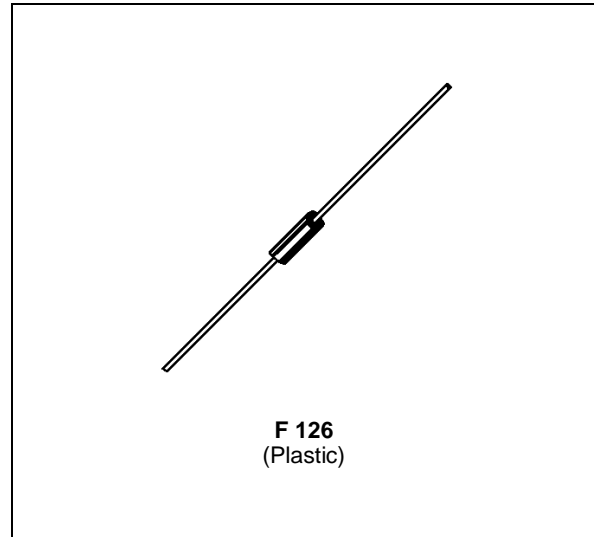


## FAST RECOVERY RECTIFIER DIODES

- VERY FAST FORWARD AND REVERSE RECOVERY DIODES

### SUITABLE APPLICATION

- SWITCHING POWER TRANSISTORS DRIVER CIRCUITS (SERIES DIODES IN ANTISATURATION CLAMP SPEED UP DIODE IN DISCRETE DARLINGTON...)
- THYRISTORS GATE DRIVER CIRCUITS
- HIGH FREQUENCY RECTIFICATION



### ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
$I_{FRM}$	Repetive Peak Forward Current	$t_p \leq 20\mu s$	20	A
$I_F (AV)$	Average Forward Current*	$T_a = 25^\circ C$ $\delta = 0.5$	1	A
$I_{FSM}$	Surge non Repetitive Forward Current	$t_p = 10ms$ Sinusoidal	20	A
$P_{tot}$	Power Dissipation*	$T_a = 25^\circ C$	1.7	W
$T_{stg}$ $T_j$	Storage and Junction Temperature Range		- 40 to 125	$^\circ C$
$T_L$	Maximum Lead Temperature for Soldering during 10s at 4mm from Case		230	$^\circ C$

Symbol	Parameter	PLQ 08	PLQ 1	Unit
$V_{RRM}$	Repetitive Peak Reverse Voltage	80	100	V
$V_{RSM}$	Non Repetitive Peak Reverse Voltage	80	100	V

### THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
$R_{th(j-a)}$	Junction-ambient*	60	$^\circ C/W$

\* On infinite heatsink with 10mm lead length.

**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>			10	μA
	T <sub>j</sub> = 100°C				0.5	mA
V <sub>F</sub>	T <sub>j</sub> = 25°C	I <sub>F</sub> = 1A			1.1	V

RECOVERY CHARACTERISTICS

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
t <sub>rr</sub>	T <sub>j</sub> = 25°C V <sub>R</sub> = 30V	I <sub>F</sub> = 1A See figure 12	di <sub>F</sub> /dt = - 50A/μs			50	ns
t <sub>fr</sub>	T <sub>j</sub> = 25°C Measured at 1.1 x V <sub>F</sub>	I <sub>F</sub> = 1A	t <sub>r</sub> = 20ns			50	ns

Figure 1. Power losses versus average current.

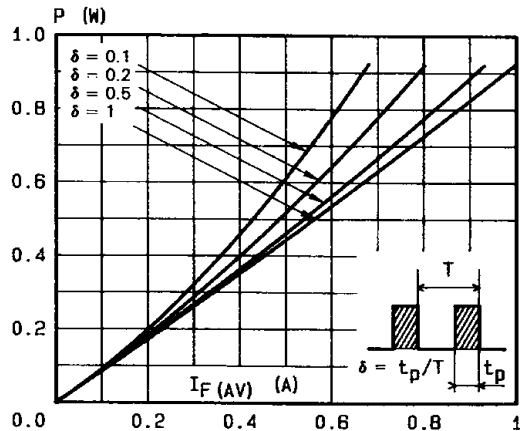


Figure 2. Allowable DC current versus ambient temperature.

