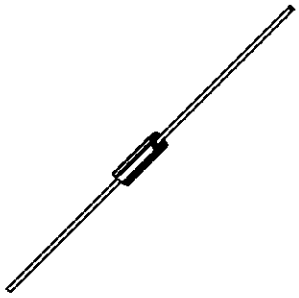
SGS-THOMSON MICROELECTRONICS

PLQ 08
PLQ 1

FAST RECOVERY RECTIFIER DIODES

- VERY FAST FORWARD AND REVERSE RECOVERY DIODES



F 126
(Plastic)

SUITABLE APPLICATION

- SWTCHING 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*	$T_a = 25°C$ $\delta = 0.5$	1	A
I_{FSM}	Surge non Repetitive Forward Current	$t_p = 10ms$ Sinusoidal	20	A
P_{tot}	Power Dissipation*	Ta = 25°C	1.7	W
T_{stg} T_j	Storage and Junction Temperature Range		- 40 to 125	°C
T_L	Maximum Lead Temperature for Soldering during 10s at 4mm from Case		230	°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	°C/W

* On infinite heatsink with 10mm lead length.

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

Symbol	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 = 1A			1.1	V

RECOVERY CHARACTERISTICS

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
t_{rr}	T_j = 25°C V_R = 30V	I_F = 1A See figure 12	di_F/dt = - 50A/µs			50	ns
t_{fr}	T_j = 25°C Measured at 1.1 x V_F	I_F = 1A	t_r = 20ns			50	ns

Figure 1. Power losses versus average current.

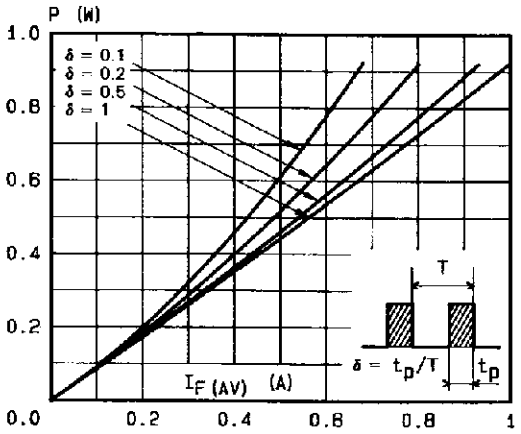


Figure 2. Allowable DC current versus ambient temperature.

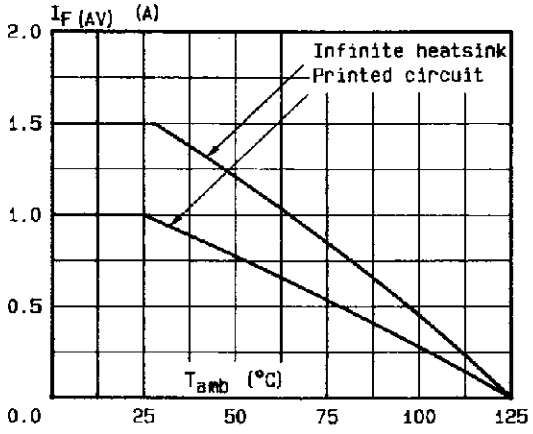


Figure 3. Non repetitive surge peak current versus number of cycles.

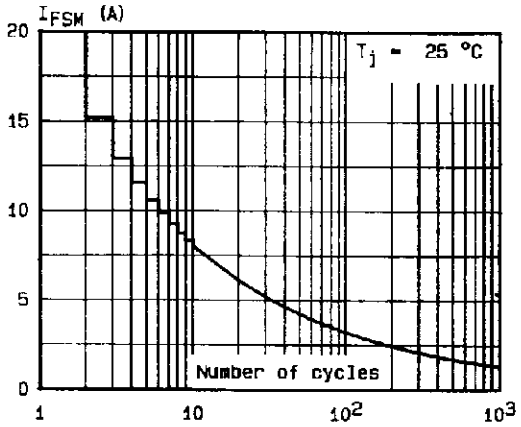


Figure 4. Transient thermal impedance junction-ambient. Printed circuit versus pulse duration (L = 10 mm).

