

3469674 FAIRCHILD SEMICONDUCTOR

84D 27478 D

FAIRCHILD

A Schlumberger Company

1N658/FDLL658

General Purpose Diodes

T-01-09

- $BV \dots 120 \text{ V (MIN) @ } 100 \mu\text{A}$
- $V_F \dots 1.0 \text{ V (MAX) @ } 100 \text{ mA}$

ABSOLUTE MAXIMUM RATINGS (Note 1)**Temperatures**

Storage Temperature Range
Maximum Operating Junction Temperature
Lead Temperature

$-65^\circ\text{C to } +200^\circ\text{C}$
 $+175^\circ\text{C}$
 $+200^\circ\text{C}$

Power Dissipation (Note 2)

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

500 mW
3.33 mW/ $^\circ\text{C}$

Maximum Voltage and Currents

WIV Working Inverse Voltage
 I_O Average Rectified Current
 I_F Forward Current Steady State
 $i_f(\text{surge})$ Peak Forward Surge Current
Pulse Width = 1.0s
Pulse Width = $1.0\mu\text{s}$

100 V
200 mA
500 mA

1.0 A
4.0 A

PACKAGES

1N658 DO-35
FDLL658 LL-34

If you need this device in the SOT package, an electrical equivalent is available. See FDS01400 family.

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

SYMBOL	CHARACTERISTIC	MIN	MAX	UNITS	TEST CONDITIONS
V_F	Forward Voltage		1.0	V	$I_F = 100 \text{ mA}$
I_R	Reverse Current		50 25	nA μA	$V_R = 50 \text{ V}$ $V_R = 50 \text{ V}, T_A = 150^\circ\text{C}$
BV	Breakdown Voltage	120		V	$I_R = 100 \mu\text{A}$
t_{rr}	Reverse Recovery Time		300	ns	$V_R = 40 \text{ V}, I_F = 5.0 \text{ mA}$, $R_L = 2.0 \text{ k}\Omega, C_L = 10 \text{ pF}$, Recovery to $80 \text{ k}\Omega$

NOTES:

1. The maximum ratings are limiting values above which life or satisfactory performance may be impaired.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
3. For product family characteristic curves, refer to Chapter 4, D1.

FAIRCHILD

A Schlumberger Company

1N659/660/661
FDLL659/660/661

General Purpose Diodes

T-01-09

- $V_F \dots 1.0 \text{ V (MAX) @ } 6.0 \text{ mA}$
- $t_{rr} \dots 300 \text{ ns (MAX)}$

ABSOLUTE MAXIMUM RATINGS (Note 1)**Temperatures**

Storage Temperature Range	-65°C to +200°C
Maximum Operating Junction Temperature	+175°C
Lead Temperature	+260°C

Power Dissipation (Notes 2)

Maximum Total Dissipation at 25°C Ambient	500 mW
Linear Derating Factor (from 25°C)	3.33 mW/°C

PACKAGES

1N659	DO-35
1N660	DO-35
1N661	DO-35
FDLL659	LL-34
FDLL660	LL-34
FDLL661	LL-34

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

Maximum Voltage and Currents		1N659	1N660	1N661
V_{IV}	Working Inverse Voltage	50 V	100 V	200 V
I_O	Average Rectified Current	200 mA	200 mA	200 mA
I_F	Forward Current Steady State	500 mA	500 mA	500 mA
$I_{(surge)}$	Peak Forward Surge Current			
	Pulse Width = 1.0s	1.0 A	1.0 A	1.0 A
	Pulse Width = 1.0 μ s	4.0 A	4.0 A	4.0 A

