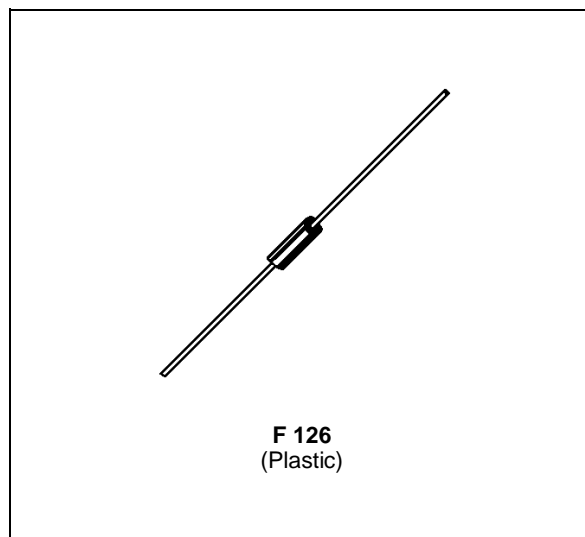


FAST RECOVERY RECTIFIER DIODES

- 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} | Repetitive 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_R | $T_j = 25^\circ\text{C}$ | $V_R = V_{RRM}$ | | | 10 | μA |
| | $T_j = 100^\circ\text{C}$ | | | | 0.5 | mA |
| V_F | $T_j = 25^\circ\text{C}$ | $I_F = 1\text{A}$ | | | 1.1 | V |

RECOVERY CHARACTERISTICS

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

Figure 1. Power losses versus average current.

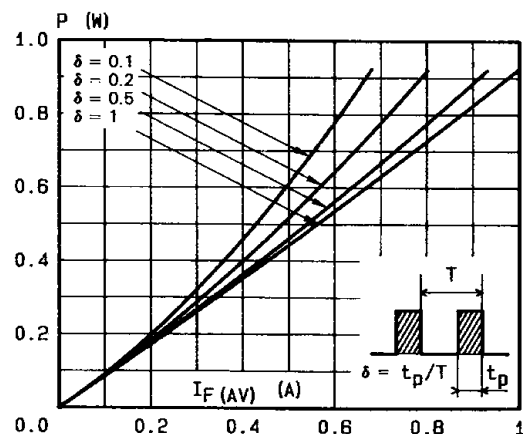


Figure 2. Allowable DC current versus ambient temperature.

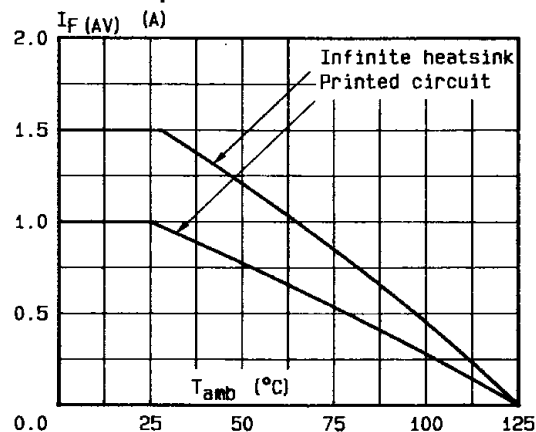


Figure 3. Non repetitive surge peak current versus number of cycles.

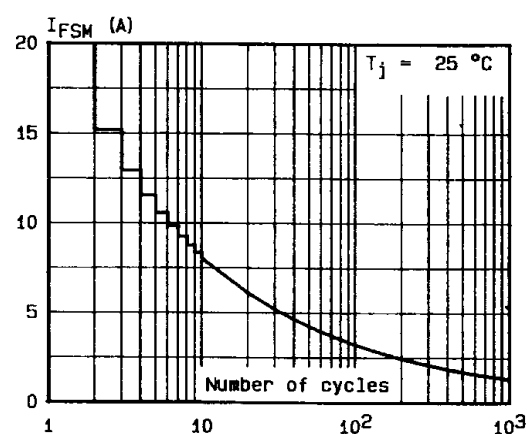


Figure 4. Transient thermal impedance junction-ambient. Printed circuit versus pulse duration (L = 10 mm).

