

## FAST RECOVERY RECTIFIER DIODES

- VERY FAST FORWARD AND REVERSE RECOVERY DIODES



F 126  
(Plastic)

### SUITED FOR

- 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
$I_{F\text{RM}}$	Repetitive Peak Forward Current	20	A
$I_F(\text{AV})$	Average Forward Current	1	A
$I_{F\text{SM}}$	Surge non Repetitive Forward Current	20	A
$P_{\text{tot}}$	Power Dissipation*	1.7	W
$T_{\text{stg}} - T_I$	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
$V_{R\text{RM}}$	Repetitive Peak Reverse Voltage	80	100	V
$V_{R\text{SM}}$	Non Repetitive Peak Reverse Voltage	80	100	V

### THERMAL RESISTANCE

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

\* On infinite heatsink with 10mm lead length.

**ELECTRICAL CHARACTERISTICS****STATIC CHARACTERISTICS**

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
$I_R$	$T_j = 25^\circ C$	$V_R = V_{RRM}$			10	$\mu A$
	$T_j = 100^\circ C$				0.5	mA
$V_F$	$T_j = 25^\circ C$	$I_F = 1A$			1.1	V

**RECOVERY CHARACTERISTICS**

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
$t_{rr}$	$T_j = 25^\circ C$	$I_F = 1A$	$dI_F/dt = -50A/\mu s$			50	ns
$t_{fr}$	$V_R = 30V$ See figure 12						
$t_{fr}$	$T_j = 25^\circ C$ Measured at $1.1 \times V_F$	$I_F = 1A$	$t_r = 20ns$			50	ns

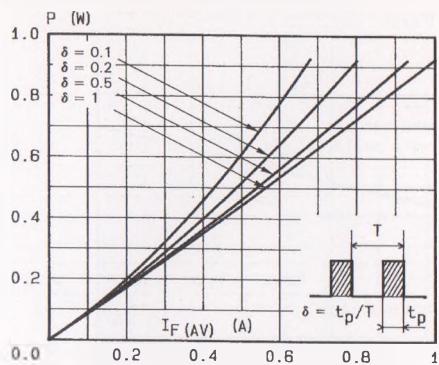


FIGURE 1 : Power losses versus average current.

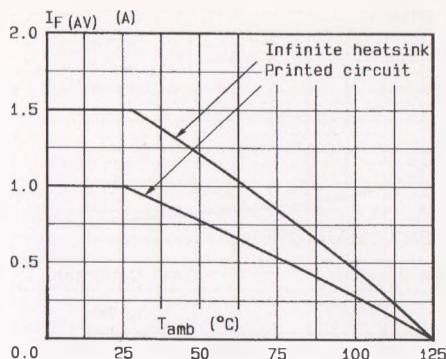


FIGURE 2 : Allowable DC current versus ambient temperature.

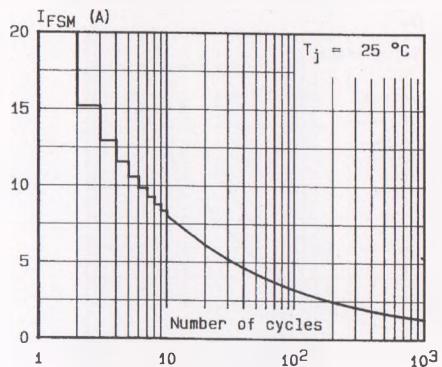


FIGURE 3 : Non repetitive surge peak current versus number of cycles.

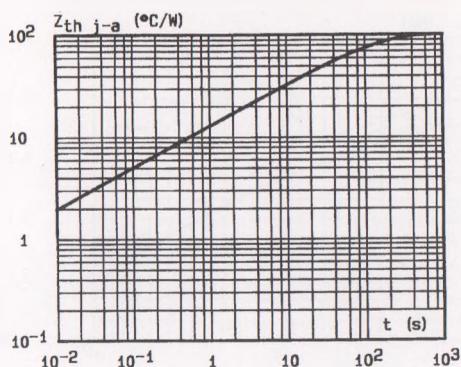


Fig.4 - Transient thermal impedance junction-ambient Printed circuit versus pulse duration ( $L = 10 \text{ mm}$ ).

