



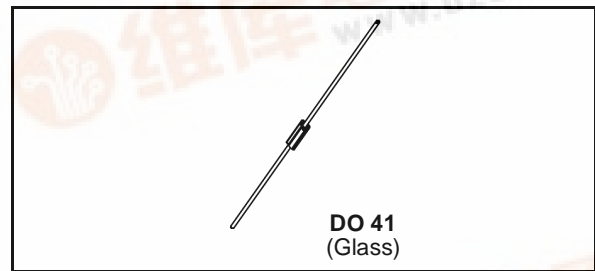
## BAT 49

### 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*	$T_a = 70^\circ\text{C}$ 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
$I_R^{**}$	$T_j = 25^\circ\text{C}$ $V_R = 80\text{V}$			200	$\mu\text{A}$
$V_F^{**}$	$T_j = 25^\circ\text{C}$ $I_F = 10\text{mA}$			0.32	V
	$T_j = 25^\circ\text{C}$ $I_F = 100\text{mA}$			0.42	
	$T_j = 25^\circ\text{C}$ $I_F = 1\text{A}$			1	

##### DYNAMIC CHARACTERISTICS

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

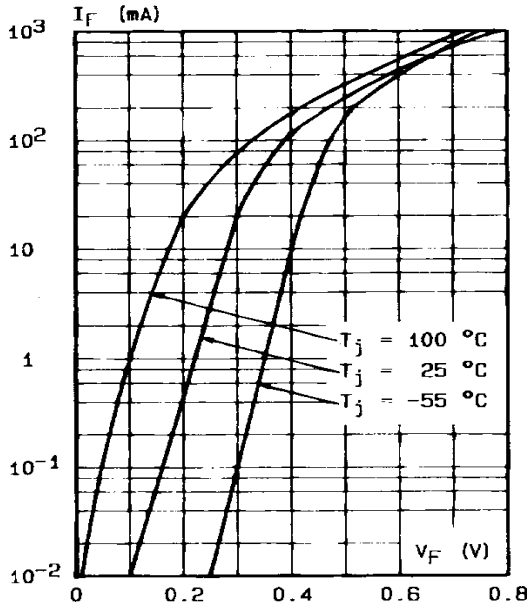


Figure 2. Forward current versus forward voltage at high level (typical values).

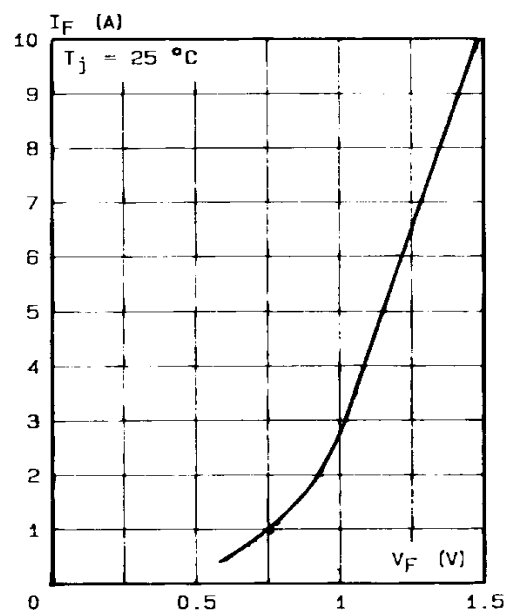


Figure 3. Reverse current versus junction temperature.

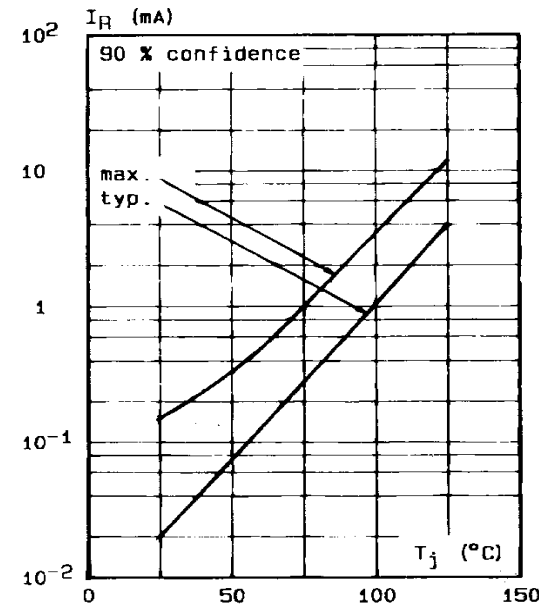


Figure 4. Reverse current versus  $V_{RRM}$  in per cent.

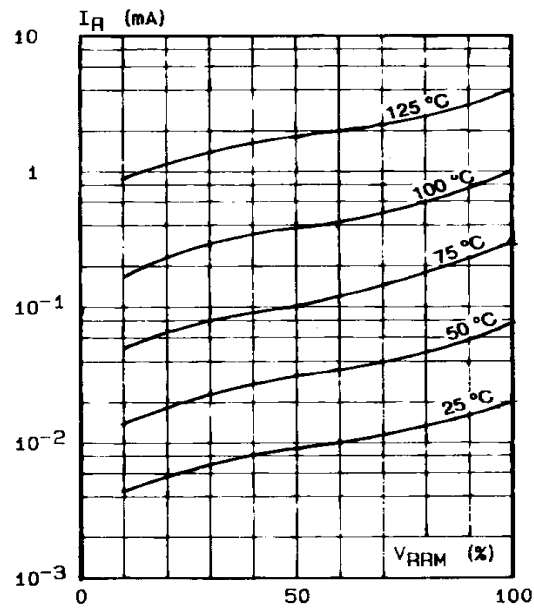


Figure 5. Capacitance  $C$  versus reverse applied voltage  $V_R$  (typical values).

