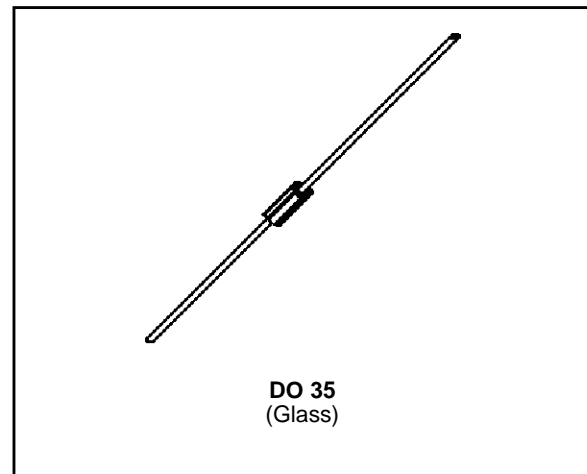


**SMALL SIGNAL SCHOTTKY DIODE**



**DESCRIPTION**

General purpose, metal to silicon diode featuring high breakdown voltage low turn-on voltage.

**ABSOLUTE RATINGS** (limiting values)

Symbol	Parameter		Value	Unit
$V_{RRM}$	Repetitive Peak Reverse Voltage		100	V
$I_F$	Forward Continuous Current*	$T_a = 25\text{ }^\circ\text{C}$	150	mA
$I_{FRM}$	Repetitive Peak Forward Current*	$t_p \leq 1\text{ s}$ $\delta \leq 0.5$	350	mA
$I_{FSM}$	Surge non Repetitive Forward Current*	$t_p = 10\text{ ms}$	750	mA
$P_{tot}$	Power Dissipation*	$T_l = 80\text{ }^\circ\text{C}$	150	mW
$T_{stg}$ $T_j$	Storage and Junction Temperature Range		- 65 to + 150 - 65 to + 125	$^\circ\text{C}$ $^\circ\text{C}$
$T_L$	Maximum 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*	300	$^\circ\text{C/W}$

\* On infinite heatsink with 4mm lead length

# BAT 46

## ELECTRICAL CHARACTERISTICS

### STATIC CHARACTERISTICS

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
$V_{BR}$	$T_j = 25^\circ\text{C}$	$I_R = 10\mu\text{A}$	100			V
$V_F^*$	$T_j = 25^\circ\text{C}$	$I_F = 0.1\text{mA}$			0.25	V
	$T_j = 25^\circ\text{C}$	$I_F = 10\text{mA}$			0.45	
	$T_j = 25^\circ\text{C}$	$I_F = 250\text{mA}$			1	
$I_R^*$	$T_j = 25^\circ\text{C}$	$V_R = 1.5\text{V}$			0.5	$\mu\text{A}$
	$T_j = 60^\circ\text{C}$				5	
	$T_j = 25^\circ\text{C}$	$V_R = 10\text{V}$			0.8	
	$T_j = 60^\circ\text{C}$				7.5	
	$T_j = 25^\circ\text{C}$	$V_R = 50\text{V}$			2	
	$T_j = 60^\circ\text{C}$				15	
	$T_j = 25^\circ\text{C}$	$V_R = 75\text{V}$			5	
	$T_j = 60^\circ\text{C}$				20	

### DYNAMIC CHARACTERISTICS

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
C	$T_j = 25^\circ\text{C}$	$V_R = 0\text{V}$		10		$\text{pF}$
	$T_j = 25^\circ\text{C}$	$V_R = 1\text{V}$		6		

\* Pulse test:  $t_p \leq 300\mu\text{s}$   $\delta < 2\%$ .

Figure 1. Forward current versus forward voltage at different temperatures (typical values).