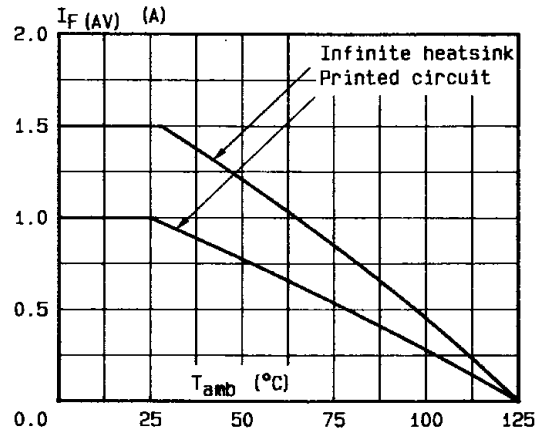


Figure 3. Non repetitive surge peak current versus number of cycles.

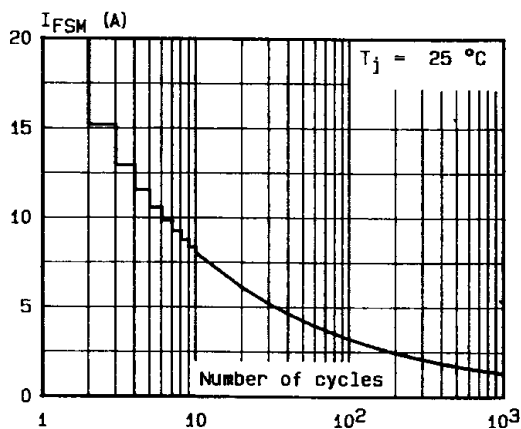


Figure 4. Transient thermal impedance junction-ambient. Printed circuit versus pulse duration (L = 10 mm).

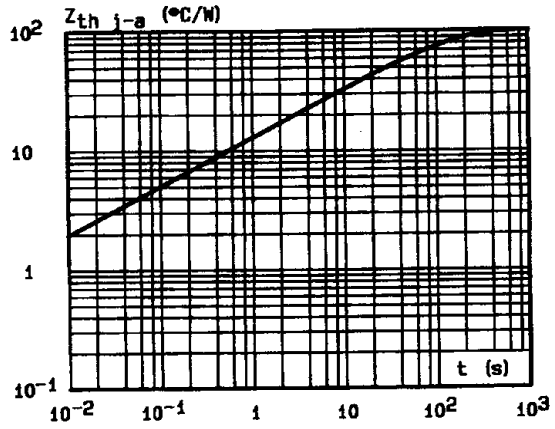


Figure 5. Voltage drop versus forward current.

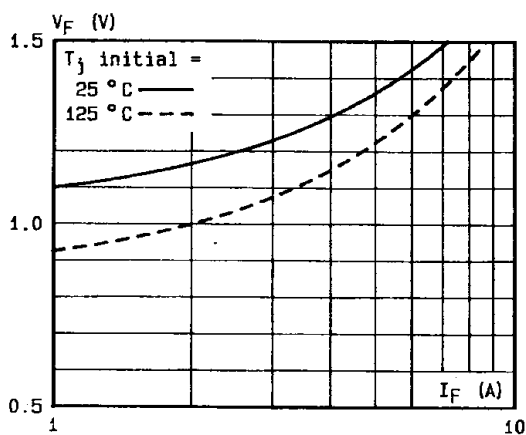


Figure 6. Voltage drop versus forward current.