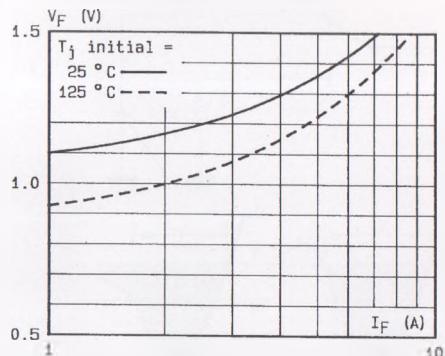


FIGURE 5 : Voltage drop versus forward current.

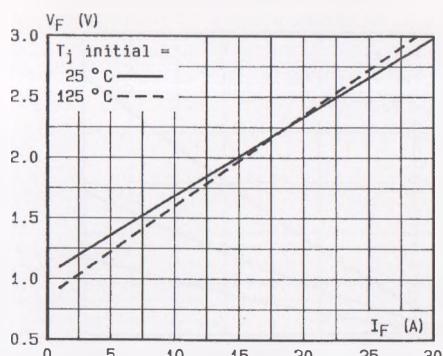


FIGURE 6 : Voltage drop versus forward current.

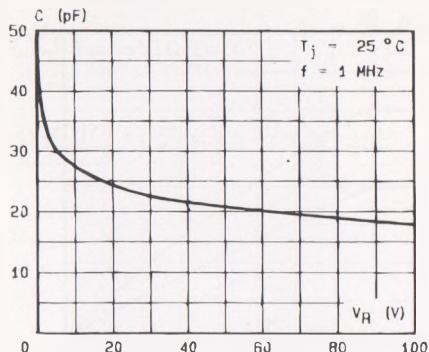


FIGURE 7 : Capacitance versus reverse voltage applied.

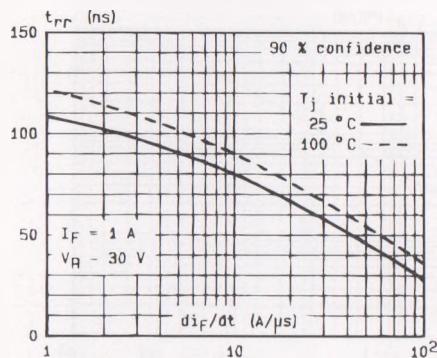


FIGURE 8 : Recovery time versus  $dI_F/dt$ .

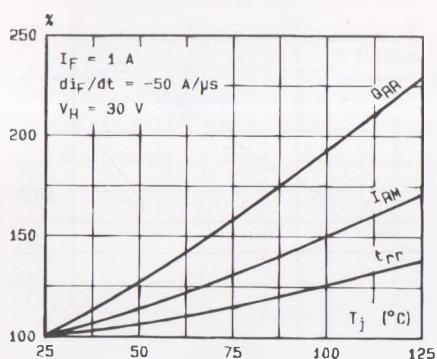


FIGURE 11 : Dynamic parameters versus junction temperature.

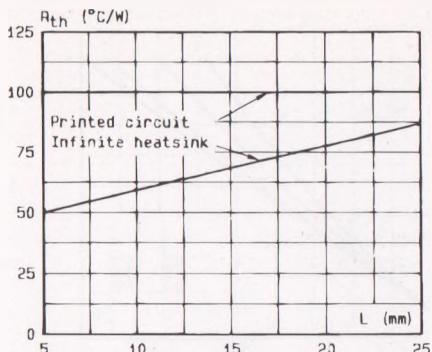


FIGURE 9 : Thermal resistance junction-ambient versus lead length.

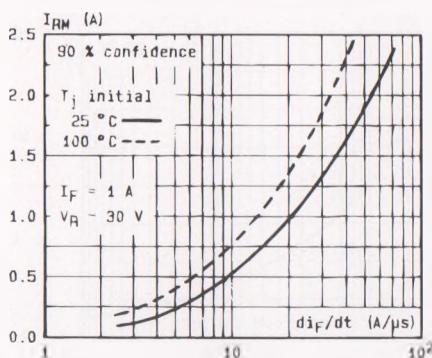


FIGURE 10 : Peak reverse current versus  $dI_F/dt$ .

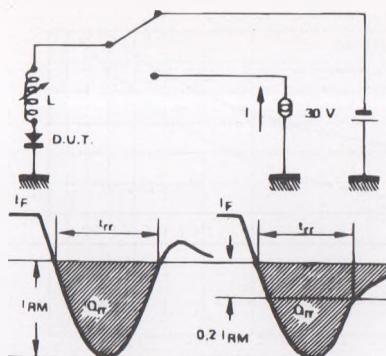


FIGURE 12 : Measurement of  $t_{rr}$  (fig. 8) and  $I_{RM}$  (fig. 10).