



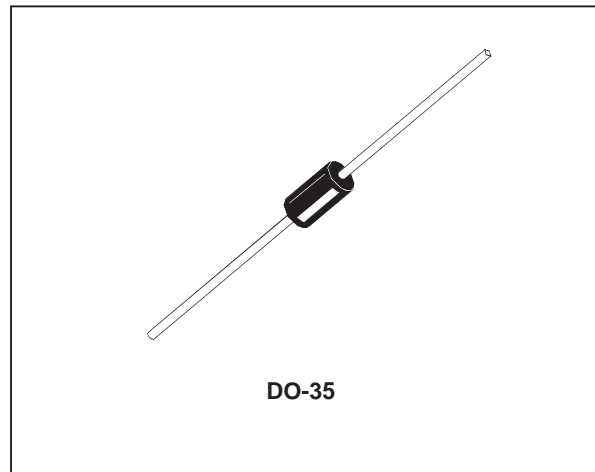
THE DATASHEET OF BAT47



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*	$T_a = 25^\circ\text{C}$ 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

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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	μA
	$T_j = 60^\circ C$					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).

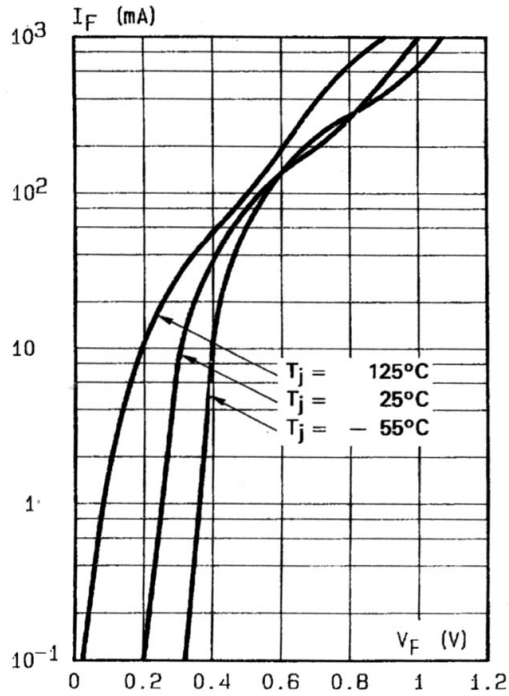


Fig. 2: Forward current versus forward voltage (typical values).

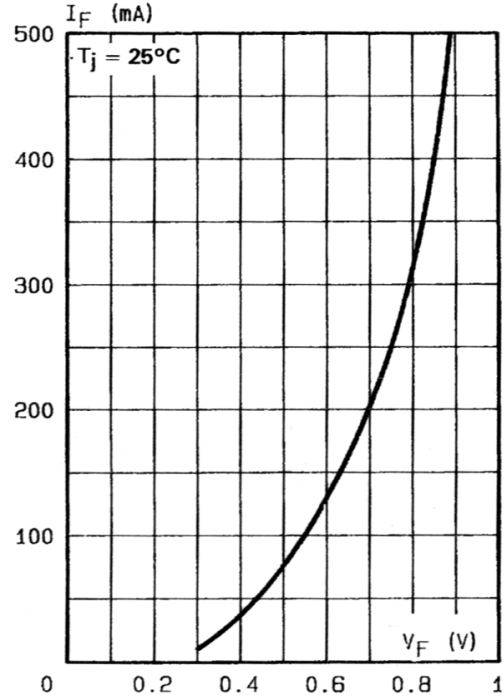


Fig. 3: Reverse current versus junction temperature.