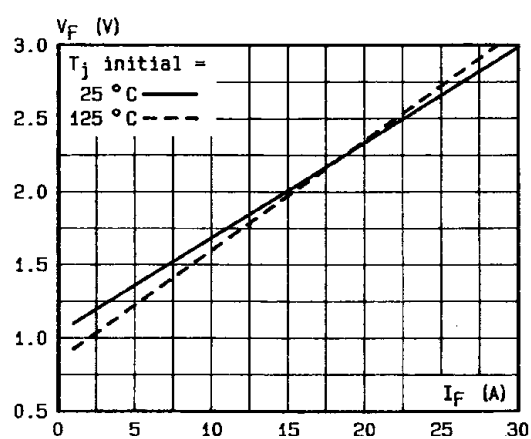


Figure 7. Capacitance versus reverse voltage applied.

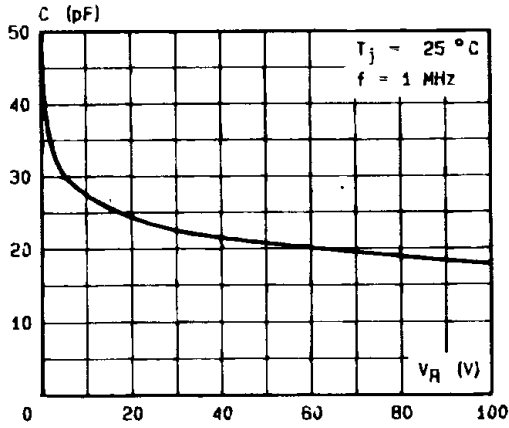


Figure 8. Thermal resistance junction-ambient versus lead length.

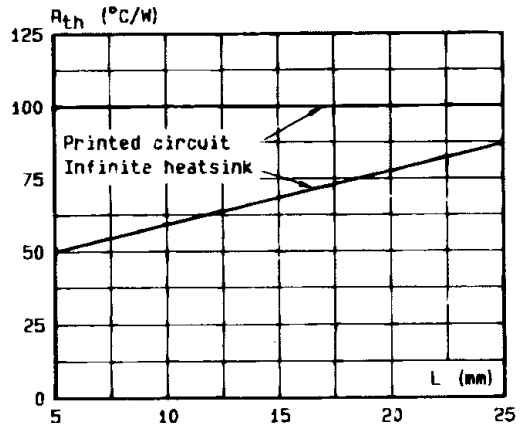


Figure 9. Recovery time versus  $di_F/dt$ .

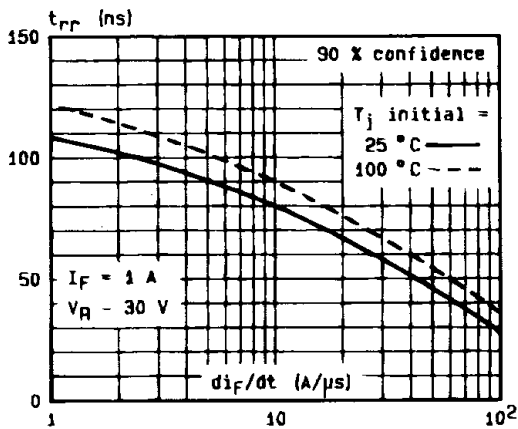


Figure 10. Peak reverse current versus  $di_F/dt$ .

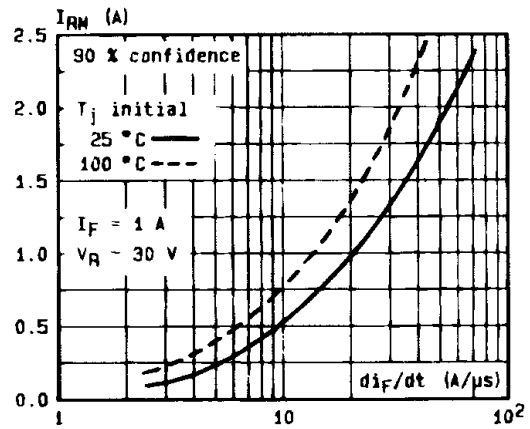


Figure 11. Dynamic parameters versus junction temperature.

