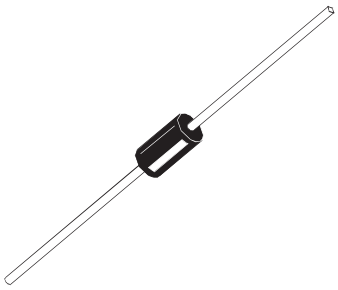
BAT46

SMALL SIGNAL SCHOTTKY DIODE



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DESCRIPTION

General purpose, metalto 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°C	150	mA
I_{FRM}	Repetitive Peak Forward Current*	$t_p \leq 1s$ $\delta \leq 0.5$	350	mA
I_{FSM}	Surge non Repetitive Forward Current*	t_p = 10ms	750	mA
P_{tot}	Power Dissipation*	T_l = 80°C	150	mW
T_{stg} T_j	Storage and Junction Temperature Range		- 65 to + 150 - 65 to + 125	°C
T_L	Maximum Temperature for Soldering during 10s at 4mm from Case		230	°C

THERMAL RESISTANCE

Symbol	Test Conditions	Value	Unit
$R_{th(j-a)}$	Junction-ambient*	300	°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°C	I_R = 100µA	100			V
V_F *	T_j = 25°C	I_F = 0.1mA			0.25	V
	T_j = 25°C	I_F = 10mA			0.45	
	T_j = 25°C	I_F = 250mA			1	
I_R *	T_j = 25°C	V_R = 1.5V			0.5	µA
	T_j = 60°C				5	
	T_j = 25°C	V_R = 10V			0.8	
	T_j = 60°C				7.5	
	T_j = 25°C	V_R = 50V			2	
	T_j = 60°C				15	
	T_j = 25°C	V_R = 75V			5	
	T_j = 60°C				20	

DYNAMIC CHARACTERISTICS

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
C	T_j = 25°C	V_R = 0V	f = 1Mhz		10		pF
	T_j = 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)

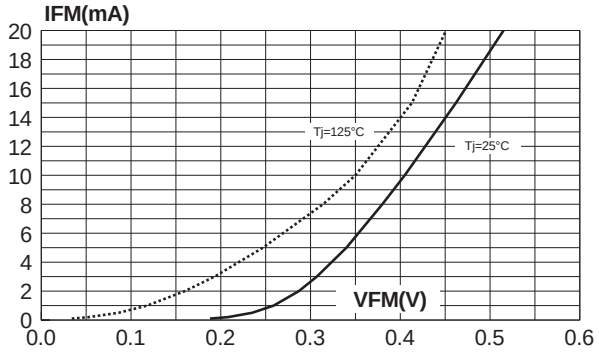


Fig. 1-2: Forward voltage drop versus forward current (high level, typical values)

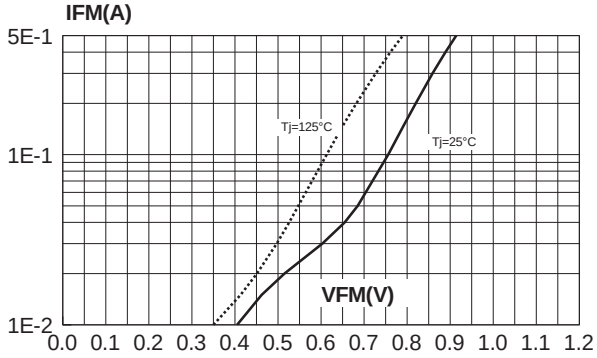


Fig. 2: Leakage current versus reverse voltage applied (typical values)

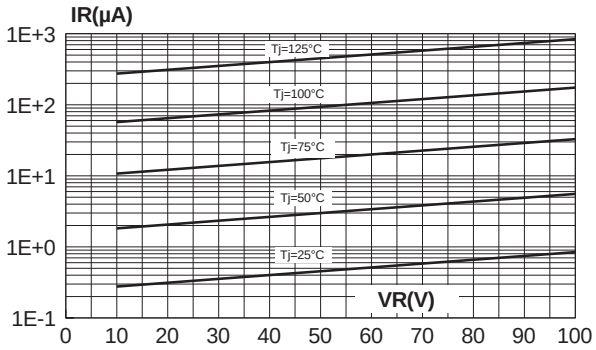


Fig. 3: Leakage current versus junction temperature (typical values)

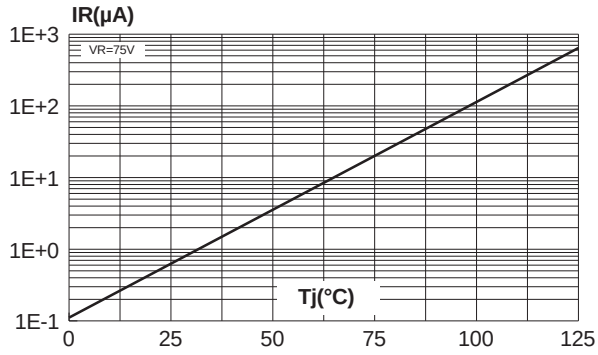
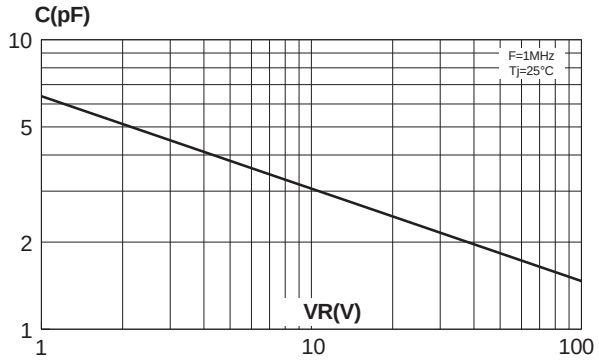


Fig. 4: Junction capacitance versus reverse voltage applied (typical values)



PACKAGE MECHANICAL DATA

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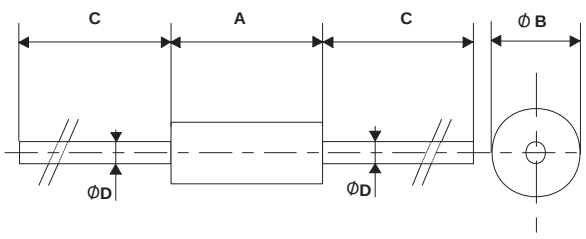

REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.05	4.50	0.120	0.177
B	1.53	2.00	0.060	0.079
C	28.00		1.102	
D	0.458	0.558	0.018	0.022

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