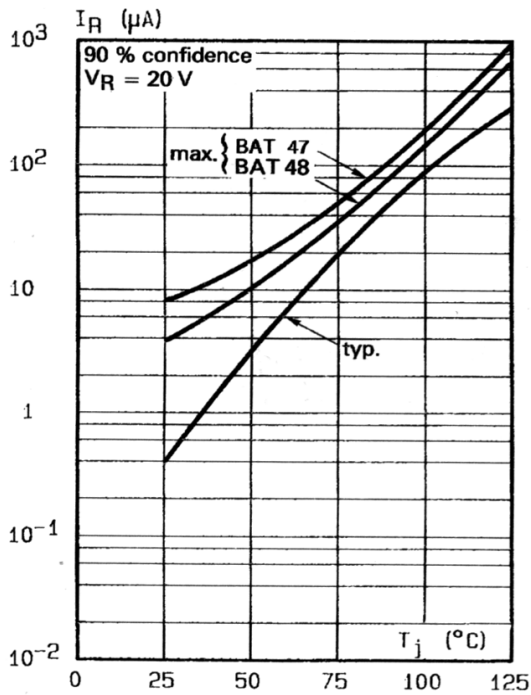
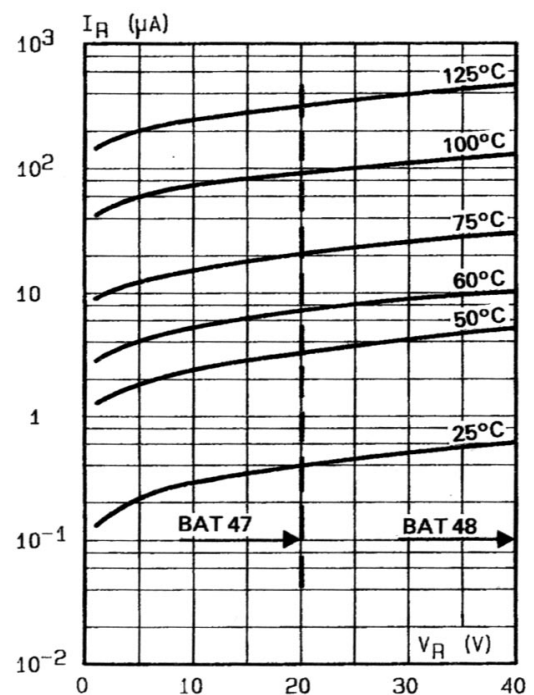
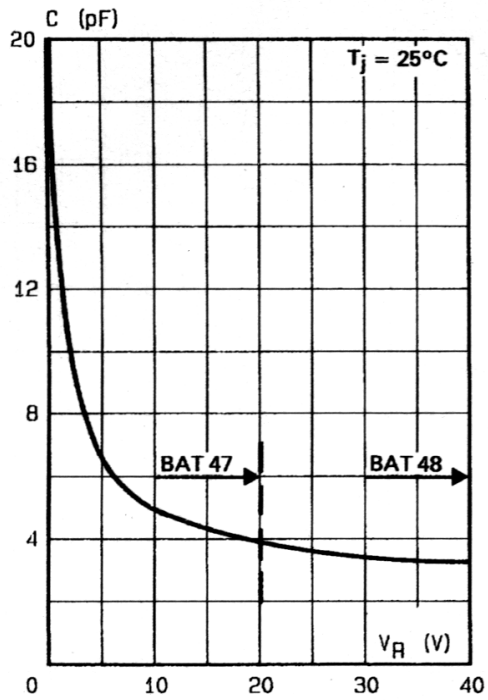


Fig. 4: Reverse current versus continuous reverse voltage (typical values).



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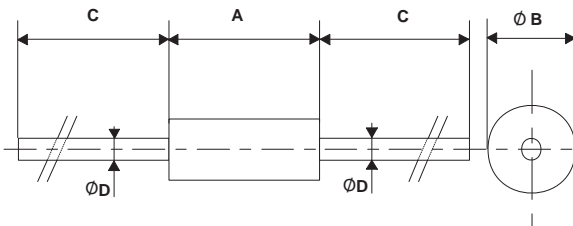
Fig. 5: Capacitance C versus reverse applied voltage V_R (typical values).



PACKAGE MECHANICAL DATA

DO-35

REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.05	4.50	0.120	0.177
B	1.53	2.00	0.060	0.079
C	28.00		1.102	
D	0.458	0.558	0.018	0.022



Cooling method: by convection and conduction.

Marking: clear, ring at cathode end.

Weight: 0.015g

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