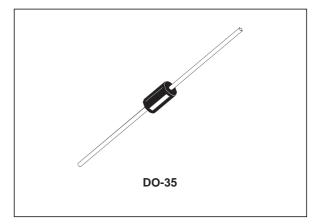


# BAT46

## SMALL SIGNAL SCHOTTKY DIODE



### DESCRIPTION

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

#### ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage		100	V	
IF	Forward Continuous Current*	$T_a = 25^{\circ}C$	150	mA	
I <sub>FRM</sub>	Repetitive Peak Forward Current*	$\begin{array}{l} t_p \leq 1s \\ \delta \leq 0.5 \end{array}$	350	mA	
I <sub>FSM</sub>	Surge non Repetitive Forward Current*	t <sub>p</sub> = 10ms	750	mA	
P <sub>tot</sub>	Power Dissipation*	$T_1 = 80^{\circ}C$	150	mW	
T <sub>stg</sub> Tj	Storage and Junction Temperature Range		- 65 to + 150 - 65 to + 125	°C	
TL	Maximum Temperature for Soldering during 10s at 4mm from Case		230	°C	

#### THERMAL RESISTANCE

Sym	bol	Test Conditions	Value	Unit
R <sub>th(j</sub>	-a)	Junction-ambient*	300	°C/W

\* On infinite heatsink with 4mm lead length.

## **ELECTRICAL CHARACTERISTICS**

### STATIC CHARACTERISTICS

Symbol	Test Conditions	_	Min.	Тур.	Max.	Unit
V <sub>BR</sub>	$T_j = 25^{\circ}C$	I <sub>R</sub> = 100μA	100			V
V <sub>F</sub> *	$T_j = 25^{\circ}C$	I <sub>F</sub> = 0.1mA			0.25	V
	$T_j = 25^{\circ}C$	I <sub>F</sub> = 10mA			0.45	
	$T_j = 25^{\circ}C$	I <sub>F</sub> = 250mA			1	
I <sub>R</sub> *	$T_j = 25^{\circ}C$	V <sub>R</sub> = 1.5V			0.5	μΑ
	$T_j = 60^{\circ}C$				5	
	$T_j = 25^{\circ}C$	V <sub>R</sub> = 10V			0.8	
	$T_j = 60^{\circ}C$				7.5	
	$T_j = 25^{\circ}C$	V <sub>R</sub> = 50V			2	
	$T_j = 60^{\circ}C$				15	
	$T_j = 25^{\circ}C$	V <sub>R</sub> = 75V			5	
	$T_j = 60^{\circ}C$				20	

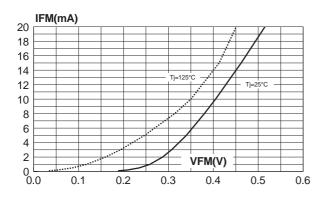
## **DYNAMIC CHARACTERISTICS**

Symbol	Test Conditions			Min.	Тур.	Max.	Unit
	T <sub>j</sub> = 25°C	$V_R = 0V$	f = 1Mhz		10		рF
C	T <sub>j</sub> = 25°C	$V_R = 1V$			6		

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



## **Fig. 1-1:** Forward voltage drop versus forward current (low level, typical values)



**Fig. 2:** Leakage current versus reverse voltage applied (typical values)

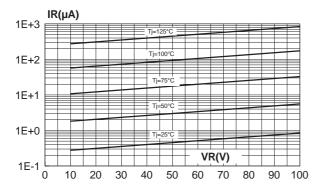
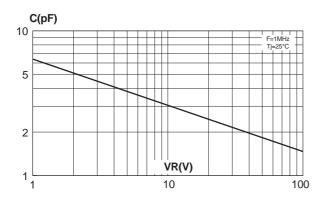


Fig. 4: Junction capacitance versus reverse voltage applied (typical values)



**Fig. 1-2:** Forward voltage drop versus forward current (high level, typical values)

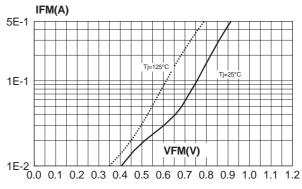
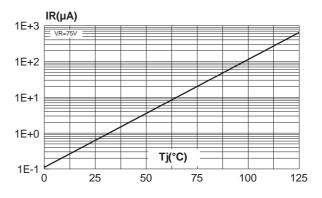
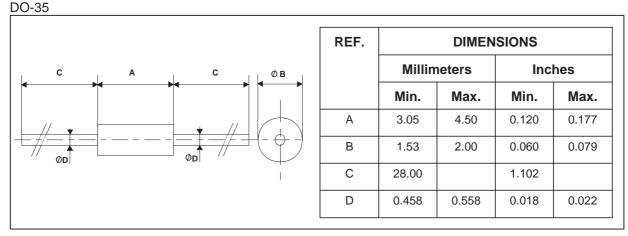


Fig. 3: Leakage current versus junction temperature (typical values)



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#### PACKAGE MECHANICAL DATA



- Cooling method: by convection and conduction
- Marking: clear, ring at cathode end
- Weight: 0.15g

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