T_j = 25°C	$V_R = V_{RRM}$			10	µA
	T_j = 100°C				0.5	mA
V_F	T_j = 25°C	I_F = 4.5A			1.2	V
	T_j = 100°C	I_F = 1.5A			0.85	

RECOVERY CHARACTERISTICS

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
t_{rr}	T_j = 25°C V_R = 30V	I_F = 1A See figure 10	di_F/dt = - 50A/µs			35	ns
Q_{rr}	T_j = 25°C $V_R \leq$ 30V	I_F = 1A	di_F/dt = - 20A/µs		10		nC
t_{fr}	T_j = 25°C Measured at 1.1 x V_F	I_F = 1A	t_r = 10ns		30		ns
V_{FP}	T_j = 25°C	I_F = 1A	t_r = 10ns		5		V

To evaluate the conduction losses use the following equations:

$V_F = 0.66 + 0.075\ I_F$

$P = 0.06 \times I_{F(AV)} + 0.075\ I_F{}^2{}_{(RMS)}$

Figure 1. Maximum average power dissipation versus average forward current.

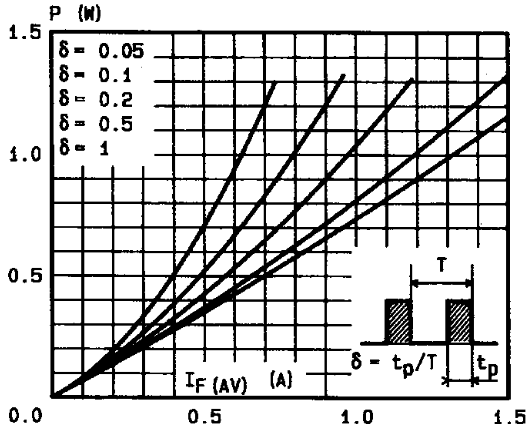


Figure 2. Average forward current versus ambient temperature.

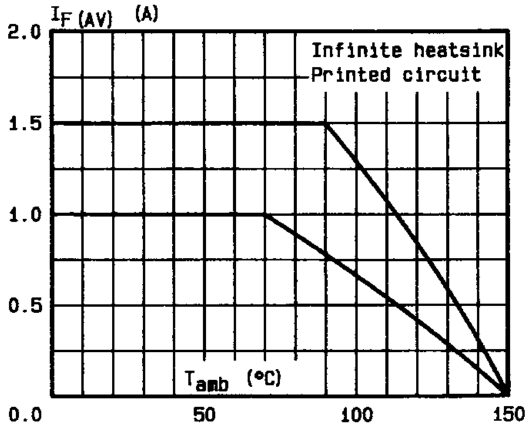
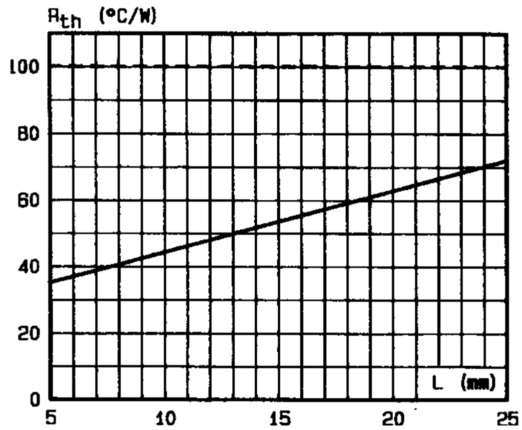


Figure 3. Thermal resistance versus lead length.



Mounting n°1
INFINITE HEATSINK

Mounting n°2
PRINTED CIRCUIT

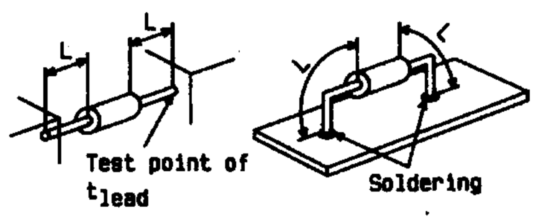


Figure 4. Transient thermal impedance junction-ambient for mounting n°2 versus pulse duration (L = 10 mm).

