SGS-THOMSON MICROELECTRONICS

# TMM 5712

## SMALL SIGNAL SCHOTTKY DIODE

**MINIMELF**
(Glass)

### DESCRIPTION

Metal to silicon junction diode featuring high breakdown voltage, low turn-on voltage and ultrafast switching.

Primarily intended for high level UHF/VHF detection and pulse application with broad dynamic range.

### ABSOLUTE MAXIMUM RATINGS (limiting values)

| Symbol | Parameter | | Value | Unit |
|---|---|---|---|---|
| $V_{RRM}$ | Repetitive Peak Reverse Voltage | | 20 | V |
| $I_F$ | Forward Continuous Current | $T_i$ = 25 °C | 35 | mA |
| $P_{tot}$ | Power Dissipation | $T_i$ = 25 °C | 430 | mW |
| $T_{stg}$<br>$T_j$ | Storage and Junction Temperature Range | | - 65 to 200<br>- 65 to 200 | °C |
| $T_L$ | Maximum Temperature for Soldering during 15s | | 260 | °C |

### THERMAL RESISTANCE

| Symbol | Test Conditions | Value | Unit |
|---|---|---|---|
| $R_{th(j-l)}$ | Junction-leads | 400 | °C/W |

### ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

| Symbol | Test Conditions | | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| $V_{BR}$ | $T_{amb}$ = 25°C | $I_R$ = 10µA | 20 | | | V |
| $V_F$* | $T_{amb}$ = 25°C | $I_F$ = 1mA | | | 0.41 | V |
| | $T_{amb}$ = 25°C | $I_F$ = 35mA | | | 1 | |
| $I_R$* | $T_{amb}$ = 25°C | $V_R$ = 15V | | | 0.1 | µA |

DYNAMIC CHARACTERISTICS

| Symbol | Test Conditions | | | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|---|
| C | $T_{amb}$ = 25°C | $V_R$ = 0V | f = 1MHz | | | 1.2 | pF |
| $\tau$ | $T_{amb}$ = 25°C | $I_F$ = 5mA | Krakauer Method | | | 100 | ps |

* Pulse test: $t_p \leq 300\mu s$ $\delta < 2\%$.
Matched batches available on request. Test conditions (forward voltage and/or capacitance) according to customer specification.

**Fig.1 :** Forward current versus forward voltage at different temperatures (typical values)

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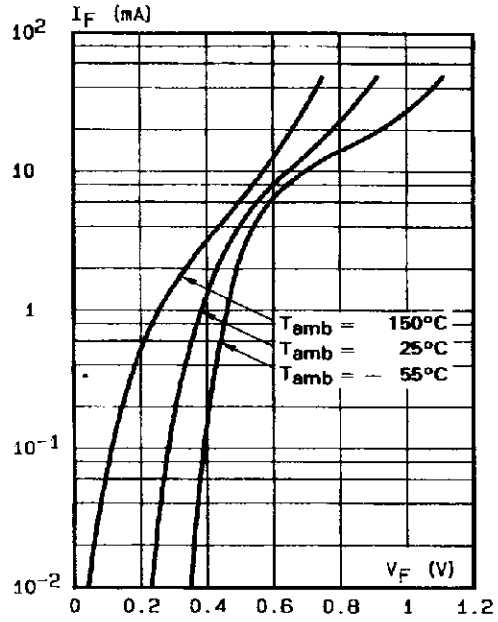