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

SYMBOL	CHARACTERISTIC	1N659		1N660		1N661		UNITS	TEST CONDITIONS
		MIN	MAX	MIN	MAX	MIN	MAX		
V_F	Forward Voltage		1.0		1.0		1.0	V	$I_F = 6.0 \text{ mA}$
I_R	Reverse Current		5.0		5.0		10	μ A	$V_R = 50 \text{ V}$
			25		50		100	μ A	$V_R = 100 \text{ V}$
								μ A	$V_R = 200 \text{ V}$
								μ A	$V_R = 50 \text{ V}, T_A = 100^\circ\text{C}$
								μ A	$V_R = 100 \text{ V}, T_A = 100^\circ\text{C}$
								μ A	$V_R = 200 \text{ V}, T_A = 100^\circ\text{C}$
BV	Breakdown Voltage	60		120		240		V	$I_R = 100 \mu\text{A}$
t_{rr}	Reverse Recovery Time		300		300		300	ns	$V_r = 35 \text{ V}, I_F = 30 \text{ mA}, R_L = 2.0 \text{ k}\Omega, C_L = 10 \text{ pF}, \text{Recovery to } 400 \text{ k}\Omega$

NOTES:

1. The maximum ratings are limiting values above which life or satisfactory performance may be impaired.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
3. For product family characteristic curves, refer to Chapter 4, D4 for 1N659, 4, D1 for 1N660 and 1N661.

FAIRCHILD SEMICONDUCTOR

84 DE 3469674 0027480 6

3469674 FAIRCHILD SEMICONDUCTOR

84D 27480 D

FAIRCHILD

A Schlumberger Company

1N746 through 1N759 T-1/-11
500 mW Silicon Linear Diodes**ABSOLUTE MAXIMUM RATINGS (Note 1)****PACKAGES**

All Devices

DO-35

Temperatures

Storage Temperature Range

-65°C to +200°C

Maximum Junction Operating Temperature

+175°C

Lead Temperature

+260°C

Power Dissipation (Note 2)

Maximum Total Power Dissipation at 25°C Ambient

500 mW

Linear Power Derating Factor (from 25°C)

3.33 mW/°C

ELECTRICAL CHARACTERISTICS (25°C Ambient unless otherwise noted)

SYMBOL	Z _Z	V _Z	I _R		TC
Characteristic	Maximum Zener Impedance (Note 4) (I _Z = 20 mA)	Nominal Zener Voltage (Note 3) (I _Z = 20 mA)	Maximum Reverse Current (V _R = 1.0V)		Typical Temperature Coefficient of V _Z
			@25°C	@150°C	
UNIT	Ω	V	μA	μA	%/°C
1N746	28.0	3.3	10.0	30.0	-0.070
1N747	24.0	3.6	10.0	30.0	-0.065
1N748	23.0	3.9	10.0	30.0	-0.060
1N749	22.0	4.3	2.0	30.0	-0.055
1N750	19.0	4.7	2.0	30.0	-0.043
1N751	17.0	5.1	1.0	20.0	±0.030
1N752	11.0	5.6	1.0	20.0	±0.028
1N753	7.0	6.2	0.1	20.0	+0.045
1N754	5.0	6.8	0.1	20.0	+0.050
1N755	6.0	7.5	0.1	20.0	+0.058
1N756	8.0	8.2	0.1	20.0	+0.062
1N757	10.0	9.1	0.1	20.0	+0.068
1N758	17.0	10.0	0.1	20.0	+0.075
1N759	30.0	12.0	0.1	20.0	+0.077

NOTES:

- These ratings are limiting values above which the serviceability of the diode may be impaired.
- These are steady state limits. The factory should be consulted on applications involving pulsed or low duty-cycle operation.
- Type numbers without suffix A have ±10% tolerance on nominal V_Z.
Type numbers with suffix A have ±5% tolerance on nominal V_Z.
- The Zener impedance Z_Z is derived by superimposing a 60 Hz 2 mA (RMS) signal on the 20 mA I_Z test current.
- For product family characteristic curves, refer to Chapter 4, D13

