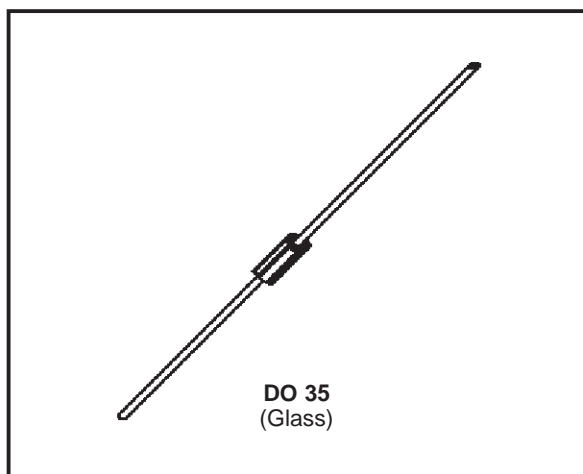


## SMALL SIGNAL SCHOTTKY DIODE

### DESCRIPTION

General purpose, metal to silicon diodes featuring very low turn-on voltage and fast switching.

These devices have integrated protection against excessive voltage such as electrostatic discharges.



### ABSOLUTE RATINGS (limiting values)

Symbol	Parameter	BAT47	BAT48	Unit
$V_{RRM}$	Repetitive Peak Reverse Voltage	20	40	V
$I_F$	Forward Continuous Current*	$T_a = 25\text{ °C}$ 350		mA
$I_{FRM}$	Repetitive Peak Forward Current*	$t_p \leq 1\text{ s}$ $\delta \leq 0.5$ 1		A
$I_{FSM}$	Surge non Repetitive Forward Current*	$t_p = 10\text{ ms}$ 7.5		A
		$t_p = 1\text{ s}$ 1.5		
$P_{tot}$	Power Dissipation*	$T_a = 25\text{ °C}$ 330		mW
$T_{stg}$ $T_j$	Storage and Junction Temperature Range	- 65 to + 150		°C
		- 65 to + 125		°C
$T_L$	Maximum Temperature for Soldering during 10s at 4mm from Case	230		°C

### THERMAL RESISTANCE

Symbol	Test Conditions	Value	Unit
$R_{th(j-l)}$	Junction-ambient*	300	°C/W

\* On infinite heatsink with 4mm lead length

**ELECTRICAL CHARACTERISTICS**
**STATIC CHARACTERISTICS**

Symbol	Test Conditions		Min.	Typ.	Max.	Unit	
$V_{(BR)}$	$I_R = 10\mu A$	BAT47	20			V	
	$I_R = 25\mu A$	BAT48	40				
$V_F^*$	$T_j = 25^\circ C$ $I_F = 0.1mA$	All Types			0.25	V	
	$T_j = 25^\circ C$ $I_F = 1mA$				0.3		
	$T_j = 25^\circ C$ $I_F = 10mA$				0.4		
	$T_j = 25^\circ C$ $I_F = 30mA$	BAT47			0.5		
	$T_j = 25^\circ C$ $I_F = 150mA$				0.8		
	$T_j = 25^\circ C$ $I_F = 300mA$				1		
	$T_j = 25^\circ C$ $I_F = 50mA$	BAT48			0.5		
	$T_j = 25^\circ C$ $I_F = 200mA$				0.75		
	$T_j = 25^\circ C$ $I_F = 500mA$				0.9		
$I_R^*$	$T_j = 25^\circ C$	$V_R = 1.5V$	All Types			1	$\mu A$
	$T_j = 60^\circ C$					10	
	$T_j = 25^\circ C$	$V_R = 10V$	BAT47			4	
	$T_j = 60^\circ C$					20	
	$T_j = 25^\circ C$	$V_R = 20V$				10	
	$T_j = 60^\circ C$					30	
	$T_j = 25^\circ C$	$V_R = 10V$	BAT48			2	
	$T_j = 60^\circ C$					15	
	$T_j = 25^\circ C$	$V_R = 20V$				5	
	$T_j = 60^\circ C$					25	
	$T_j = 25^\circ C$	$V_R = 40V$				25	
	$T_j = 60^\circ C$					50	

