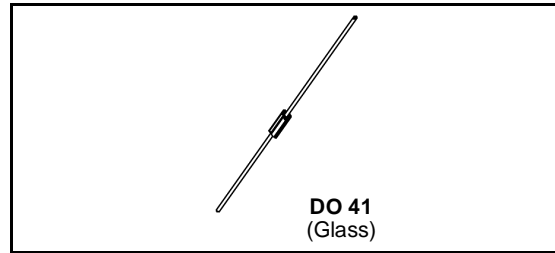




SMALL SIGNAL SCHOTTKY DIODE

DESCRIPTION

General purpose metal to silicon diode featuring very low turn-on voltage and fast switching. This device has integrated protection against excessive voltage such as electrostatic discharges.



ABSOLUTE RATINGS (limiting values)

Symbol	Parameter	Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltage	80	V
I_F	Forward Continuous Current*	$T_a = 70\text{ }^\circ\text{C}$	500 mA
I_{FRM}	Repetitive Peak Forward Current*	$t_p = 1\text{ s}$ $\delta \leq 0.5$	3 A
I_{FSM}	Surge non Repetitive Forward Current*	$t_p \leq 10\text{ ms}$	10 A
T_{stg} T_j	Storage and Junction Temperature Range	- 65 to 150 - 65 to 125	$^\circ\text{C}$ $^\circ\text{C}$
T_L	Maximum Lead Temperature for Soldering during 10s at 4mm from Case	230	$^\circ\text{C}$

THERMAL RESISTANCE

Symbol	Test Conditions	Value	Unit
$R_{th(j-a)}$	Junction-ambient*	110	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
I_R^{**}	$T_j = 25\text{ }^\circ\text{C}$ $V_R = 80\text{ V}$			200	μA
V_F^{**}	$T_j = 25\text{ }^\circ\text{C}$ $I_F = 10\text{ mA}$			0.32	V
	$T_j = 25\text{ }^\circ\text{C}$ $I_F = 100\text{ mA}$			0.42	
	$T_j = 25\text{ }^\circ\text{C}$ $I_F = 1\text{ A}$			1	

DYNAMIC CHARACTERISTICS

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
C	$T_j = 25\text{ }^\circ\text{C}$ $f = 1\text{ MHz}$	$V_R = 0\text{ V}$		120	pF
		$V_R = 5\text{ V}$		35	

* On infinite heatsink with 4mm lead length
 ** Pulse test: $t_p \leq 300\mu\text{s}$ $\delta < 2\%$.

Figure 1. Forward current versus forward voltage at low level (typical values).

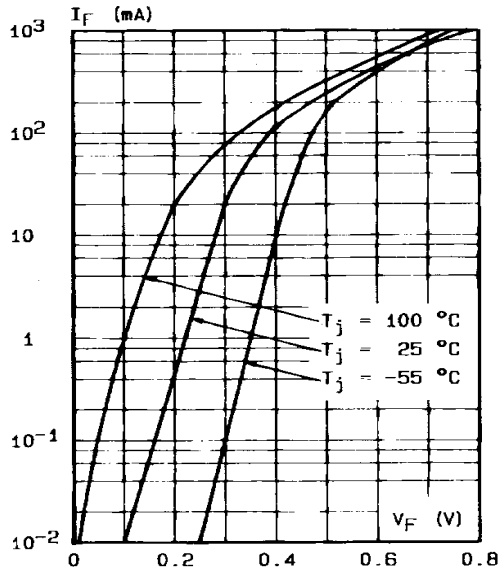


Figure 2. Forward current versus forward voltage at high level (typical values).

