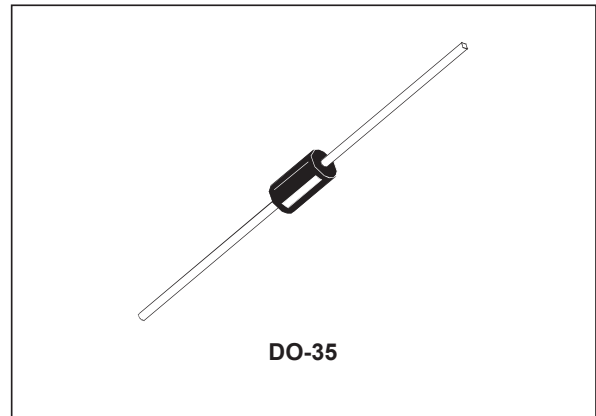


# BAT46 Datasheet

## SMALL SIGNAL SCHOTTKY DIODE

### DESCRIPTION

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



### ABSOLUTE RATINGS (limiting values)

Symbol	Parameter	Value	Unit
$V_{RRM}$	Repetitive Peak Reverse Voltage	100	V
$I_F$	Forward Continuous Current* $T_a = 25^\circ\text{C}$	150	mA
$I_{FRM}$	Repetitive Peak Forward Current* $t_p \leq 1\text{s}$ $\delta \leq 0.5$	350	mA
$I_{FSM}$	Surge non Repetitive Forward Current* $t_p = 10\text{ms}$	750	mA
$P_{tot}$	Power Dissipation* $T_l = 80^\circ\text{C}$	150	mW
$T_{stg}$ $T_j$	Storage and Junction Temperature Range	- 65 to + 150 - 65 to + 125	$^\circ\text{C}$
$T_L$	Maximum Temperature for Soldering during 10s at 4mm from Case	230	$^\circ\text{C}$

### THERMAL RESISTANCE

Symbol	Test Conditions	Value	Unit
$R_{th(j-a)}$	Junction-ambient*	300	$^\circ\text{C/W}$

\* On infinite heatsink with 4mm lead length.

## BAT46

### ELECTRICAL CHARACTERISTICS

#### STATIC CHARACTERISTICS

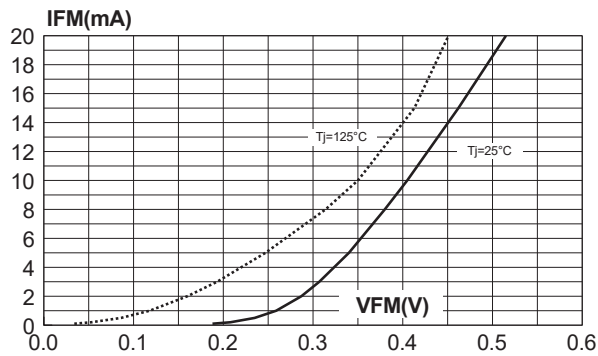
Symbol	Test Conditions		Min.	Typ.	Max.	Unit
$V_{BR}$	$T_j = 25^\circ\text{C}$	$I_R = 100\mu\text{A}$	100			V
$V_F^*$	$T_j = 25^\circ\text{C}$	$I_F = 0.1\text{mA}$			0.25	V
	$T_j = 25^\circ\text{C}$	$I_F = 10\text{mA}$			0.45	
	$T_j = 25^\circ\text{C}$	$I_F = 250\text{mA}$			1	
$I_R^*$	$T_j = 25^\circ\text{C}$	$V_R = 1.5\text{V}$			0.5	$\mu\text{A}$
	$T_j = 60^\circ\text{C}$				5	
	$T_j = 25^\circ\text{C}$	$V_R = 10\text{V}$			0.8	
	$T_j = 60^\circ\text{C}$				7.5	
	$T_j = 25^\circ\text{C}$	$V_R = 50\text{V}$			2	
	$T_j = 60^\circ\text{C}$				15	
	$T_j = 25^\circ\text{C}$	$V_R = 75\text{V}$			5	
	$T_j = 60^\circ\text{C}$				20	

#### DYNAMIC CHARACTERISTICS

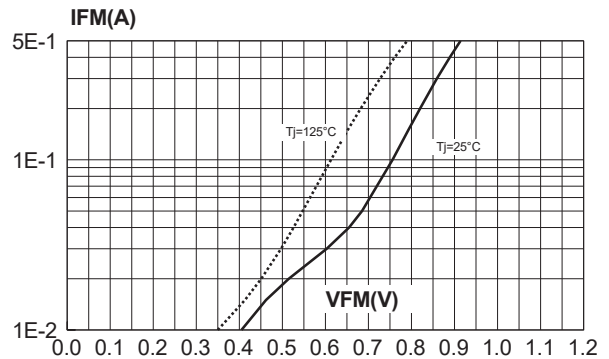
Symbol	Test Conditions		Min.	Typ.	Max.	Unit
C	$T_j = 25^\circ\text{C}$	$V_R = 0\text{V}$		10		pF
	$T_j = 25^\circ\text{C}$	$V_R = 1\text{V}$		6		