**DYNAMIC CHARACTERISTICS**

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
C	$T_j = 25^\circ C$ $V_R = 0V$	f = 1MHz		20		pF
	$T_j = 25^\circ C$ $V_R = 1V$			12		
$t_{rr}$	$T_j = 25^\circ C$ $I_F = 10mA$	$V_R = 1V$ $i_{rr} = 1mA$ $R_L = 100\Omega$		10		ns

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

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

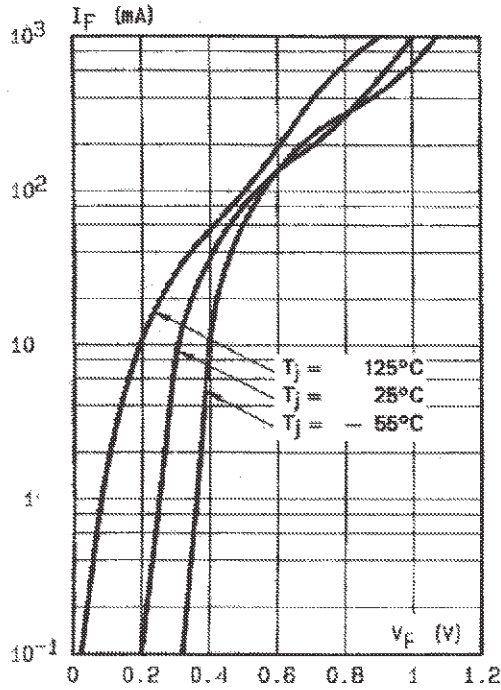


Figure 2. Forward current versus forward voltage (typical values).

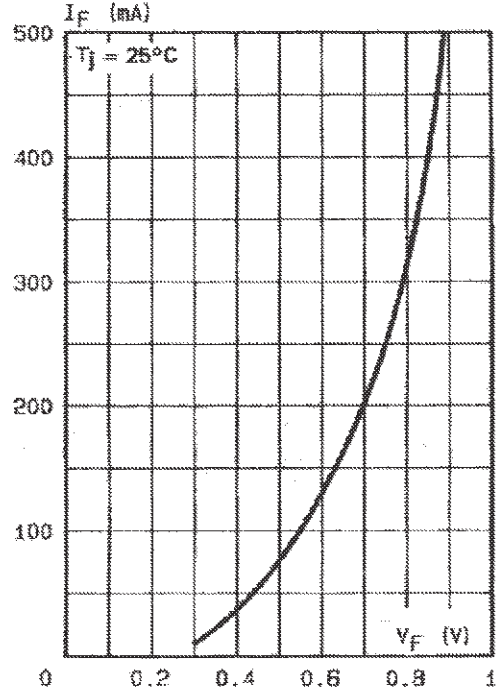


Figure 3. Reverse current versus junction temperature.

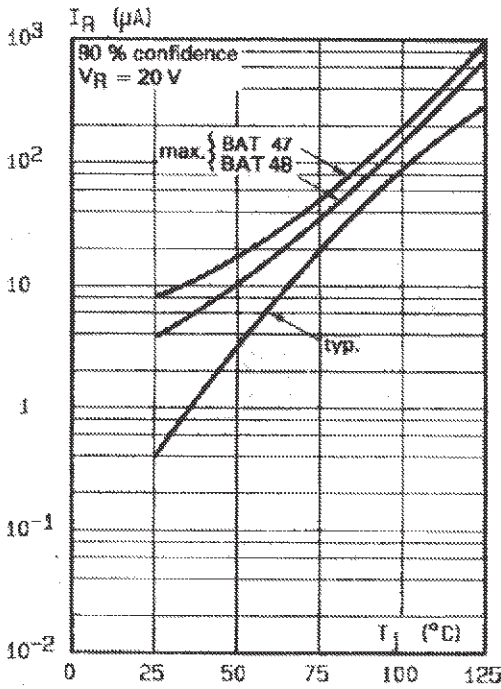


Figure 4. Reverse current versus continuous reverse voltage (typical values).

