

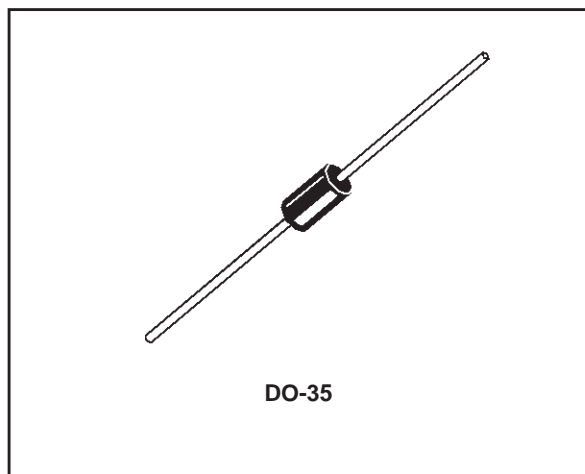
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**SMALL SIGNAL SCHOTTKY DIODE**


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**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*	$T_a = 25^\circ\text{C}$ 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*	$T_a = 25^\circ\text{C}$ 330		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
$R_{th(j-l)}$	Junction-ambient*	300	$^\circ\text{C/W}$

\* On infinite heatsink with 4mm lead length

## BAT47 / BAT48

### ELECTRICAL CHARACTERISTICS

#### STATIC CHARACTERISTICS

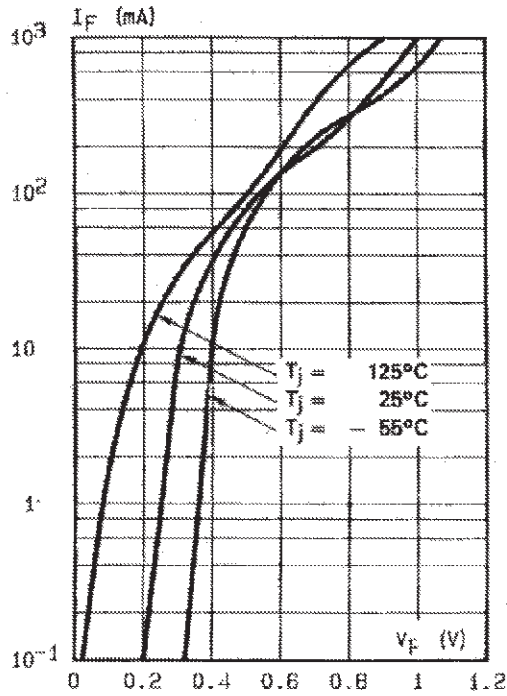
Symbol	Test Conditions		Min.	Typ.	Max.	Unit	
$V_{(BR)}$	$I_R = 10\mu A$	BAT47	20			V	
	$I_R = 25\mu A$	BAT48	40				
$V_F^*$	$T_j = 25^\circ C$ $I_F = 0.1mA$	All Types			0.25	V	
	$T_j = 25^\circ C$ $I_F = 1mA$				0.3		
	$T_j = 25^\circ C$ $I_F = 10mA$				0.4		
	$T_j = 25^\circ C$ $I_F = 30mA$	BAT47			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

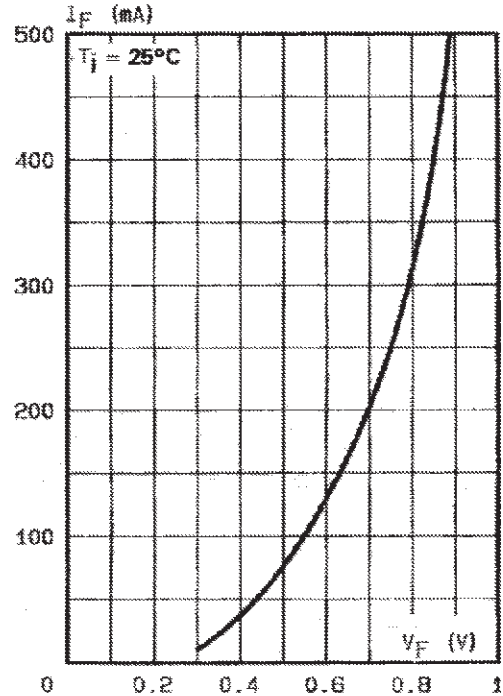
Symbol	Test Conditions		Min.	Typ.	Max.	Unit
C	$T_j = 25^\circ C$ $V_R = 0V$	f = 1MHz		20		$\mu F$
	$T_j = 25^\circ C$ $V_R = 1V$			12		

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

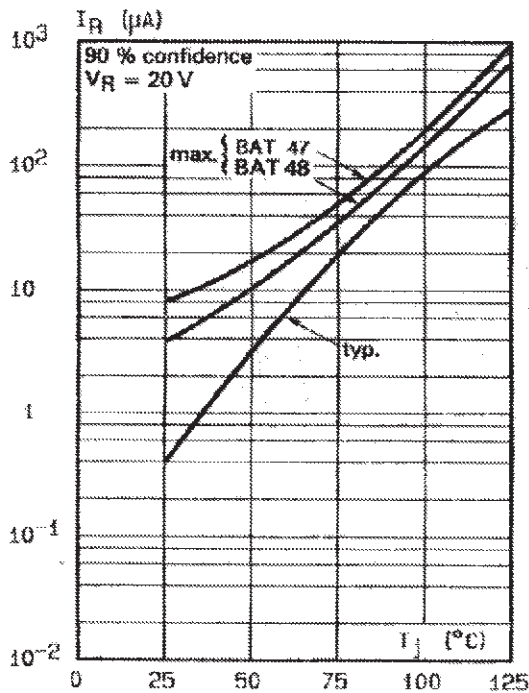
**Fig. 1:** Forward current versus forward voltage at different temperatures (typical values).