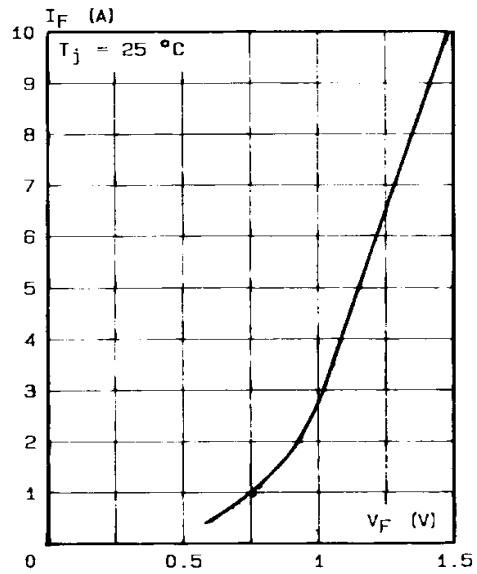


Figure 3. Reverse current versus junction temperature.

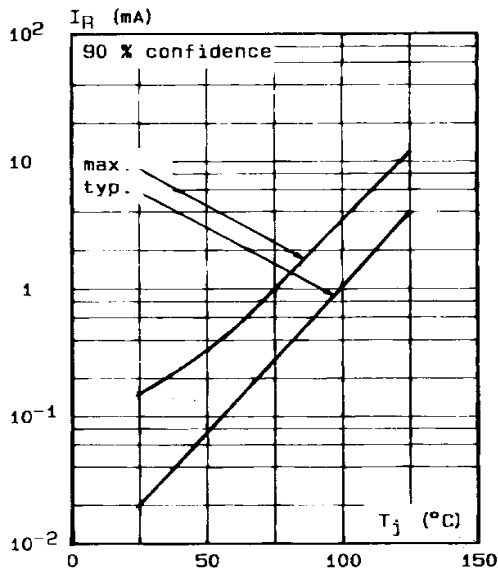


Figure 4. Reverse current versus V_{RRM} in per cent.

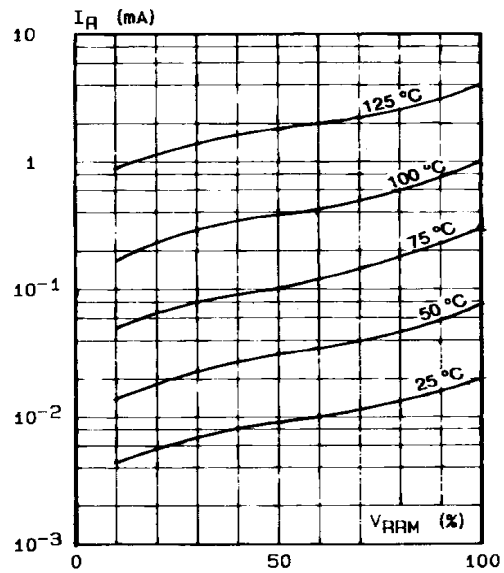


Figure 5. Capacitance C versus reverse applied voltage V_R (typical values).

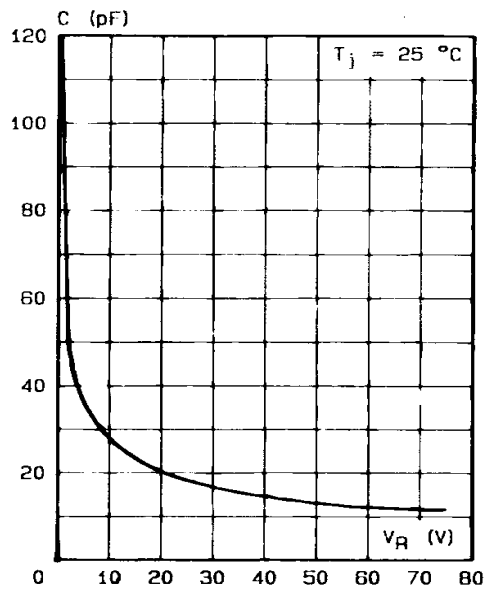


Figure 6. Surge non repetitive forward current for a rectangular pulse with $t \leq 10$ ms.