FAIRCHILD SEMICONDUCTOR

84 DE 3469674 0027481 8

3469674 FAIRCHILD SEMICONDUCTOR

84D 27481 D

FAIRCHILD

A Schlumberger Company

1N/FDLL914/A/B/916/A/B**1N/FDLL4148/4149/4446****1N/FDLL4447/4448/4449**

High Conductance Ultra Fast

Switching Diodes T-03-D9

- t_{rr} ...4.0 ns (MAX)
- BV...100 V (MIN)

ABSOLUTE MAXIMUM RATINGS (Note 1)**Temperatures**

Storage Temperature Range
Max Junction Operating Temperature
Lead Temperature

-65° to +200°C
+175°C
+260°C

Power Dissipation (Note 2)

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

500 mW
3.33 mW/°C

Maximum Voltage and Currents

WIV Working Inverse Voltage
 I_O Average Rectified Current
 I_f DC Forward Current
 I_f Recurrent Peak Forward Current
 I_f (surge) Peak Forward Surge Current
Pulse Width = 1.0 s
Pulse Width = 1.0 μ s

75 V
200 mA
300 mA
400 mA
1.0 A
4.0 A

PACKAGES

1N914	DO-35
1N916	DO-35
1N914A	DO-35
1N914B	DO-35
1N916A	DO-35
1N916B	DO-35
1N4148	DO-35
1N4149	DO-35
1N4446	DO-35
1N4447	DO-35
1N4448	DO-35
1N4449	DO-35
FDLL914	LL-34
FDLL916	LL-34
FDLL914A	LL-34
FDLL914B	LL-34
FDLL916A	LL-34
FDLL916B	LL-34
FDLL4148	LL-34
FDLL4149	LL-34
FDLL4446	LL-34
FDLL4447	LL-34
FDLL4448	LL-34
FDLL4449	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	MIN	MAX	UNITS	TEST CONDITIONS
BV	Breakdown Voltage	100 75		V V	$I_R = 100 \mu A$ $I_R = 5.0 \mu A$
I_R	Reverse Current		25 50 5.0	nA μA μA	$V_R = 20 V$ $V_R = 20 V, T_A = 150^\circ C$ $V_R = 75 V$
V_F	Forward Voltage	0.62 0.63	0.72	V	$I_F = 5.0 mA$
			0.73	V	$I_F = 5.0 mA$
			1.0	V	$I_F = 10 mA$
			1.0	V	$I_F = 20 mA$
			1.0	V	$I_F = 30 mA$
			1.0	V	$I_F = 100 mA$
t_{rr}	Reverse Recovery Time		4.0	ns	$I_f = 10 mA, V_r = 6.0 V$ $R_L = 100 \Omega$ Rec. to 1.0 mA

NOTES:

- Maximum ratings are limiting values above which life or satisfactory performance may be impaired.
- These are steady state limits. The factory should be consulted on applications involving pulsed or low duty-cycle operation.
- For family characteristic curves, refer to Chapter 4, D4.

FAIRCHILD SEMICONDUCTOR

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3469674 FAIRCHILD SEMICONDUCTOR

84D 27482 D

1N/FDLL914/A/B/916/A/B

1N/FDLL4148/4149/4446

1N/FDLL4447/44448/4449

T.03-09

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

SYMBOL	CHARACTERISTIC	MIN	MAX	UNITS	TEST CONDITIONS
C	Capacitance		4.0	pF	$V_R = 0$, $f = 1$ MHz
			2.0	pF	$V_R = 0$, $f = 1$ MHz
V_{fr}	Peak Forward Recovery Voltage		2.5	V	50 mA Peak Square Wave, 0.1 μ s pulse width, 5 kHz - 100 kHz rep. rate
RE	Rectification Efficiency	45		%	2.0 V rms, $f = 100$ MHz

FAIRCHILD

A Schlumberger Company

1N957 through 1N973 T-11-11500 mW Silicon Planar
Zener Diodes**ABSOLUTE MAXIMUM RATINGS (Note 1)****PACKAGES**

