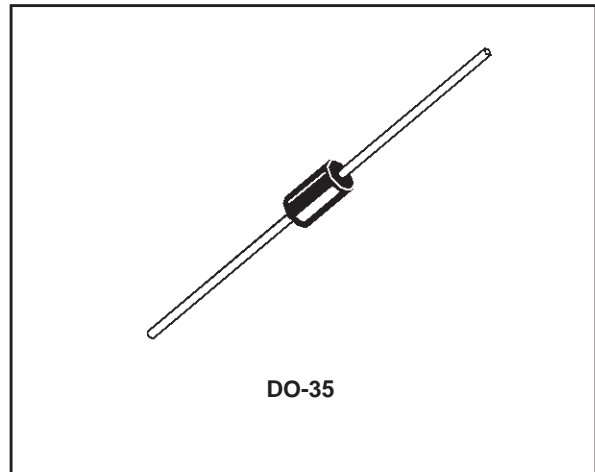


## SMALL SIGNAL SCHOTTKY DIODE

### 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 <sub>RRM</sub>	Repetitive Peak Reverse Voltage		20	40	V
I <sub>F</sub>	Forward Continuous Current*	T <sub>a</sub> = 25°C	350		mA
I <sub>FRM</sub>	Repetitive Peak Fordward Current*	t <sub>p</sub> ≤ 1s δ ≤ 0.5	1		A
I <sub>FSM</sub>	Surge non Repetitive Forward Current*	t <sub>p</sub> = 10ms	7.5		A
		t <sub>p</sub> = 1s	1.5		
P <sub>tot</sub>	Power Dissipation*	T <sub>a</sub> = 25°C	330		mW
T <sub>stg</sub> T <sub>j</sub>	Storage and Junction Temperature Range		- 65 to + 150 - 65 to + 125		°C °C
T <sub>L</sub>	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	$^\circ\text{C/W}$

\* On infinite heatsink with 4mm lead length

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

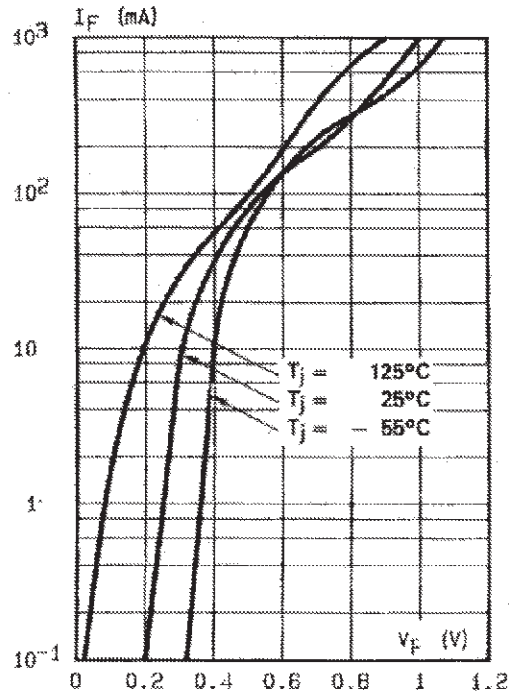
Symbol	Test Conditions			Min.	Typ.	Max.	Unit
$V_{(BR)}$	$I_R = 10\mu A$	BAT47		20			V
	$I_R = 25\mu A$	BAT48		40			
$V_F^*$	$T_j = 25^\circ C$ $I_F = 0.1mA$	All Types				0.25	V
	$T_j = 25^\circ C$ $I_F = 1mA$					0.3	
	$T_j = 25^\circ C$ $I_F = 10mA$					0.4	
	$T_j = 25^\circ C$ $I_F = 30mA$	BAT47		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

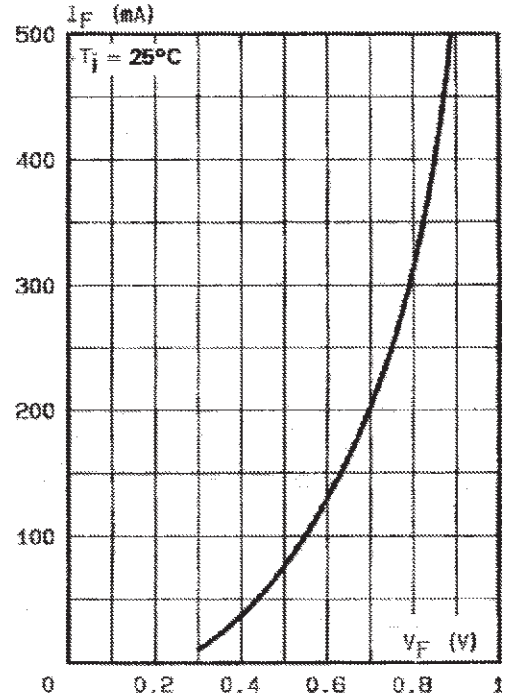
Symbol	Test Conditions		Min.	Typ.	Max.	Unit
C	$T_j = 25^\circ C$ $V_R = 0V$	$f = 1MHz$		20		pF
	$T_j = 25^\circ C$ $V_R = 1V$			12		

