

3469674 FAIRCHILD SEMICONDUCTOR

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FAIRCHILD

A Schlumberger Company

PN5135/FTSO5135 T-29-23
PN5136/FTSO5136
PN5137/FTSO5137
 NPN Small Signal General Purpose
 Amplifiers

- P_D ... 625 mW @ $T_A = 25^\circ\text{C}$
- V_{CE0} ... 25 V (Min) (PN/FTSO5135)
- h_{FE} ... 50-600 @ 10 mA (PN/FTSO5135), 20-400 @ 150 mA (PN/FTSO5136/7)
- f_T ... 40 MHz (Min)
- Complements ... PN5142, PN5143

PACKAGE

PN5135	TO-92
PN5136	TO-92
PN5137	TO-92
FTSO5135	TO-236AA/AB
FTSO5136	TO-236AA/AB
FTSO5137	TO-236AA/AB

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

Storage Temperature	-55° C to 150° C
Operating Junction Temperature	150° C

Power Dissipation (Notes 2 & 3)

Total Dissipation at	PN	FTSO
25° C Ambient Temperature	0.625 W	0.350 W*
25° C Case Temperature	1.0 W	

Voltages & Currents

	5135	5136/7
V_{CE0} Collector to Emitter Voltage	25 V	20 V
(Note 4)		
V_{CBO} Collector to Base Voltage	30 V	30 V
V_{CES} Collector to Emitter Voltage	30 V	30 V
V_{EBO} Emitter to Base Voltage	4.0 V	3.0 V
I_C Collector Current	200 mA	200 mA

ELECTRICAL CHARACTERISTICS (25° C Ambient Temperature unless otherwise noted) (Note 6)

SYMBOL	CHARACTERISTIC	5135		5136		UNITS	TEST CONDITIONS
		MIN	MAX	MIN	MAX		
BV_{CES}	Collector to Emitter Breakdown Voltage	30		30		V	$I_C = 100\ \mu\text{A}$, $V_{BE} = 0$
BV_{CBO}	Collector to Base Breakdown Voltage	30		30		V	$I_C = 100\ \mu\text{A}$, $I_E = 0$
BV_{EBO}	Emitter to Base Breakdown Voltage	4.0		3.0		V	$I_E = 10\ \mu\text{A}$, $I_C = 0$
I_{EBO}	Emitter Cutoff Current		10		100	nA μA	$V_{EB} = 2.0\ \text{V}$, $I_C = 0$ $V_{EB} = 4.0\ \text{V}$, $I_C = 0$

NOTES:

- These ratings are limiting values above which the serviceability of any individual semiconductor device may be impaired.
 - These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
 - These ratings give a maximum junction temperature of 150° C and (TO-92) junction-to-case thermal resistance of 125° C/W (derating factor of 8.0 mW/° C); junction-to-ambient thermal resistance of 200° C/W (derating factor of 5.0 mW/° C); (TO-236) junction-to-ambient thermal resistance of 357° C/W (derating factor of 2.8 mW/° C).
 - Rating refers to a high current point where collector to emitter voltage is lowest.
 - Pulse conditions: length = 300 μs ; duty cycle = 1%.
 - For product family characteristic curves, refer to Curve Set T145.
- * Package mounted on 99.5% alumina 8 mm x 8 mm x 0.6 mm.

PN5135/FTSO5135

PN5136/FTSO5136

PN5137/FTSO5137

T-29-23

ELECTRICAL CHARACTERISTICS (25° C Ambient Temperature unless otherwise noted) (Note 6)