All Devices

DO-35

Temperatures

Storage Temperature Range

-65°C to +200°C

Maximum Junction Operating Temperature

+175°C

Lead Temperature

+260°C

Power Dissipation (Note 2)

Maximum Total Power Dissipation at 25°C Ambient

500 mW

Linear Power Derating Factor (from 25°C)

3.33 mW/°C

ELECTRICAL CHARACTERISTICS (25°C Ambient)

SYMBOL	V _Z	Z _Z	I _{ZT}	Z _{ZK}	I _{ZK}	I _R	V _{RT}			TC	I _{ZM}
Characteristics	Nominal Zener Voltage (Note 3) @I _{ZT}	Maximum Zener Impedance (Note 4) @I _{ZT}	Test Current	Maximum Zener Knee Impedance (Note 4) @I _{ZK}	Test Current	Maximum Reverse Current @V _{RT}	Test Voltage			Typical Temperature Coefficient of V _Z	Maximum Zener Current (Note 5)
							±20% V _Z Tolerance	±10% V _Z Tolerance	±5% V _Z Tolerance	%/°C	
UNIT	V	Ω	mA	Ω	mA	μA	V	V	V	%/°C	mA
1N957	6.8	4.5	18.5	700	1.0	150	4.4	4.9	5.2	+0.050	47
1N958	7.6	5.5	16.5	700	0.5	75	4.8	5.4	5.7	+0.058	42
1N959	8.2	6.5	15.0	700	0.5	50	5.2	5.9	6.2	+0.062	38
1N960	9.1	7.5	14.0	700	0.5	25	5.8	6.6	6.9	+0.068	35
1N961	10.0	8.5	12.5	700	0.25	10	6.4	7.2	7.6	+0.072	32
1N962	11.0	9.5	11.5	700	0.25	5.0	7.0	8.0	8.4	+0.073	28
1N963	12.0	11.5	10.5	700	0.25	5.0	7.6	8.6	9.1	+0.076	26
1N964	13.0	13.0	9.5	700	0.25	5.0	8.3	9.4	9.9	+0.079	24
1N965	15.0	16.0	8.5	700	0.25	5.0	9.6	10.8	11.4	+0.082	21
1N966	16.0	17.0	7.8	700	0.25	5.0	10.2	11.5	12.2	+0.083	19
1N967	18.0	21.0	7.0	750	0.25	5.0	11.5	13.0	13.7	+0.085	17
1N968	20.0	25.0	6.2	750	0.25	5.0	12.8	14.4	15.2	+0.086	15
1N969	22.0	29.0	5.6	750	0.25	5.0	14.0	15.8	16.7	+0.087	14
1N970	24.0	33.0	5.2	750	0.25	5.0	15.4	17.3	18.2	+0.088	13
1N971	27.0	41.0	4.6	750	0.25	5.0	17.2	19.4	20.6	+0.090	11
1N972	30.0	49.0	4.2	1000	0.25	5.0	19.2	21.6	22.8	+0.091	10
1N973	33.0	58.0	3.8	1000	0.25	5.0	21.1	23.8	25.1	±0.092	9.2

NOTES

- These ratings are limiting values above which the serviceability of the diode may be impaired.
- These are steady state limits. The factory should be consulted on applications involving pulsed or low duty-cycle operation.
- Type numbers without suffix have ±20% tolerance on nominal V_Z.
Type numbers with suffix A have ±10% tolerance on nominal V_Z.
Type numbers with suffix B have ±5% tolerance on nominal V_Z.
- The Zener impedances Z_Z and Z_{ZK} are derived by superimposing a 60 Hz signal on test currents I_{ZT} and I_{ZK}, having an RMS value of 10% of the d.c. value of I_{ZT} and I_{ZK} respectively.
- Maximum Zener Current (I_{ZM}) is based on the maximum Zener voltage of a 20% tolerance unit.
- For product family characteristic curves, refer to Chapter 4, D13.