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

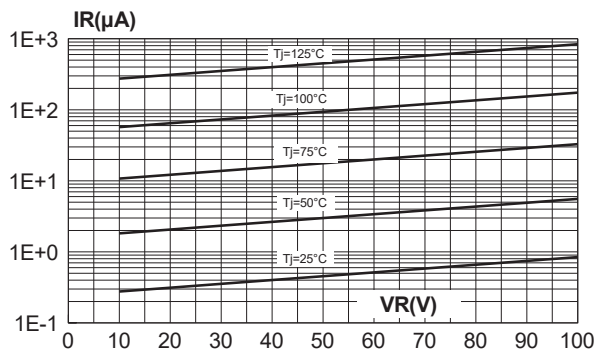
**Fig. 1-1:** Forward voltage drop versus forward current (low level, typical values)



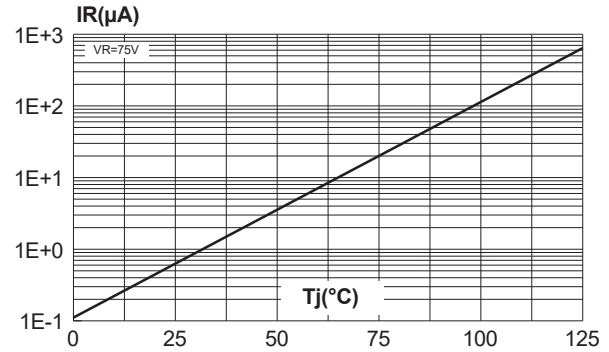
**Fig. 1-2:** Forward voltage drop versus forward current (high level, typical values)



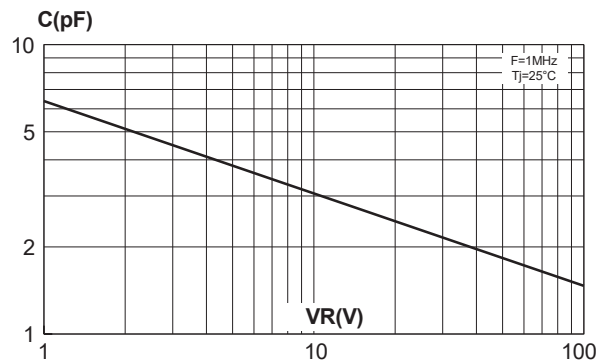
**Fig. 2:** Leakage current versus reverse voltage applied (typical values)



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

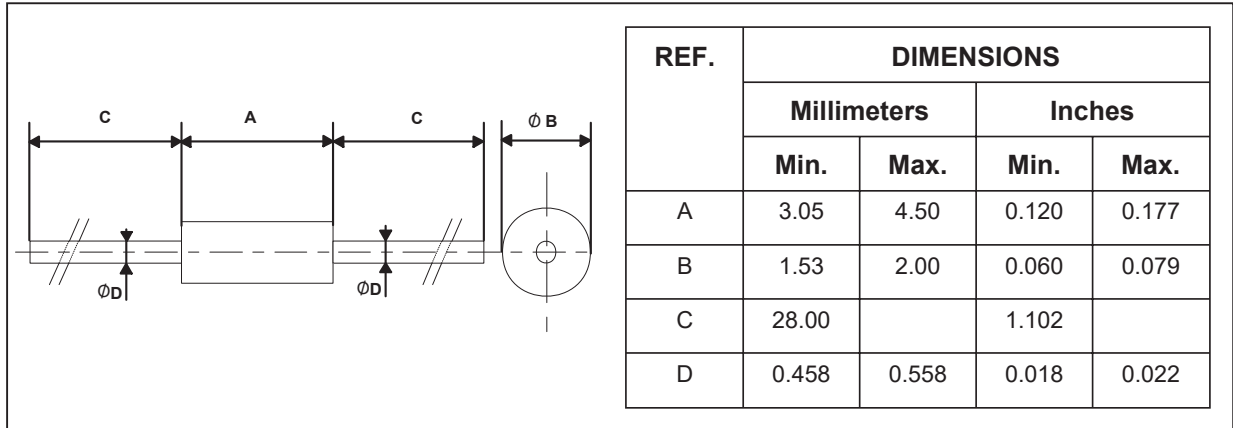


**Fig. 4:** Junction capacitance versus reverse voltage applied (typical values)



# BAT46

## PACKAGE MECHANICAL DATA DO-35



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