SYMBOL	CHARACTERISTIC	5135		5136		UNITS	TEST CONDITIONS
		MIN	MAX	MIN	MAX		
I_{CBO}	Collector Cutoff Current	300	10		100	nA nA μA	$V_{CB} = 15 V, I_E = 0$ $V_{CB} = 20 V, I_E = 0$ $V_{CB} = 15 V, I_E = 0$ $T_A = 65^\circ C$ $V_{CB} = 20 V, I_E = 0,$ $T_A = 65^\circ C$
h_{FE}	DC Pulse Current Gain (Note 5)	50 15	600	20 20	400		$I_C = 10 mA, V_{CE} = 10 V$ $I_C = 2.0 mA, V_{CE} = 1.0 V$ $I_C = 150 mA, V_{CE} = 1.0 V$ $I_C = 30 mA, V_{CE} = 1.0 V$
$V_{CE(sus)}$	Collector to Emitter Sustaining Voltage (Notes 4 & 5)	25		20		V	$I_C = 1.0 mA$ (pulsed), $I_B = 0$
$V_{CE(sat)}$	Collector to Emitter Saturation Voltage (Note 5)		1.0		0.25	V V	$I_C = 100 mA, I_B = 10 mA$ $I_C = 150 mA, I_B = 15 mA$
$V_{BE(on)}$	Base to Emitter "On" Voltage (Note 5)		1.0		1.1	V V	$I_C = 100 mA, V_{CE} = 10 V$ $I_C = 150 mA, V_{CE} = 1.0 V$
$V_{BE(sat)}$	Base to Emitter Saturation Voltage (Note 5)		1.0		1.1	V V	$I_C = 100 mA, I_B = 10 V$ $I_C = 150 mA, I_B = 15 V$
C_{cb}	Collector to Base Capacitance		25		35	pF	$V_{CB} = 10 V, I_E = 0, f = 1.0 MHz$
C_{eb}	Emitter to Base Capacitance				85	pF	$V_{EB} = 0.5 V, I_C = 0, f = 1.0 MHz$
$ h_{fe} $	Magnitude of Common Emitter Small Signal Current Gain	2.0	15	2.0	20		$I_C = 30 mA, V_{CE} = 10 V,$ $f = 20 MHz$ $I_C = 50 mA, V_{CE} = 5.0 V,$ $f = 20 MHz$

SYMBOL	CHARACTERISTIC	5137		UNITS	TEST CONDITIONS
		MIN	MAX		
BV_{CES}	Collector to Emitter Breakdown Voltage	30		V	$I_C = 100 \mu A, V_{BE} = 0$
BV_{CBO}	Collector to Base Breakdown Voltage	30		V	$I_C = 100 \mu A, I_E = 0$
BV_{EBO}	Emitter to Base Breakdown Voltage	3.0		V	$I_E = 10 \mu A, I_C = 0$
I_{EBO}	Emitter Cutoff Current		100	nA	$V_{EB} = 2.0 V, I_C = 0$
I_{CBO}	Collector Cutoff Current		100 10	nA μA	$V_{CB} = 20 V, I_E = 0$ $V_{CB} = 20 V, I_E = 0,$ $T_A = 65^\circ C$
h_{FE}	DC Pulse Current Gain (Note 5)	20 20	400		$I_C = 150 mA, V_{CE} = 1.0 V$ $I_C = 30 mA, V_{CE} = 1.0 V$

FAIRCHILD SEMICONDUCTOR

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PN5135/FTSO5135

PN5136/FTSO5136

PN5137/FTSO5137

T-29-23

ELECTRICAL CHARACTERISTICS (25° C Ambient Temperature unless otherwise noted) (Note 6)

SYMBOL	CHARACTERISTIC	5137		UNITS	TEST CONDITIONS
		MIN	MAX		
$V_{CE(sus)}$	Collector to Emitter Sustaining Voltage (Notes 4 & 5)	20		V	$I_C = 1.0 \text{ mA}$ (pulsed), $I_B = 0$
$V_{CE(sat)}$	Collector to Emitter Saturation Voltage (Note 5)		0.25	V	$I_C = 150 \text{ mA}$, $I_B = 15 \text{ mA}$
$V_{BE(on)}$	Base to Emitter "On" Voltage (Note 5)		1.1	V	$I_C = 150 \text{ mA}$, $V_{CE} = 1.0 \text{ V}$
$V_{BE(sat)}$	Base to Emitter Saturation Voltage (Note 5)		1.1	V	$I_C = 150 \text{ mA}$, $I_B = 15 \text{ V}$
C_{cb}	Collector to Base Capacitance		35	pF	$V_{CB} = 10 \text{ V}$, $I_E = 0$, $f = 1.0 \text{ MHz}$
C_{eb}	Emitter to Base Capacitance		85	pF	$V_{BE} = 0.5 \text{ V}$, $I_C = 0$, $f = 1.0 \text{ MHz}$
$ h_{fe} $	Magnitude of Common Emitter Small Signal Current Gain	2.0	20		$I_C = 50 \text{ mA}$, $V_{CE} = 5.0 \text{ V}$, $f = 20 \text{ MHz}$

**PN5138/FTSO5138**

PNP Low Level Amplifier

T-29-23

- $h_{FE} \dots 50$ (Min) @ $100 \mu A$ & $10 mA$
- $V_{CEO} \dots -30 V$ (Min)

PACKAGEPN5138
FTSO5138TO-92
TO-236AA/AB**ABSOLUTE MAXIMUM RATINGS** (Note 1)**Temperatures**

Storage Temperature $-55^{\circ}C$ to $150^{\circ}C$
 Operating Junction Temperature $150^{\circ}C$

Power Dissipation (Notes 2 & 3)