3469674 FAIRCHILD SEMICONDUCTOR

84D 27484 D1

FAIRCHILD

A Schlumberger Company

1N3064/4305/4454 T-03-09
FDLL3064/4305/4454Ultra Fast Low
Capacitance Diodes

- C...2.0 pF @ $V_R = 0$, $f = 1.0$ MHz
- t_{rr} ...4.0 ns @ $I_f = 10$ mA, $I_r = 10$ mA, $V_r = 1.0$ V
- BV...75 V (MIN)

ABSOLUTE MAXIMUM RATINGS (Note 1)**Temperatures**

Storage Temperature Range

-65°C to +200°C

Max Junction Operating Temperature

+175°C

Lead Temperature

+260°C

Power Dissipation (Note 2)

Maximum Total Dissipation at 25°C

500 mW

Linear Derating Factor (from 25°C)

3.33 mW/°C

Maximum Voltages and Currents

WIV

Working Inverse Voltage

50 V

IO

Average Rectified Current

100 mA

IF

Forward Current Steady State

300 mA

If

Recurrent Peak Forward Current

400 mA

If (surge)

Peak Forward Surge Current

1.0 A

Pulse Width = 1.0 s

4.0 A

Pulse Width = 1.0 μ s**PACKAGES**

1N3064	DO-35
1N4305	DO-35
1N4454	DO-35
FDLL3064	LL-34
FDLL4305	LL-34
FDLL4454	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	MIN	MAX	UNITS	TEST CONDITIONS
VF	Forward Voltage	0.610	0.710	V	$I_F = 2.0$ mA
		0.550	0.650	V	$I_F = 1.0$ mA
		0.505	0.575	V	$I_F = 250$ μ A
		1N3064 } 1N4454 } 1N4305 }	1.0	V	$I_F = 10$ mA
			0.85	V	$I_F = 10$ mA
IR	Reverse Current		0.1	μ A	$V_R = 50$ V
			100	μ A	$V_R = 50$ V, $T_A = 150^\circ$ C
BV	Breakdown Voltage	75		V	$I_R = 5.0$ μ A
trr	Reverse Recovery Time (Note 3)	1N4305	2.0	ns	$I_f = 10$ mA, $V_r = 6.0$ V, $R_L = 100$ Ω
		1N3064 } 1N4305 } 1N4454 }	4.0	ns	$I_f = I_r = 10$ mA, $R_L = 100$ Ω , $V_r = 1.0$ V
C	Capacitance		2.0	pF	$V_R = 0$, $f = 1.0$ MHz
RE	Rectification Efficiency (Note 4)	45		%	$f = 1.0$ MHz
$\Delta V_F / ^\circ$ C	Forward Voltage Temperature Coefficient (Note 5)		3.0	mV/°C	

NOTES:

1. The maximum ratings are limiting values above which life or satisfactory performance may be impaired.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty-cycle operation.
3. Recovery to 1.0 mA.
4. Rectification efficiency is defined as the ratio of dc load voltage to peak rf input voltage to the detector circuit, measured with 2.0 V rms input to the circuit. Load resistance 50 Ω , load capacitance 20 pF.
5. This value for $\Delta V_F / ^\circ$ C is a typical value not a minimum or maximum.
6. For product family characteristic curves, refer to Chapter 4, D4.