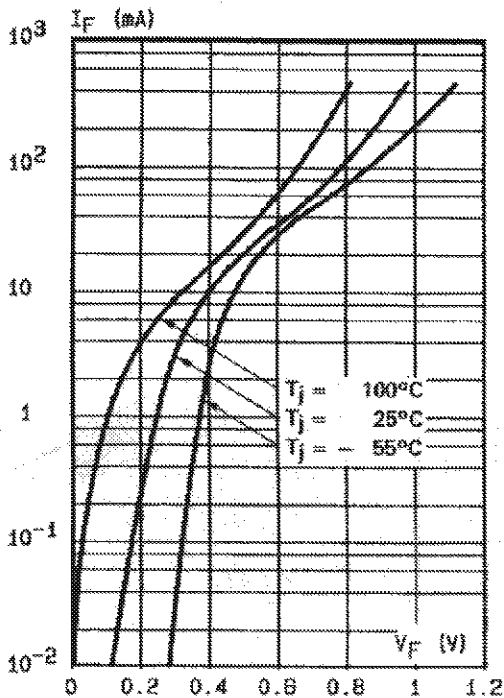


Figure 2. Forward current versus forward voltage (typical values).

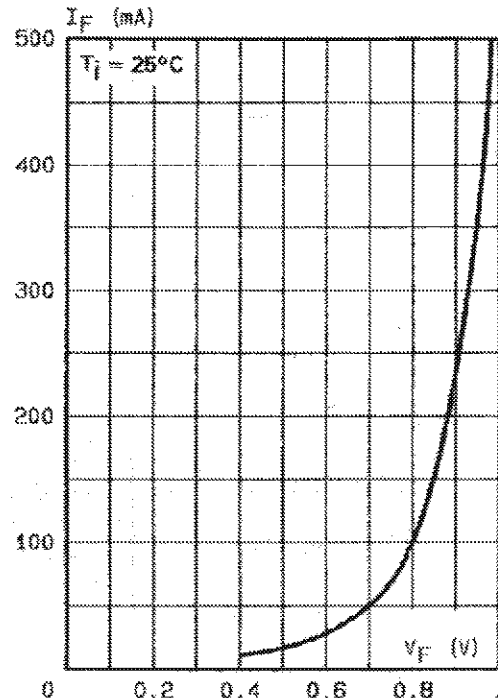


Figure 3. Reverse current versus junction temperature (typical values).

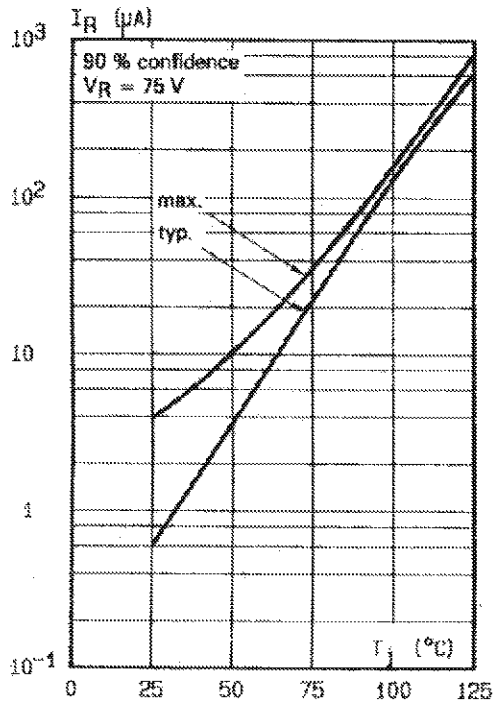


Figure 4. Reverse current versus continuous reverse voltage.