Total Dissipation at	PN	FTSO
$25^{\circ}C$ Ambient Temperature	0.625 W	0.350 W*
$25^{\circ}C$ Case Temperature	1.0 W	

Voltages & Currents

V_{CEO} Collector to Emitter Voltage	$-30 V$
V_{CBO} Collector to Base Voltage	$-30 V$
V_{EBO} Emitter to Base Voltage	$-5.0 V$

ELECTRICAL CHARACTERISTICS ($25^{\circ}C$ Ambient Temperature unless otherwise noted) (Note 6)

SYMBOL	CHARACTERISTIC	MIN	MAX	UNITS	TEST CONDITIONS
BV_{CBO}	Collector to Base Breakdown Voltage	-30		V	$I_C = 100 \mu A, I_E = 0$
BV_{EBO}	Emitter to Base Breakdown Voltage	-5.0		V	$I_E = 100 \mu A, I_C = 0$
I_{CBO}	Collector Cutoff Current		50 3.0	nA μA	$V_{CB} = -20 V, I_E = 0$ $V_{CB} = -20 V, I_E = 0, T_A = 65^{\circ}C$
h_{FE}	DC Current Gain	50 50	800		$I_C = 100 \mu A, V_{CE} = -10 V$ $I_C = 1.0 mA, V_{CE} = -10 V$
h_{FE}	DC Pulse Current Gain (Note 5)	50			$I_C = 10 mA, V_{CE} = -10 V$
$V_{CEO(sus)}$	Collector to Emitter Sustaining Voltage (Notes 4 & 5)	-30		V	$I_C = 10 mA$ (pulsed), $I_B = 0$

NOTES:

- These ratings are limiting values above which the serviceability of any individual semiconductor device may be impaired.
 - These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
 - These ratings give a maximum junction temperature of $150^{\circ}C$ and (TO-92) junction-to-case thermal resistance of $125^{\circ}C/W$ (derating factor of $8.0 mW/^{\circ}C$); junction-to-ambient thermal resistance of $200^{\circ}C/W$ (derating factor of $5.0 mW/^{\circ}C$); (TO-236) junction-to-ambient thermal resistance of $357^{\circ}C/W$ (derating factor of $2.8 mW/^{\circ}C$).
 - Rating refers to a high current point where collector to emitter voltage is lowest.
 - Pulse conditions: length = $300 \mu s$; duty cycle = 1%.
 - For product family characteristic curves, refer to Curve Set T219.
- * Package mounted on 99.5% alumina $8 mm \times 8 mm \times 0.6 mm$.

PN5138/FTSO5138

T-29-23

ELECTRICAL CHARACTERISTICS (25° C Ambient Temperature unless otherwise noted) (Note 6)

SYMBOL	CHARACTERISTIC	MIN	MAX	UNITS	TEST CONDITIONS
$V_{CE(sat)}$	Collector to Emitter Saturation Voltage (Note 5)		-0.3	V	$I_C = 10 \text{ mA}$, $I_B = 0.5 \text{ mA}$
$V_{BE(ON)}$	Base to Emitter "On" Voltage (Note 5)		-1.0	V	$I_C = 10 \text{ mA}$, $V_{CE} = -10 \text{ V}$
$V_{BE(sat)}$	Base to Emitter Saturation Voltage (Note 5)		-1.0	V	$I_C = 10 \text{ mA}$, $I_B = 0.5 \text{ mA}$
C_{cb}	Collector to Base Capacitance		7.0	pF	$V_{CB} = -5.0 \text{ V}$, $I_E = 0$, $f = 1.0 \text{ MHz}$
C_{eb}	Emitter to Base Capacitance		30	pF	$V_{EB} = -5.0 \text{ V}$, $I_C = 0$, $f = 1.0 \text{ MHz}$
h_{fe}	High Frequency Current Gain	1.5			$I_C = 0.5 \text{ mA}$, $V_{CE} = -5.0 \text{ V}$, $f = 20 \text{ MHz}$
h_{fe}	Small Signal Current Gain	40	1000		$I_C = 1.0 \text{ mA}$, $V_{CE} = -10 \text{ V}$, $f = 1.0 \text{ kHz}$

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PN5139/FTSO5139PNP Small Signal General Purpose
Amplifier & Switch

T- 29-23

- $V_{CEO} \dots -20 \text{ V (Min)}$
- $h_{FE} \dots 40 \text{ (Min) @ } 10 \text{ mA}$
- $f_T \dots 300 \text{ MHz (Min)}$
- $C_{cb} \dots 5.0 \text{ pF (Max) @ } -10 \text{ V}$