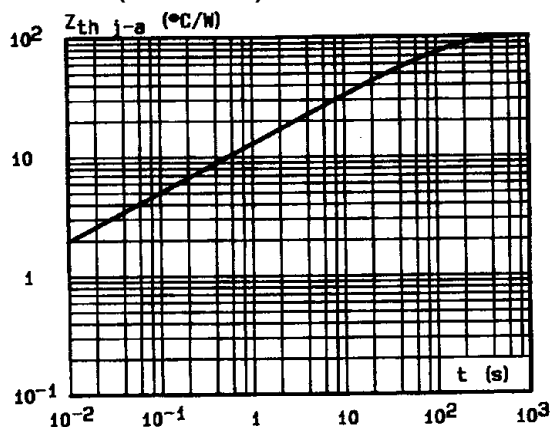


Figure 5. Voltage drop versus forward current.

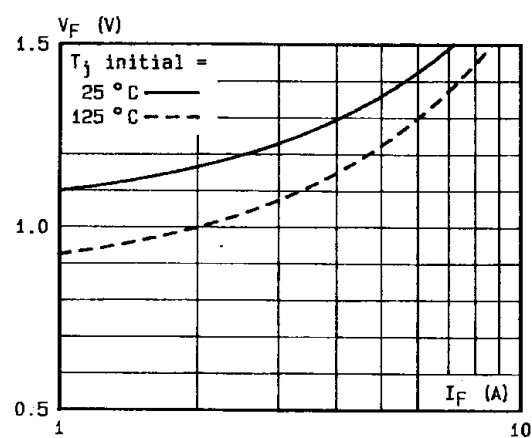


Figure 6. Voltage drop versus forward current.

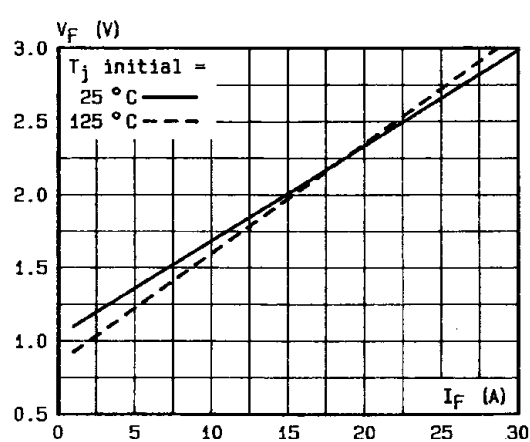


Figure 7. Capacitance versus reverse voltage applied.

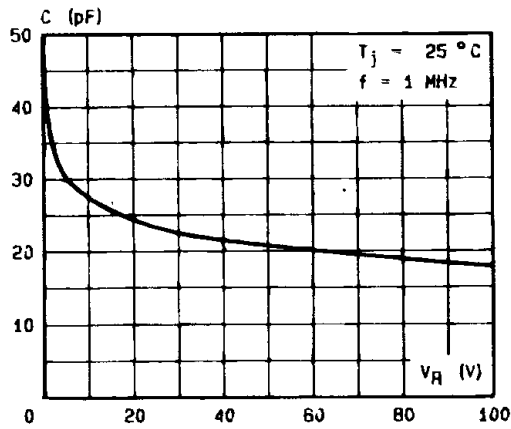


Figure 8. Thermal resistance junction-ambient versus lead length.

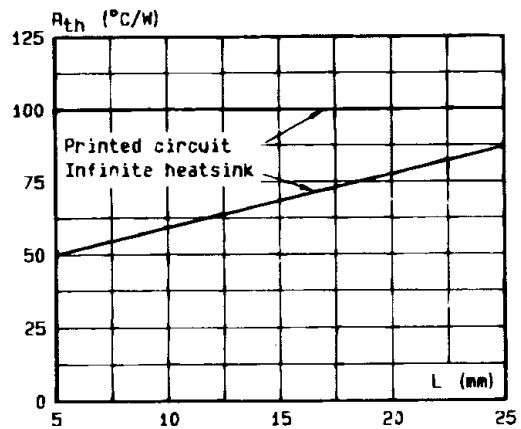


Figure 9. Recovery time versus di_F/dt .