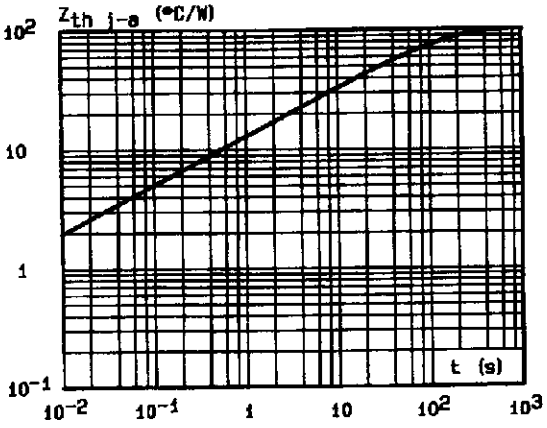


Figure 5. Voltage drop versus forward current.

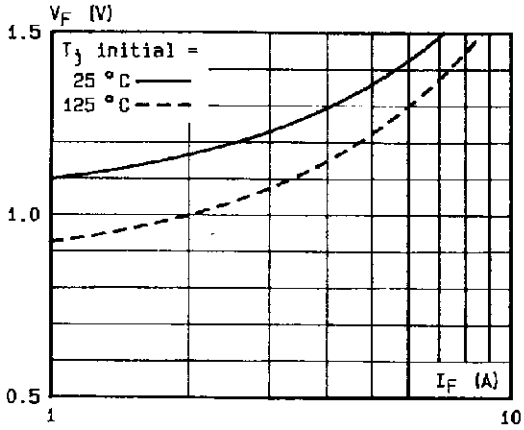


Figure 6. Voltage drop versus forward current.

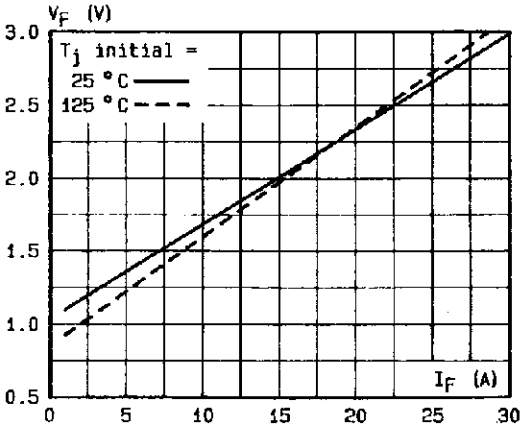


Figure 7. Capacitance versus reverse voltage applied.

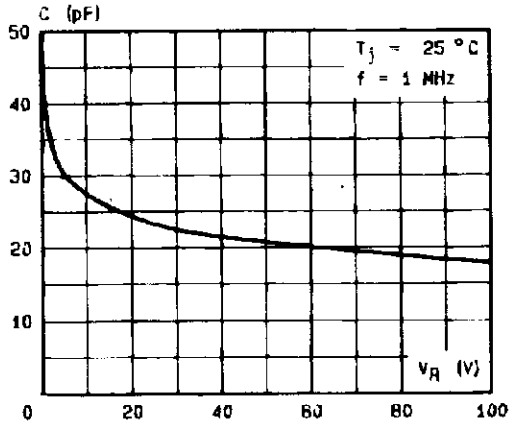


Figure 8. Thermal resistance junction-ambient versus lead length.

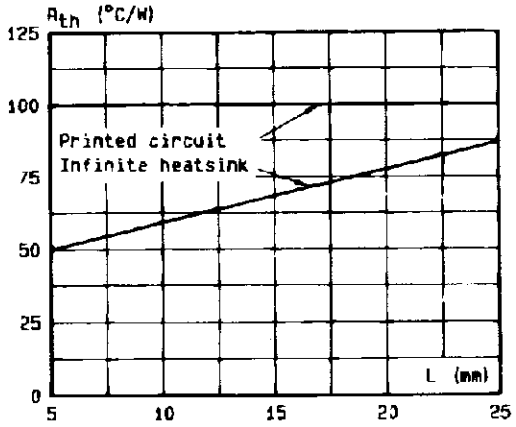


Figure 9. Recovery time versus di_F/dt.