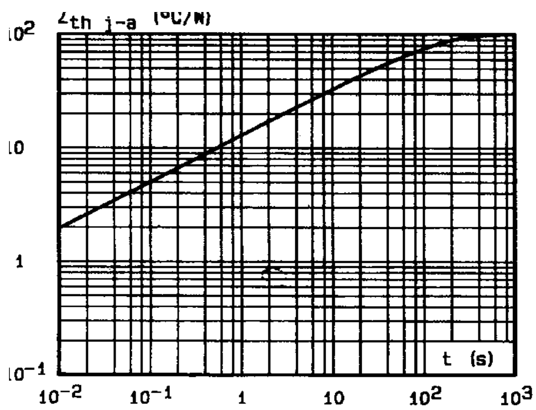


Figure 5. Peak forward current versus peak forward voltage drop (maximum values).

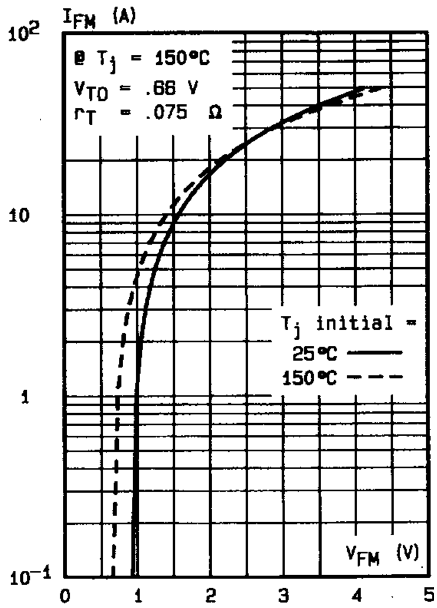


Figure 6. Capacitance versus reverse voltage applied.

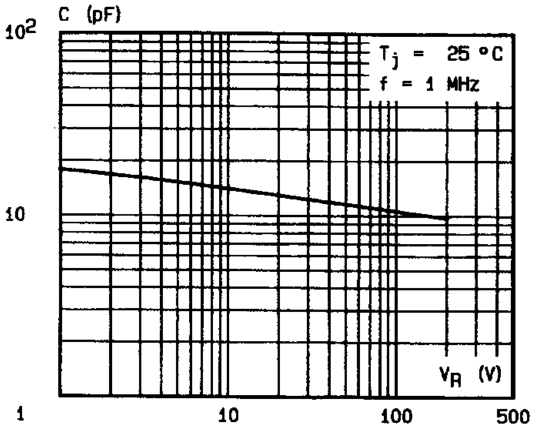


Figure 7. Recovery time versus di_F/dt.

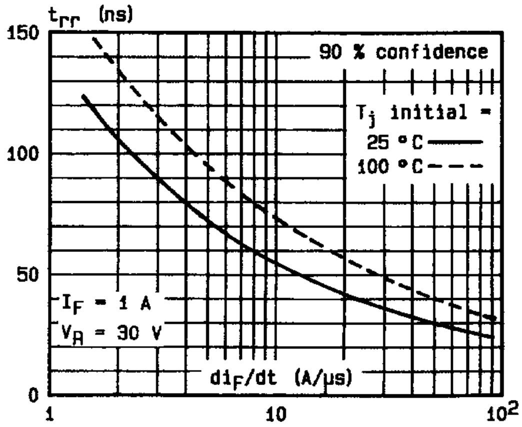


Figure 8. Peak reverse current versus di_F/dt.