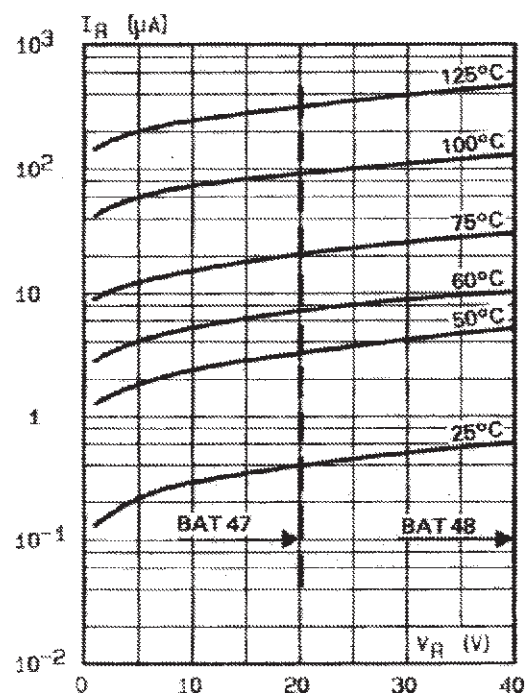
**Fig. 2:** Forward current versus forward voltage (typical values).



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



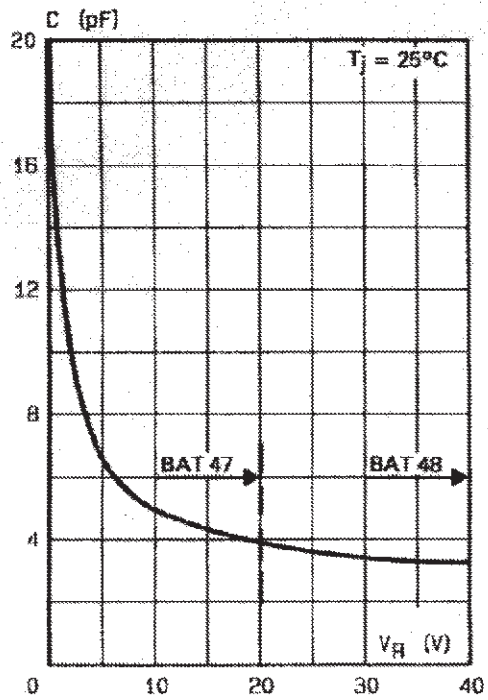
**Fig. 4:** Reverse current versus continuous reverse voltage (typical values).



## BAT47 / BAT48

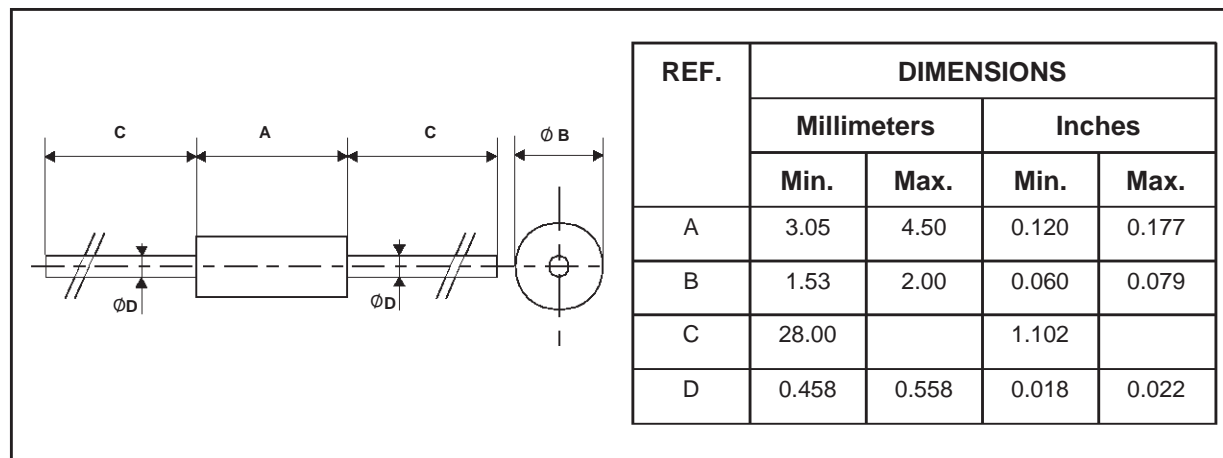
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**Fig. 5:** Capacitance  $C$  versus reverse applied voltage  $V_R$  (typical values).



## PACKAGE MECHANICAL DATA

DO-35



Cooling method: by convection and conduction.

Marking: clear, ring at cathode end.

Weight: 0.015g

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