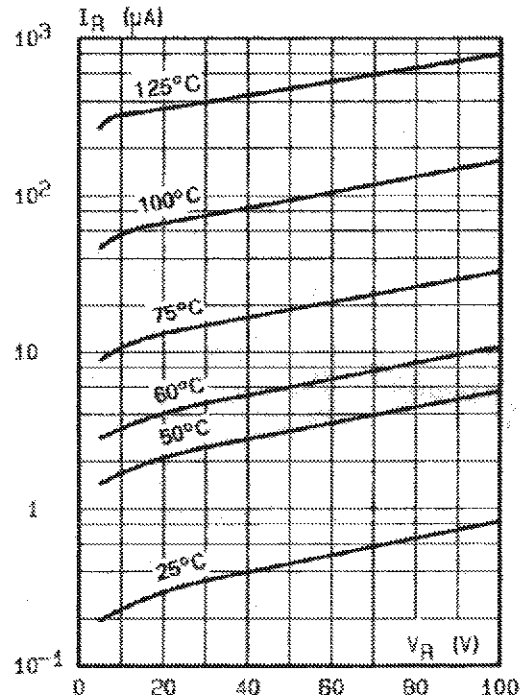
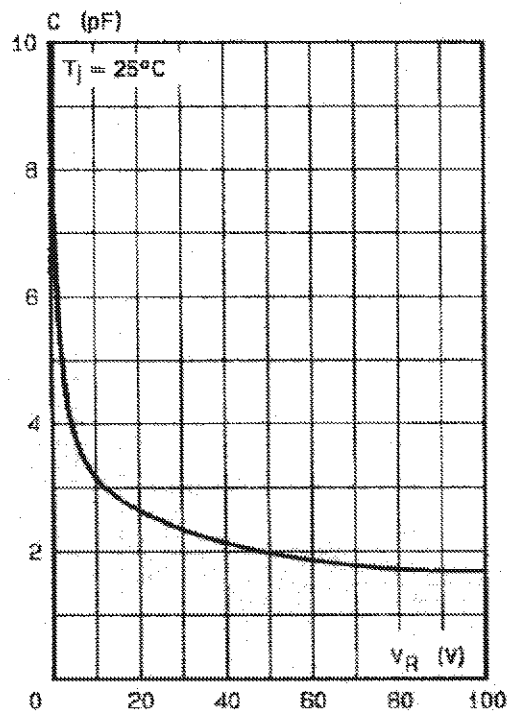


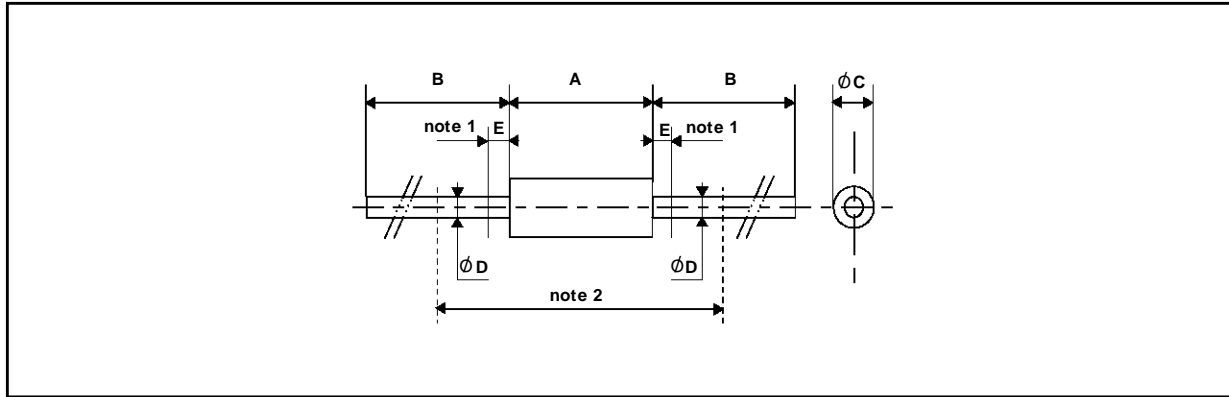
Figure 5. Capacitance C versus reverse applied voltage  $V_R$  (typical values).



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## PACKAGE MECHANICAL DATA

DO 35 Glass



REF.	DIMENSIONS				NOTES
	Millimeters		Inches		
	Min.	Max.	Min.	Max.	
A	3.050	4.500	0.120	0.117	1 - The lead diameter $\varnothing D$ 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	12.7		0.500		
$\varnothing C$	1.530	2.000	0.060	0.079	
$\varnothing D$	0.458	0.558	0.018	0.022	
E		1.27		0.050	

Cooling method: by convection and conduction  
 Marking: ring at cathode end.  
 Weight: 0.05g

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