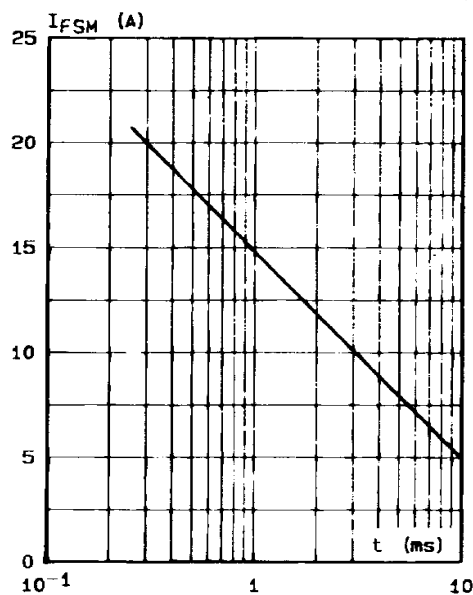
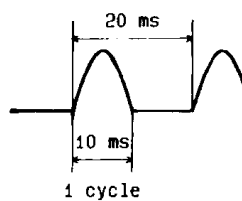
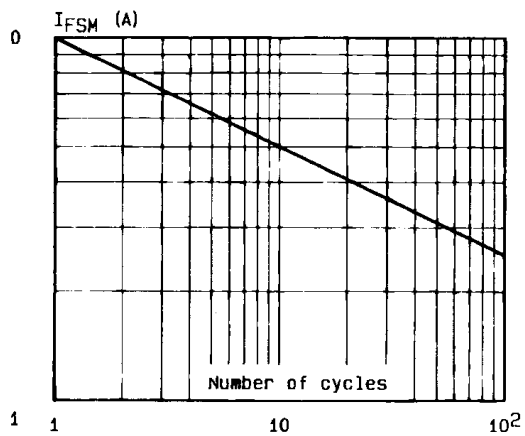


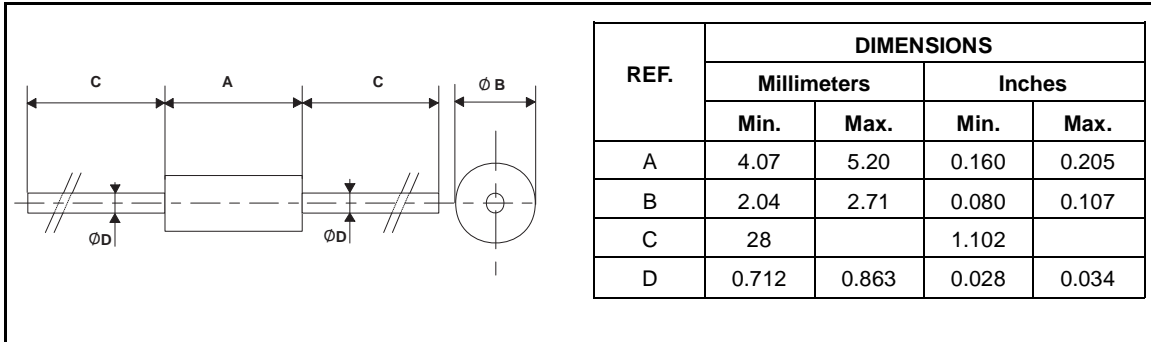
Figure 7. Surge non repetitive forward current versus number of cycles.



BAT 49

PACKAGE MECHANICAL DATA

DO 41 Glass



Cooling method : by convection and conduction

Marking: clear, ring at cathode end.

Weight: 0.34g

Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

The ST logo is a registered trademark of STMicroelectronics

© 1999 STMicroelectronics - Printed in Italy - All rights reserved.

STMicroelectronics GROUP OF COMPANIES

Australia - Brazil - China - Finland - France - Germany - Hong Kong - India - Italy - Japan - Malaysia
Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - U.S.A.

<http://www.st.com>