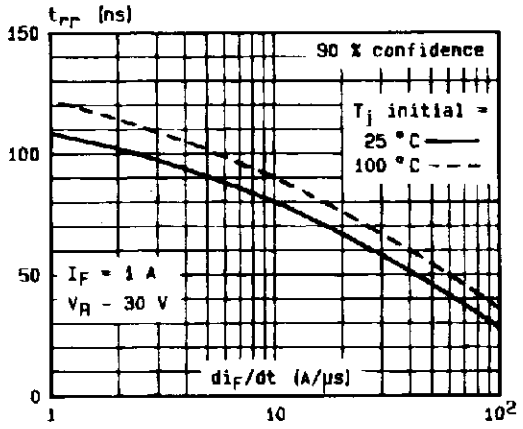


Figure 10. Peak reverse current versus di_F/dt.

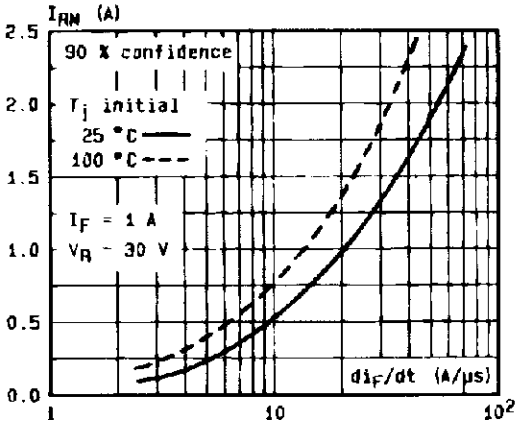


Figure 11. Dynamic parameters versus junction temperature.

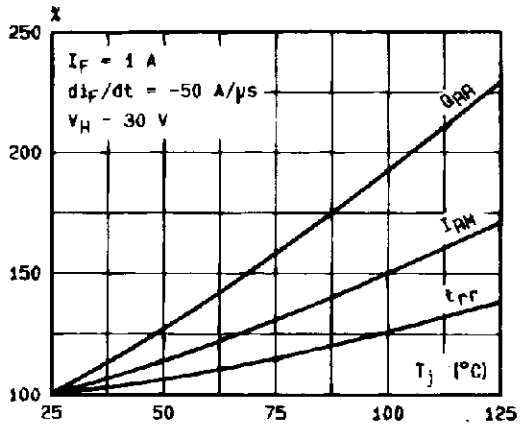
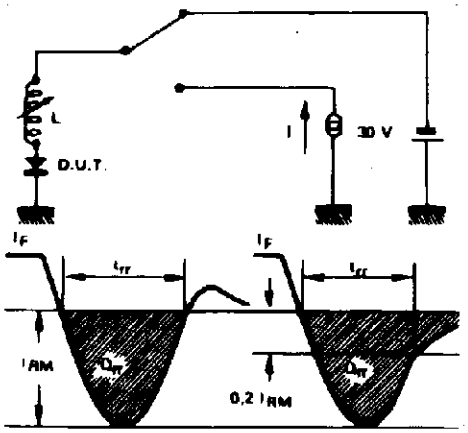
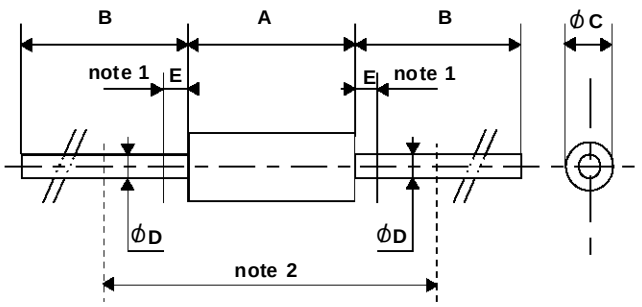


Figure 12. Measurement of t_{rr} (fig. 8) and I_{RM} (fig. 10).



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 ∅ D is not controlled over zone E 2 - The minimum axial lengh within which the device may be placed with its leads bent at right angles is 0.59”(15 mm)
B	26		1.024		
∅ C	2.95	3.05	0.116	0.120	
∅ 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