FAIRCHILD

A Schlumberger Company

1N3070/4938
FDLL3070/4938

T-03-09

High Speed High
Conductance Diodes

- BV...200 V (MIN)
- I_R ...100 nA (MAX)

ABSOLUTE MAXIMUM RATINGS (Note 1)**Temperatures**

Storage Temperature Range
Max Junction Operating Temperature
Lead Temperature

-65°C to +200°C
+175°C
+260°C

Power Dissipation (Note 2)

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

500 mW
3.33 mW/°C

Maximum Voltage and Currents

WIV Working Inverse Voltage
 I_O Average Rectified Current
 I_F Forward Current Steady State DC
 I_{FM} Recurrent Peak Forward Current
 I_{FSM} Peak Forward Surge Current
Pulse Width = 1.0 s
Pulse Width = 1.0 μ s

175 V
200 mA
500 mA
600 mA

1.0 A
4.0 A

PACKAGES

1N3070	DO-35
1N4938	DO-35
FDLL3070	LL-34
FDLL4938	LL-34

If you need this device in the SOT package, an electrical equivalent is available. See FDSO1400 family.

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

SYMBOL	CHARACTERISTIC	MIN	MAX	UNITS	TEST CONDITIONS
I_R	Reverse Current		100 100	nA μ A	$V_R = 175$ V $V_R = 175$ V, $T_A = 150^\circ\text{C}$
BV	Breakdown Voltage	200		V	$I_R = 100$ μ A
V_F	Forward Voltage		1.0	V	$I_F = 100$ mA
C	Capacitance		5.0	pF	$V_R = 0$, $f = 1.0$ MHz
t_{rr}	Reverse Recovery Time (Note 3)		50	ns	$I_F = I_R = 30$ mA, $R_L = 100\Omega$
RE	Rectification Efficiency (Note 4)	35		%	$f = 100$ MHz

NOTES:

- The maximum ratings are limiting values above which life or satisfactory performance may be impaired.
- These are steady state limits. The factory should be consulted on applications involving pulsed or low duty-cycle operation.
- Recovery to 1.0 mA.
- Rectification efficiency is defined as the ratio of dc load voltage to peak rf input voltage to the detector circuit, measured with 2.0 V rms input to the circuit. Load resistance: 5.0 k Ω , load capacitance 20 pF.
- 1N3070 and 1N4938 are electrically and mechanically identical.
- For product family characteristic curves, refer to Chapter 4, D1.

FAIRCHILD

A Schlumberger Company

1N3595/6099 T201-09**FDLL3595/6099**High Conductance Low
Leakage Diodes

- BV... 150 V (MIN) @ 100 μ A
- VF... 1.0 V @ 200 mA

ABSOLUTE MAXIMUM RATINGS (Note 1)**Temperatures**

Storage Temperature Range	-65°C to +200°C
Max Junction Operating Temperature	+175°C
Lead Temperature	+260°C

Power Dissipation (Note 2)

Maximum Total Dissipation at 25°C Ambient	500 mW
Linear Derating Factor (From 25°C)	3.33 mW/°C

Maximum Voltage and Currents

WIV	Working Inverse Voltage	125 V
IO	Average Rectified Current	200 mA
IF	Forward Current Steady State	500 mA
IF	Peak Repetitive Forward Current	600 mA
IF (surge)	Peak Forward Surge Current	1.0 A
	Pulse Width = 1.0 s	4.0 A
	Pulse Width = 1.0 μ s	

PACKAGES

1N3595	DO-35
1N6099	DO-35
FDLL3595	LL-34
FDLL6099	LL-34

If you need this device in the SOT package, an electrical equivalent is available. See FDSO1500 family.

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

SYMBOL	CHARACTERISTIC	MIN	MAX	UNITS	TEST CONDITIONS
VF	Forward Voltage	0.83	1.0	V	IF = 200 mA
		0.79	0.92	V	IF = 100 mA
		0.75	0.88	V	IF = 50 mA
		0.65	0.80	V	IF = 10 mA
		0.60	0.75	V	IF = 5.0 mA
		0.52	0.68	V	IF = 1.0 mA
IR	Reverse Current		1.0	nA	VR = 125 V
			300	nA	VR = 30 V, TA = 125°C
			500	nA	VR = 125 V, TA = 125°C
			3.0	μ A	VR = 125 V, TA = 150°C
trr	Reverse Recovery Time		3.0	μ s	IF = 10 mA, VR = 3.5 V, RL = 1.0 k Ω
C	Capacitance		8.0	pF	VR = 0, f = 1.0 MHz
BV	Breakdown Voltage	150		V	IR = 100 μ A

NOTES:

- The maximum ratings are limiting values above which life or satisfactory performance may be impaired.
- These are steady state limits. The factory should be consulted on applications involving pulsed or low duty-cycle operation.
- 1N3595 and 1N6099 are electrically and mechanically identical.
- For product family characteristic curves, refer to Chapter 4, D2.

