

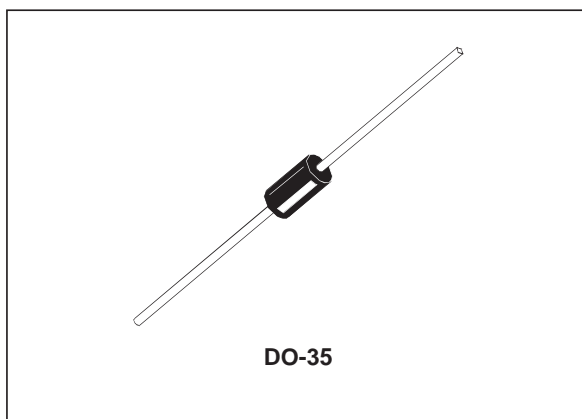


BAT46

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.

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	μA
	$T_j = 60^{\circ}\text{C}$				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	$T_j = 25^{\circ}\text{C}$	$V_R = 0\text{V}$	$f = 1\text{MHz}$	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)

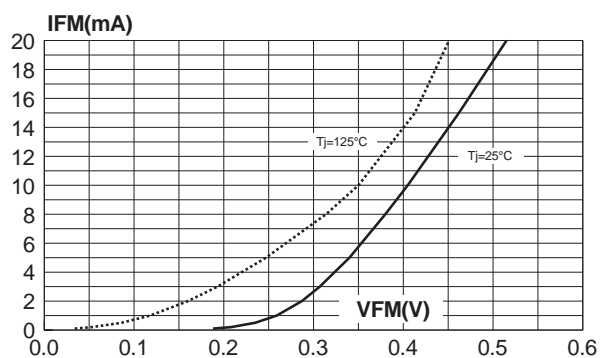


Fig. 1-2: Forward voltage drop versus forward current (high level, typical values)

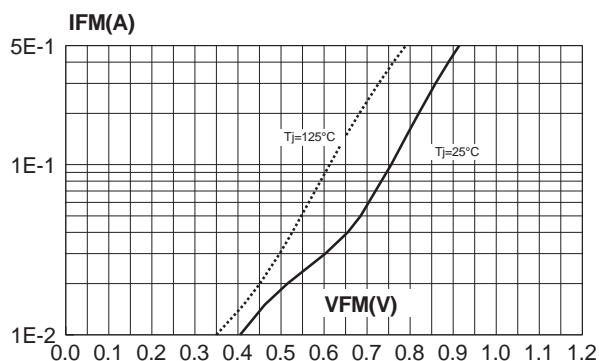


Fig. 2: Leakage current versus reverse voltage applied (typical values)

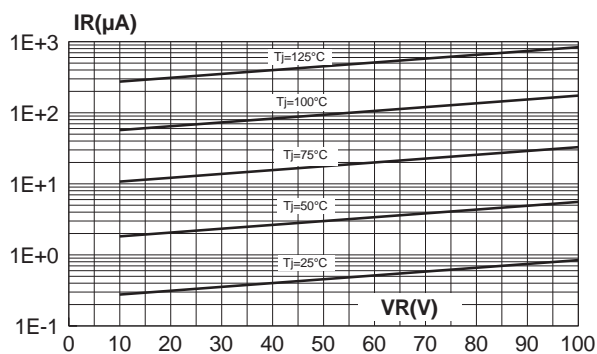


Fig. 3: Leakage current versus junction temperature (typical values)

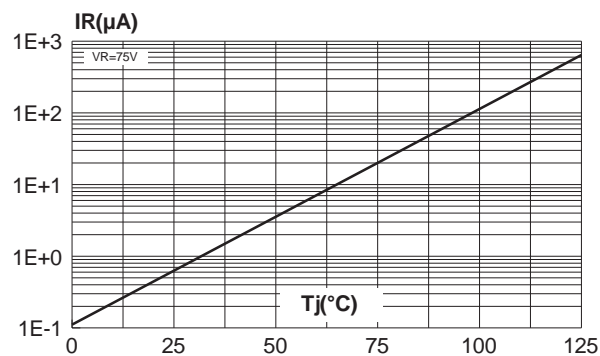
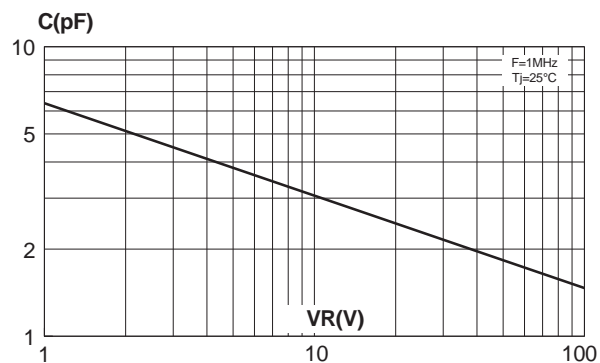
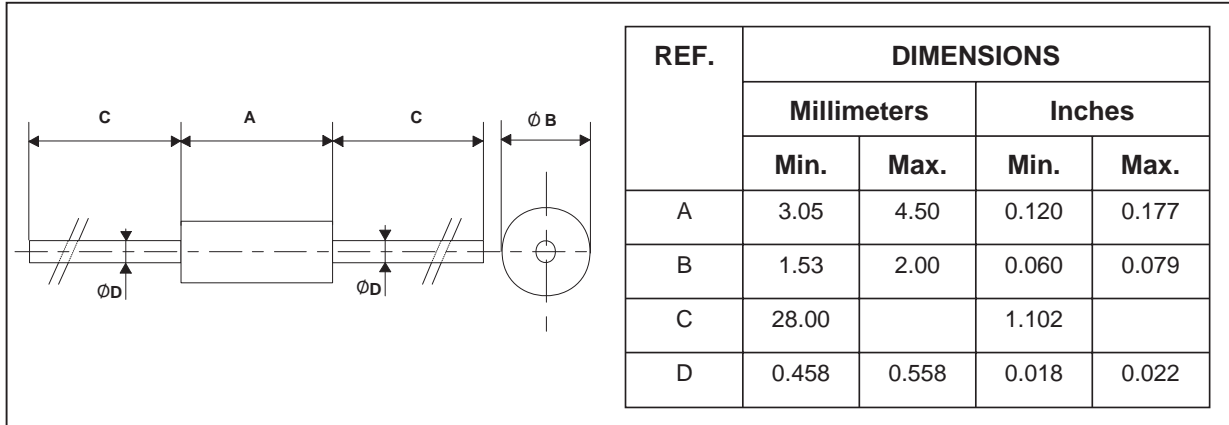


Fig. 4: Junction capacitance versus reverse voltage applied (typical values)



PACKAGE MECHANICAL DATA
 DO-35


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

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