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# BAT46

## Small Signal Schottky Diode

### Features

- For general purpose applications
- These diodes features very low-turn-on voltage and fast switching. These devices are protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges.

### Maximum Ratings

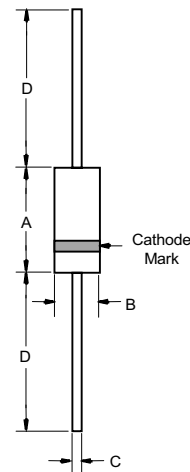
- Operating Temperature: -55°C to +125°C
- Storage Temperature: 55°C to +150°C
- Maximum Thermal Resistance; 300°C/W Junction To Ambient

### Electrical Characteristics @ 25°C Unless Otherwise Specified

Repetitive Peak Reverse Voltage	$V_{RRM}$	100V	
Forward continuous Current	$I_F$	150mA <sup>1)</sup>	$T_A = 25^\circ\text{C}$
Power Dissipation	$P_{TOT}$	150mW <sup>1)</sup>	$T_A = 65^\circ\text{C}$
Junction Temperature	$T_J$	125°C	
Peak Forward Surge Current	$I_{FSM}$	750mA <sup>1)</sup>	$T_p < 10\text{ms}, T_A = 25^\circ\text{C}$
Forward voltage pulse Test $t_p < 300\mu\text{s}$ , at $V_R = 10\text{V}$ , $T_J = 60^\circ\text{C}$ , $\delta < 2\%$	$V_F$	0.25V 0.45V 1V	$I_F = 0.1\text{mA}$ $I_F = 10\text{mA}$ $I_F = 250\text{mA}$
Leakage current pulse test $t_p < 300\mu\text{s}$ , $\delta < 2\%$	$I_R$	0.5 $\mu\text{A}$ 0.8 $\mu\text{A}$ 2 $\mu\text{A}$ 5 $\mu\text{A}$	$V_R = 1.5\text{V}$ $V_R = 10\text{V}$ $V_R = 50\text{V}$ $V_R = 75\text{V}$
Typical Junction Capacitance	$C_J$	6pF	Measured at 1.0MHz, $V_R = 1\text{V}$
Reverse Recovery Time	$T_{rr}$	5nS	$I_F = 10\text{mA}$ $V_R = 6\text{V}$ $R_L = 100\Omega$

1) Valid provided that electrodes are kept at ambient temperature

### DO-35



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	---	.166	---	4.2	
B	---	.079	---	2.00	
C	---	.020	---	.52	
D	1.000	---	25.40	---	

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Figure 1. Forward current versus forward voltage at different temperatures (typical values)

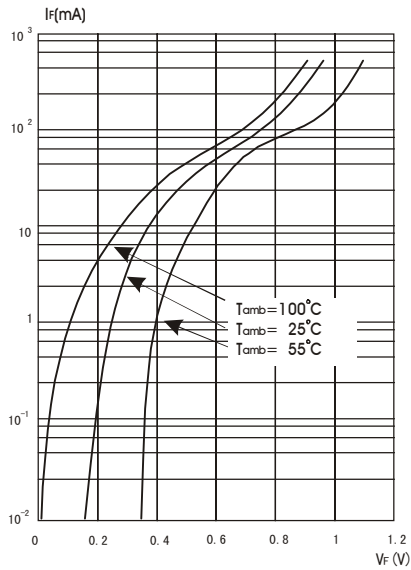


Figure 2. Forward current versus forward voltage (typical values)

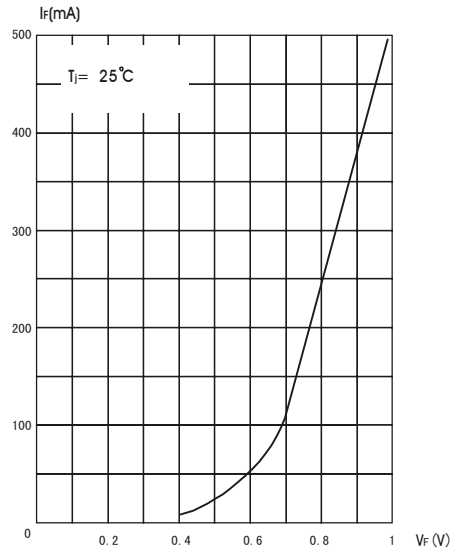
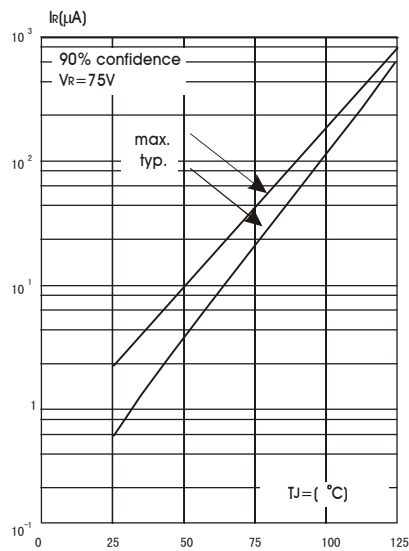


Figure 3. Reverse current versus junction temperature (typical values)



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Figure 4. Reverse current versus continuous Reverse voltage

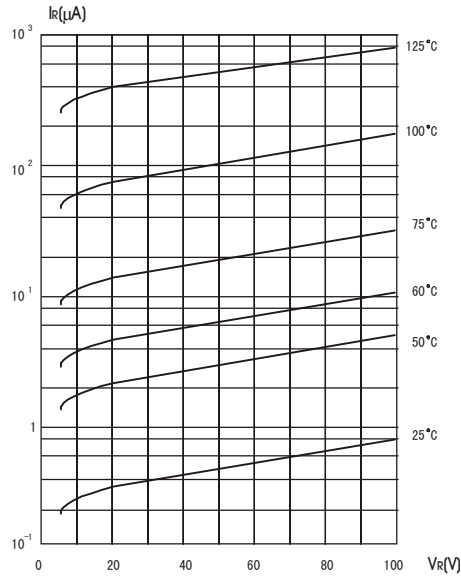


Figure 5. Capacitance C versus reverse applied voltage  $V_r$  (typical values)