FAIRCHILD

A Schlumberger Company

1N3600/FDLL3600 T-03-09**1N4150/FDLL4150****1N4450/FDLL4450**High Conductance Ultra Fast
Diodes

- t_{rr} ...4.0 ns (MAX)
- V_F ...1.0 V (MAX) @ 200 mA

ABSOLUTE MAXIMUM RATINGS (Note 1)**Temperatures**

Storage Temperature Range	-65°C to +200°C
Max Junction Operating Temperature	+175°C
Lead Temperature	+260°C

Power Dissipation (Note 2)

Max Total Power Dissipation at 25°C Ambient	500 mW
Linear Derating Factor (from 25°C)	3.33 mW/°C

PACKAGES

1N3600	DO-35
1N4150	DO-35
1N4450	DO-35
FDLL3600	LL-34
FDLL4150	LL-34
FDLL4450	LL-34

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

Maximum Voltages and Currents		1N3600	1N4150	1N4450
V_{iV}	Working Inverse Voltage	50 V	50 V	30 V
I_O	Average Rectified Current	200 mA	200 mA	200 mA
I_F	DC Forward Current	400 mA	400 mA	400 mA
I_f	Recurrent Peak Forward Current	600 mA	600 mA	600 mA
$I_f(\text{surge})$	Peak Forward Surge Current			
	Pulse Width = 1.0 s	1.0 A	1.0 A	1.0 A
	Pulse Width = 1.0 μ s	4.0 A	4.0 A	4.0 A

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

SYMBOL	CHARACTERISTIC	1N3600 1N4150		1N4450		UNITS	TEST CONDITIONS
		MIN	MAX	MIN	MAX		
BV	Breakdown Voltage	75		40		V	$I_R = 5.0 \mu A$
I_R	Reverse Current		100		50	nA	$V_R = 50 V$
			100		50	nA	$V_R = 30 V$
						μA	$V_R = 50 V, T_A = 150^\circ C$
V_F	Forward Voltage	0.54	0.62	0.42	0.54	V	$I_F = 0.1 mA$
		0.66	0.74	0.52	0.64	V	$I_F = 1.0 mA$
		0.76	0.86	0.64	0.76	V	$I_F = 10 mA$
		0.82	0.92	0.80	0.92	V	$I_F = 50 mA$
		0.87	1.0		1.0	V	$I_F = 100 mA$
						V	$I_F = 200 mA$
C	Capacitance		2.5		4.0	pF	$V_R = 0, f = 1.0 MHz$
t_{rr}	Reverse Recovery Time (Note 3)		4.0		4.0	ns	$I_f = I_r = 10 mA$ to 200 mA, $R_L = 100 \Omega$
			6.0			ns	$I_f = I_r = 10 mA, R_L = 100 \Omega$
						ns	$I_f = I_r = 200 mA$ to 400 mA, $R_L = 100 \Omega$
t_{fr}	Forward Recovery Time		10			ns	$I_f = 200 mA, t_r = 0.4 ns,$ $V_{fr} = 1.0 V$

NOTES:

- Maximum ratings are limiting values above which life or satisfactory performance may be impaired.
- These are steady state limits. The factory should be consulted on applications involving pulsed or low duty-cycle operation.
- Recovery to 0.1 I_f .
- For family characteristic curves, refer to Chapter 4, D4.