**Fig.2 :** Forward current versus forward voltage (typical values).

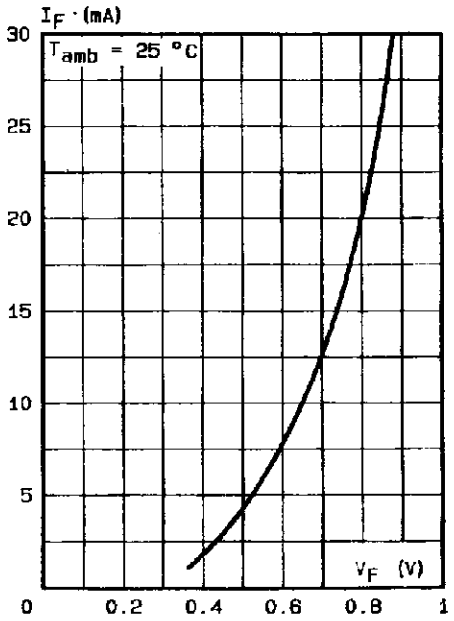



**Fig.3 :** Reverse current versus ambient temperature.

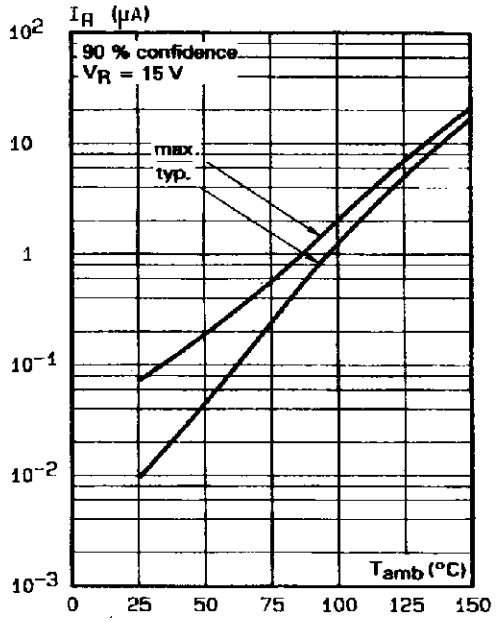



**Fig.4 :** Reverse current versus continuous reverse voltage (typical values).

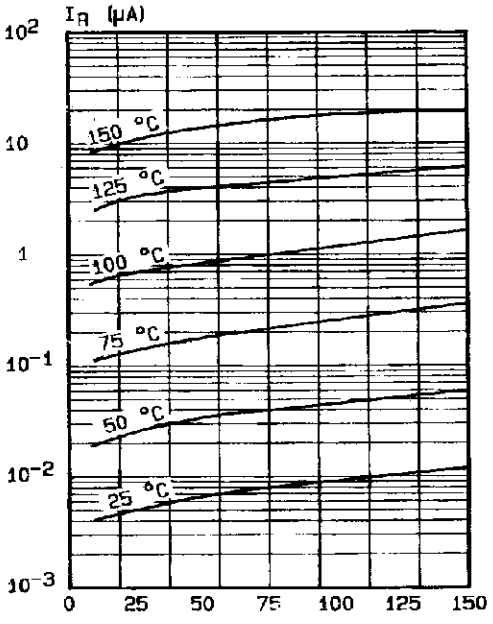
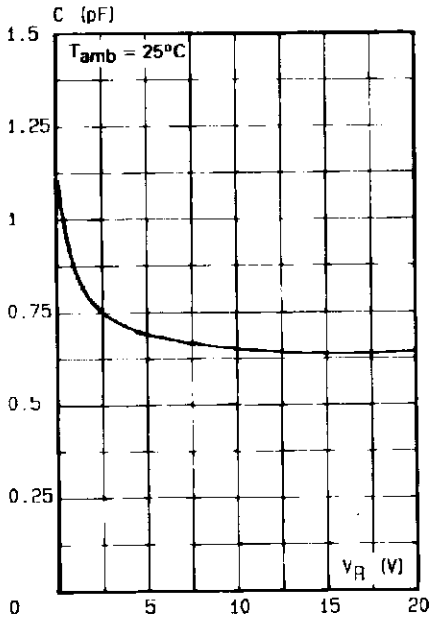
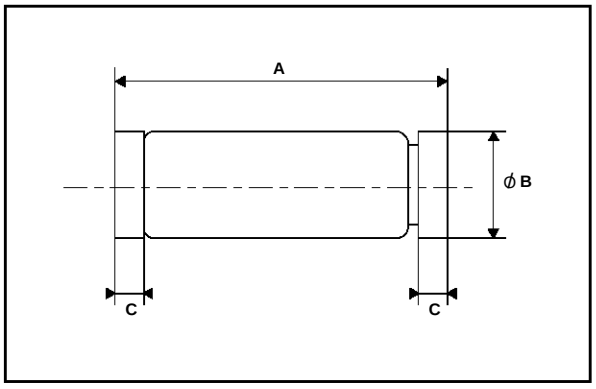


**Fig.5 :** Capacitance C versus reverse applied voltage $V_p$ (typical values).

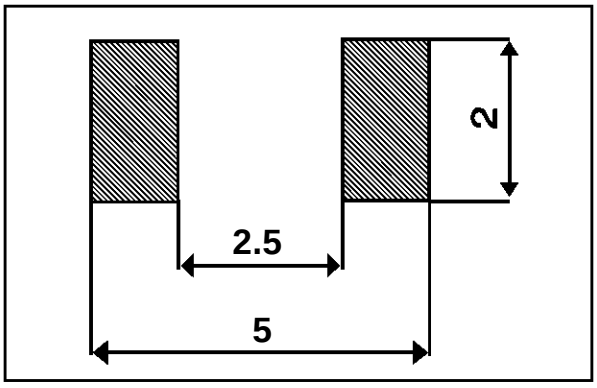



## PACKAGE MECHANICAL DATA

MINIMELF Glass




## FOOT PRINT DIMENSIONS (Millimeter)




| REF. | DIMENSIONS | | | |
|---|---|---|---|---|
| | Millimeters | | Inches | |
| | Min. | Max. | Min. | Max. |
| A | 3.3 | 3.6 | 0.130 | 0.142 |
| B | 1.59 | 1.62 | 0.063 | 0.064 |
| C | 0.4 | 0.5 | 0.016 | 0.020 |

Marking: ring at cathode end.
Weight: 0.05g