

FAIRCHILD SEMICONDUCTOR

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**FAIRCHILD**

A Schlumberger Company

**FDH900/FDLL900  
FDH999/FDLL999**

High Speed Switching Diodes

T-03-09

- BV...45V (FDH900), 35 V (FDH999)
- $t_{rr}$ ...4.0 ns (FDH900), 5.0 ns (FDH999)

**ABSOLUTE MAXIMUM RATINGS (Note 1)**

**Temperatures**

Storage Temperature Range  
Max. Junction Operating Temperature  
Lead Temperature

-65°C to +200°C  
+175°C  
+280°C

**Power Dissipation (Note 2)**

Maximum Total Dissipation at 25°C Ambient  
Linear Derating Factor (From 25°C)

500 mW  
3.3 mW/°C.

**Maximum Voltage and Currents**

WIV	Working Inverse Voltage	FDH900	40 V
		FDH999	25 V
$I_O$	Average Rectified Current		200 mA
$I_F$	Continuous Forward Current		500 mA
$i_f$	Recurrent Peak Forward Current		600 mA
$i_f(\text{surge})$	Peak Forward Surge Current		
	Pulse Width = 1.0 s		1.0 A
	Pulse Width = 1.0 $\mu$ s		4.0 A

**PACKAGES**

FDH900	DO-35
FDH999	DO-35
FDLL900	LL-34
FDLL999	LL-34

If you need this device in the SOT package, an electrical equivalent is available. See FDSO1200 family.

**ELECTRICAL CHARACTERISTICS (25°C Ambient Temperature unless otherwise noted)**

SYMBOL	CHARACTERISTIC	FDH900		FDH999		UNITS	TEST CONDITIONS
		MIN	MAX	MIN	MAX		
BV	Breakdown Voltage	45		35		V	$I_R = 5.0 \mu A$
$I_R$	Reverse Current		500		1.0	$\mu A$ nA	$V_R = 25 V$ $V_R = 40 V$
$V_F$	Forward Voltage		1.0		1.0	V V	$I_F = 10 mA$ $I_F = 100 mA$
C	Capacitance		3.0		5.0	pF	$V_R = 0, f = 1.0 MHz$
$t_{rr}$	Reverse Recovery Time		4.0		5.0	ns	$I_t = 10 mA, I_r = 10 mA,$ $R_L = 100 \Omega, I_{rr} = 1.0 mA$

**NOTES:**

1. These ratings are limiting values above which the serviceability of any individual semiconductor device may be impaired.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty-cycle operation.
3. For product family characteristic curves, refer to Chapter 4, D4.