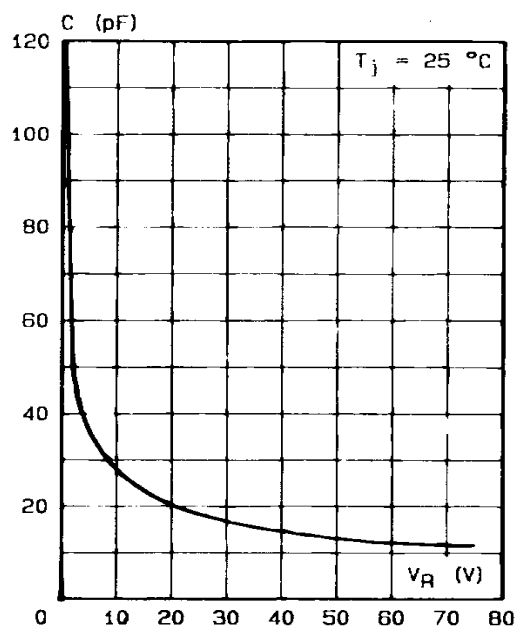


Figure 6. Surge non repetitive forward current for a rectangular pulse with  $t \leq 10$  ms.

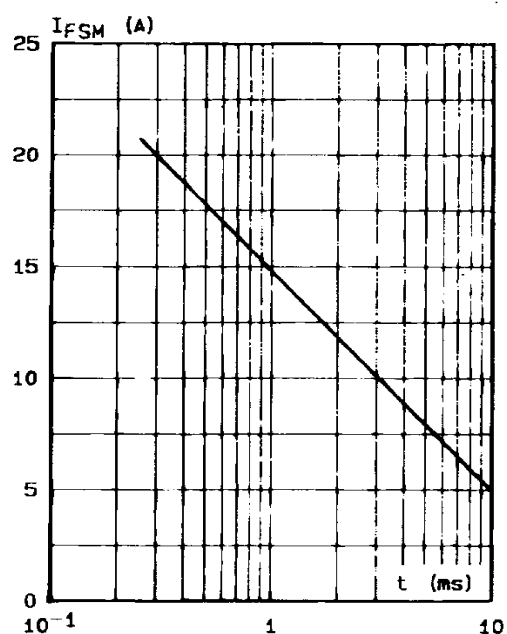
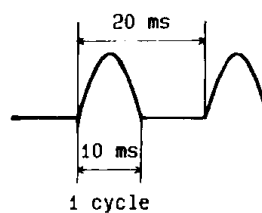
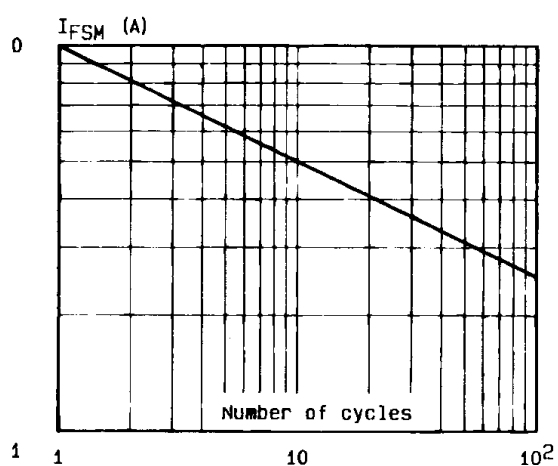
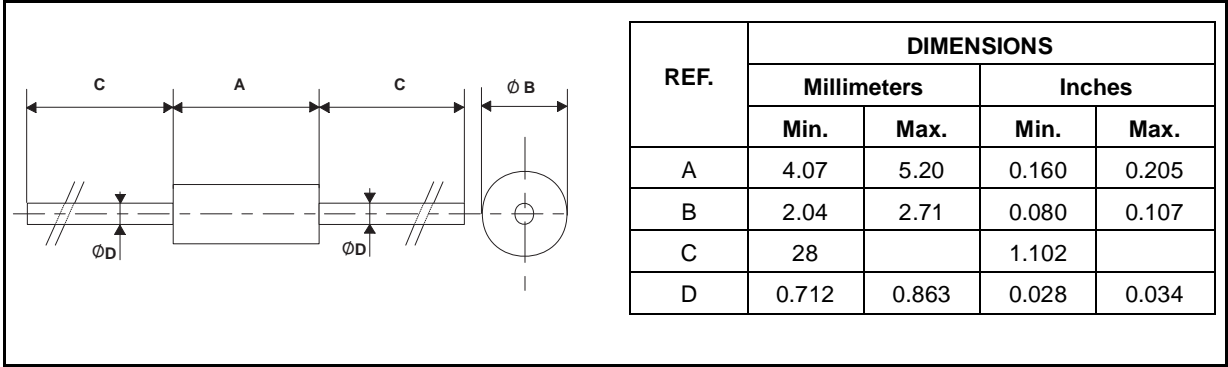


Figure 7. Surge non repetitive forward current versus number of cycles.



PACKAGE MECHANICAL DATA

DO 41 Glass



Cooling method : by convection and conduction  
Marking: clear, ring at cathode end.  
Weight: 0.34g

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