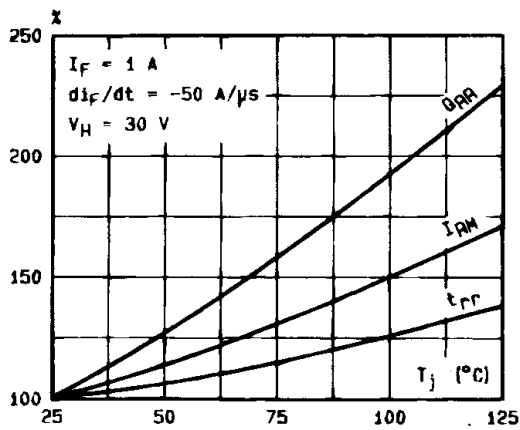
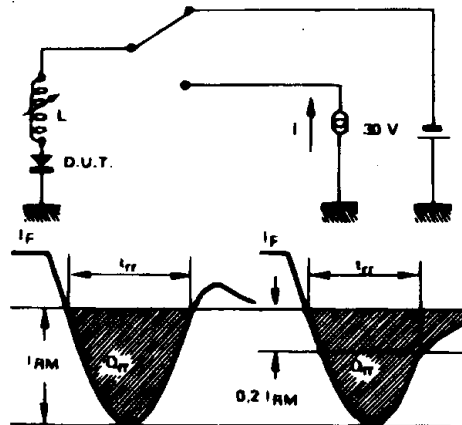
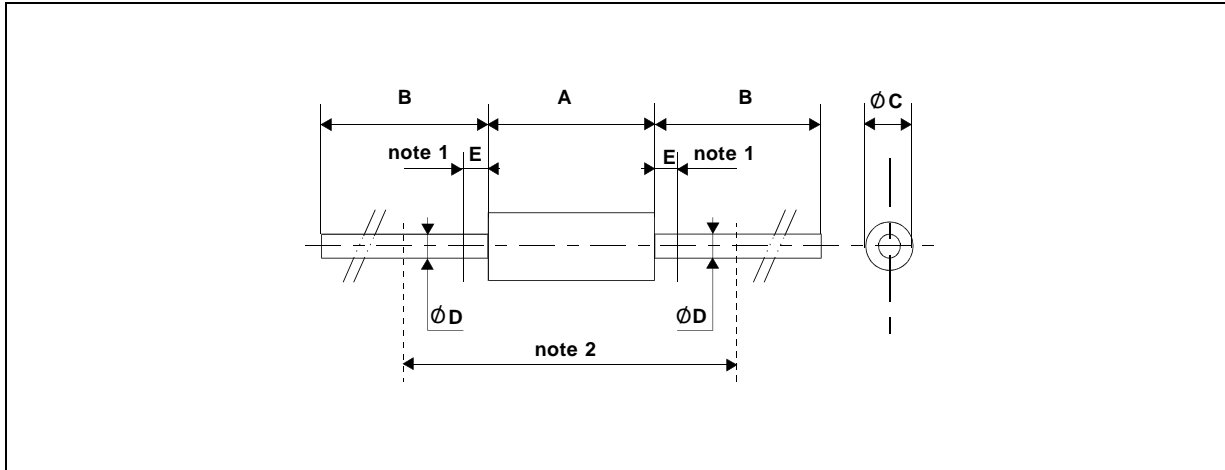


Figure 12. Measurement of  $t_{rr}$  (fig. 8) and  $I_{RM}$  (fig. 10).



**PACKAGE MECHANICAL DATA**

F 126 (Plastic)



REF.	DIMENSIONS				NOTES
	Millimeters		Inches		
	Min.	Max.	Min.	Max.	
A	6.05	6.35	0.238	0.250	1 - The lead diameter $\varnothing D$ is not controlled over zone E 2 - The minimum axial length within which the device may be placed with its leads bent at right angles is 0.59"(15 mm)
B	26		1.024		
$\varnothing C$	2.95	3.05	0.116	0.120	
$\varnothing D$	0.76	0.86	0.029	0.034	
E		1.27		0.050	

Cooling method: by convection (method A)  
 Marking: type number  
 Weight: 0.4g

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