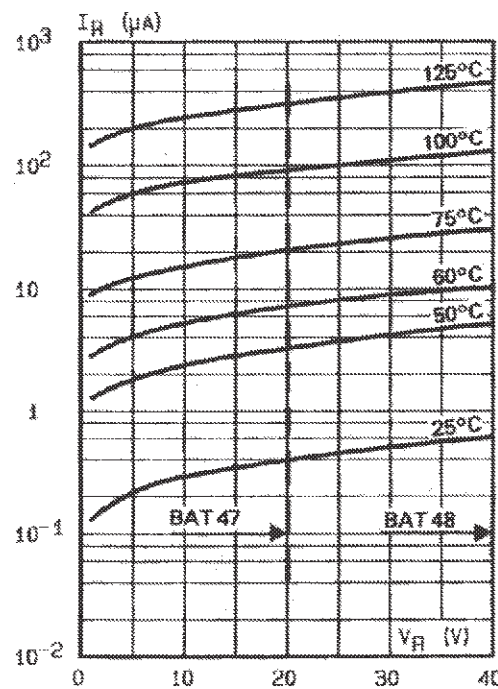
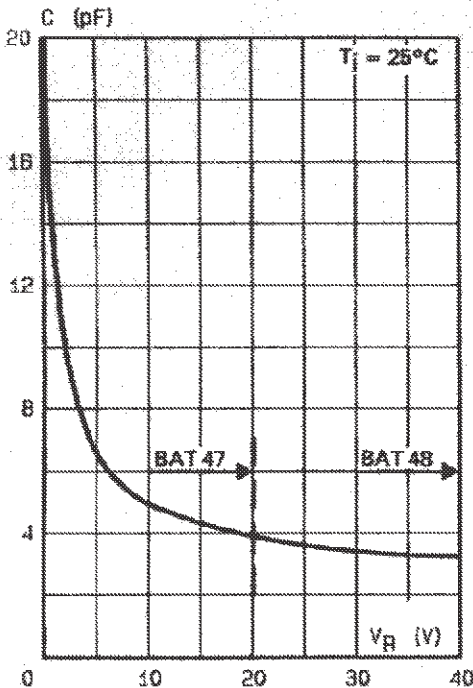
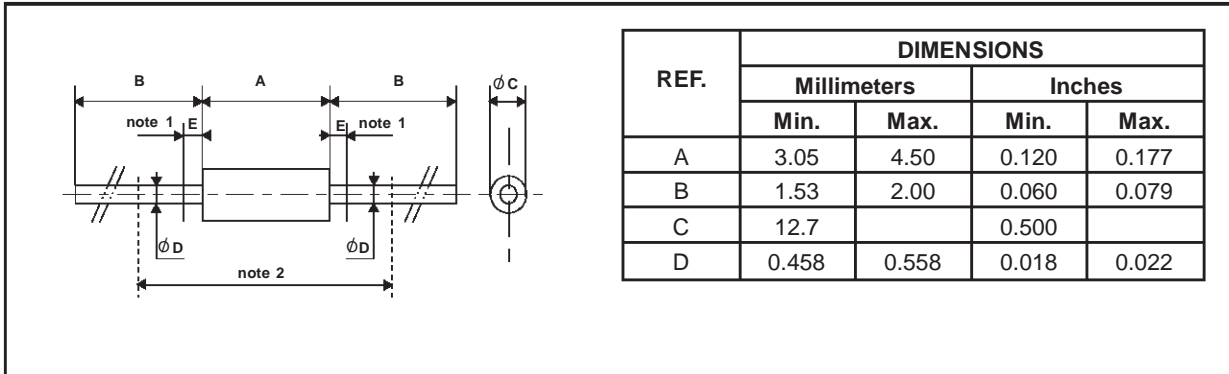


Figure 5. Capacitance C versus reverse



**PACKAGE MECHANICAL DATA**

DO 35 Glass



Cooling method: by convection and conduction.  
 Marking: clear, ring at cathode end.  
 Weight: 0.015g

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