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

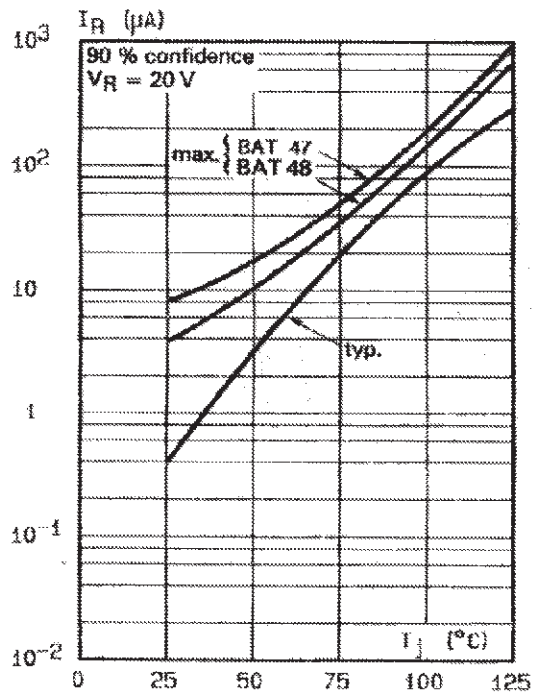
**Fig. 1:** Forward current versus forward voltage at different temperatures (typical values).



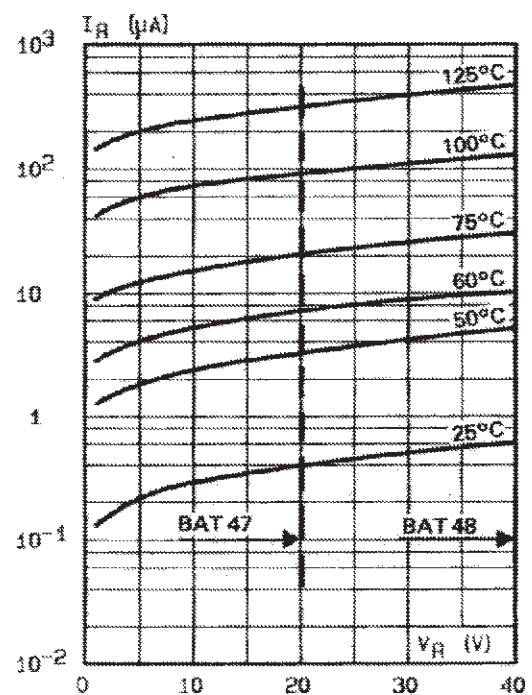
**Fig. 2:** Forward current versus forward voltage (typical values).



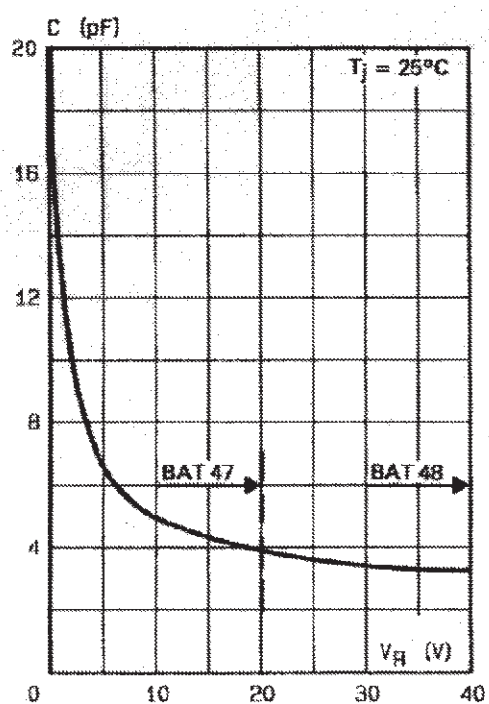
**Fig. 3:** Reverse current versus junction temperature.



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

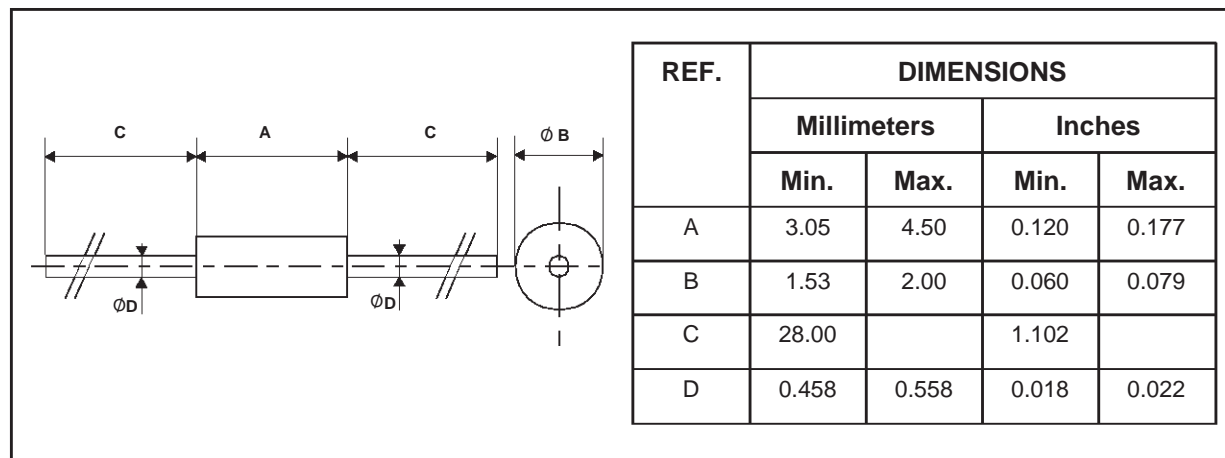


**Fig. 5:** Capacitance  $C$  versus reverse applied voltage  $V_R$  (typical values).



**PACKAGE MECHANICAL DATA**

DO-35



Cooling method: by convection and conduction.

Marking: clear, ring at cathode end.

Weight: 0.015g

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