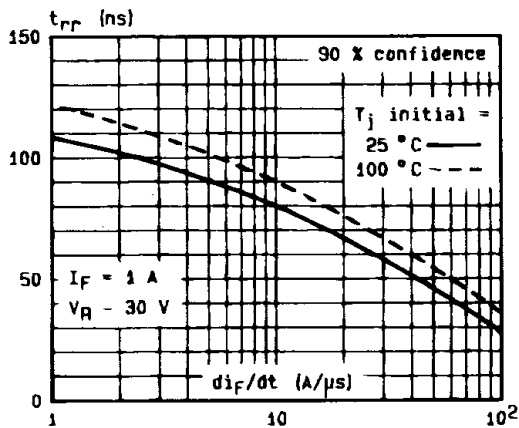


Figure 10. Peak reverse current versus di_F/dt .

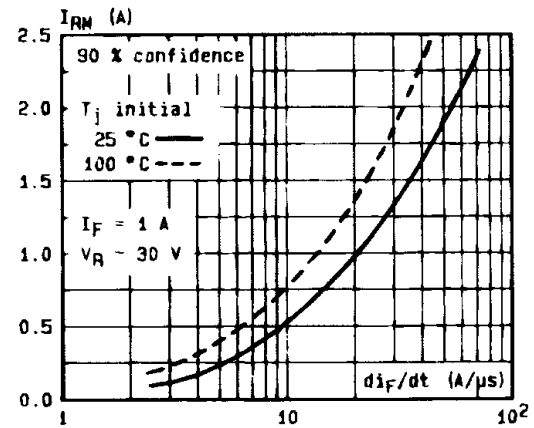


Figure 11. Dynamic parameters versus junction temperature.

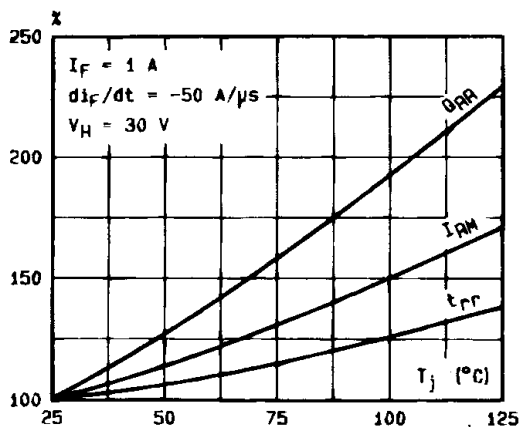
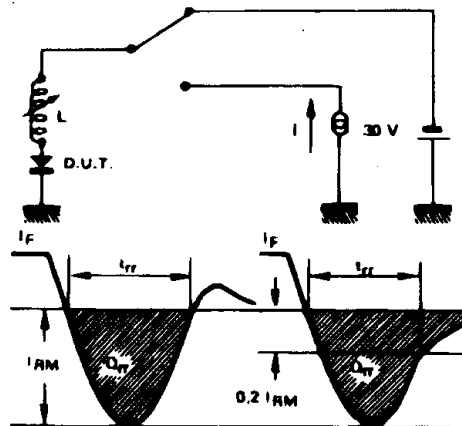
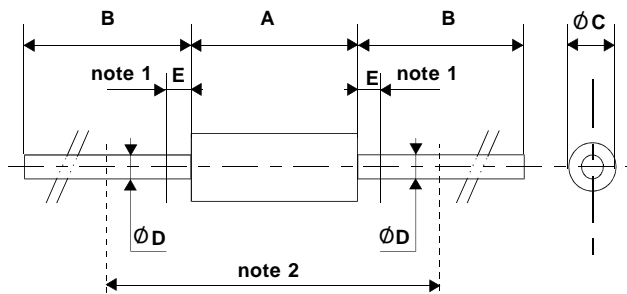


Figure 12. Measurement of t_{rr} (fig. 8) and I_{RM} (fig. 10).



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 Ø 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 | | |
| Ø C | 2.95 | 3.05 | 0.116 | 0.120 | |
| Ø 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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