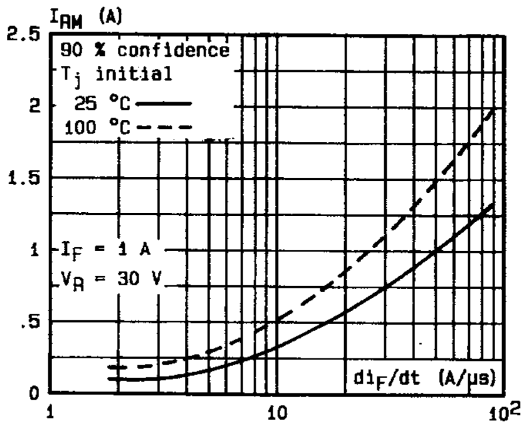


Figure 9. Dynamic parameters versus junction temperature.

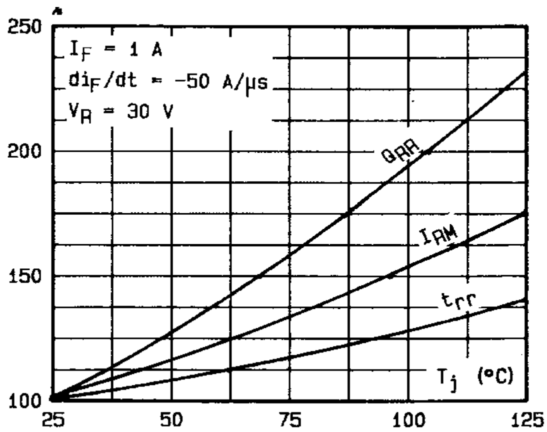
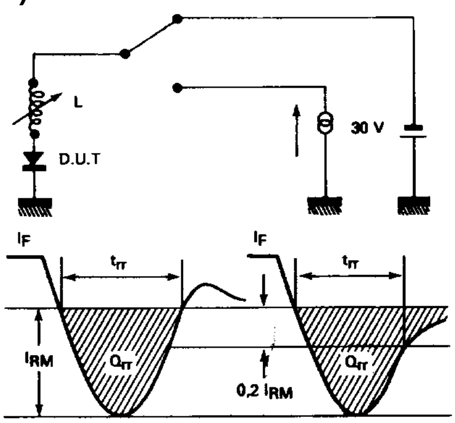
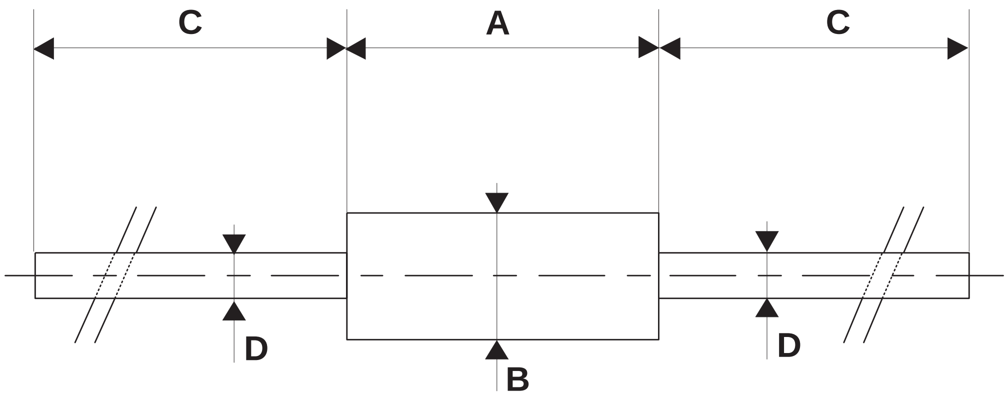


Figure 10. Measurement of t_{rr} (Fig. 7) and I_{RM} (Fig. 8).



PACKAGE MECHANICAL DATA

F 126 (Plastic)



REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	6.05	6.20	6.35	0.238	0.244	0.250
B	2.95	3.00	3.05	0.116	0.118	0.120
C	26		31	1.024		1.220
D	0.76	0.81	0.86	0.030	0.032	0.034

Cooling method: by convection (method A)
Marking: type number
Weight: 0.393g