PACKAGE

PN5139

TO-92

FTSO5139

TO-236AA/AB

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

Storage Temperature -55°C to 150°C
 Operating Junction Temperature 150°C

Power Dissipation (Notes 2 & 3)

	PN	FTSO
Total Dissipation at 25°C Ambient Temperature	0.625 W	0.350 W*
25°C Case Temperature	1.0 W	

Voltages & Currents

V_{CEO} Collector to Emitter Voltage	-20 V
(Note 4)	
V_{CBO} Collector to Base Voltage	-20 V
V_{EBO} Emitter to Base Voltage	-5.0 V
I_C Collector Current	100 mA

ELECTRICAL CHARACTERISTICS (25°C Ambient Temperature unless otherwise noted) (Note 6)

SYMBOL	CHARACTERISTIC	MIN	MAX	UNITS	TEST CONDITIONS
BV_{CBO}	Collector to Base Breakdown Voltage	-20		V	$I_C = 100 \mu\text{A}$, $I_E = 0$
BV_{CES}	Collector to Emitter Breakdown Voltage	-20		V	$I_C = 100 \mu\text{A}$, $V_{EB} = 0$
BV_{EBO}	Emitter to Base Breakdown Voltage	-5.0		V	$I_E = 100 \mu\text{A}$, $I_C = 0$
I_{CES}	Collector Reverse Current		50 25	nA μA	$V_{CE} = -15 \text{ V}$, $V_{EB} = 0$ $V_{CE} = -15 \text{ V}$, $V_{EB} = 0$, $T_A = 65^\circ\text{C}$
h_{FE}	DC Current Gain	30 40			$I_C = 100 \mu\text{A}$, $V_{CE} = -10 \text{ V}$ $I_C = 1.0 \text{ mA}$, $V_{CE} = -10 \text{ V}$
h_{FE}	DC Pulse Current Gain (Note 5)	40 15			$I_C = 10 \text{ mA}$, $V_{CE} = -1.0 \text{ V}$ $I_C = 50 \text{ mA}$, $V_{CE} = -10 \text{ V}$

NOTES:

- These ratings are limiting values above which the serviceability of any individual semiconductor device may be impaired.
 - These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
 - These ratings give a maximum junction temperature of 150°C and (TO-92) junction-to-case thermal resistance of 125°C/W (derating factor of $8.0 \text{ mW/}^\circ\text{C}$); junction-to-ambient thermal resistance of 200°C/W (derating factor of $5.0 \text{ mW/}^\circ\text{C}$); (TO-236) junction-to-ambient thermal resistance of 357°C/W (derating factor of $2.8 \text{ mW/}^\circ\text{C}$).
 - Rating refers to a high current point where collector to emitter voltage is lowest.
 - Pulse conditions: length = $300 \mu\text{s}$; duty cycle = 1%.
 - For product family characteristic curves, refer to Curve Set T215.
- * Package mounted on 99.5% alumina $8 \text{ mm} \times 8 \text{ mm} \times 0.6 \text{ mm}$.

PN5139/FTSO5139

T-29-23

ELECTRICAL CHARACTERISTICS (25° C Ambient Temperature unless otherwise noted) (Note 6)

SYMBOL	CHARACTERISTIC	MIN	MAX	UNITS	TEST CONDITIONS
$V_{CE(sat)}$	Collector to Emitter Saturation Voltage		-0.15	V	$I_C = 1.0 \text{ mA}$, $I_B = 0.1 \text{ mA}$
$V_{CE(sat)}$	Pulsed Collector to Emitter Saturation Voltage (Note 5)		-0.20 -0.5	V V	$I_C = 10 \text{ mA}$, $I_B = 1.0 \text{ mA}$ $I_C = 50 \text{ mA}$, $I_B = 5.0 \text{ mA}$
$V_{BE(sat)}$	Pulsed Base to Emitter Saturation Voltage (Note 5)	-0.7 -0.75	-1.0 -1.25	V V	$I_C = 10 \text{ mA}$, $I_B = 1.0 \text{ mA}$ $I_C = 50 \text{ mA}$, $I_B = 5.0 \text{ mA}$
$V_{CE0(sus)}$	Collector to Emitter Sustaining Voltage (Note 5)	-20		V	$I_C = 10 \text{ mA}$ (pulsed), $I_B = 0$
C_{cb}	Collector to Base Capacitance		5.0	pF	$V_{CB} = -10 \text{ V}$, $I_E = 0$, $f = 1.0 \text{ MHz}$
C_{eb}	Emitter to Base Capacitance		8.0	pF	$V_{EB} = -0.5 \text{ V}$, $I_C = 0$, $f = 1.0 \text{ MHz}$
$ h_{fe} $	Magnitude of Small Signal Current Gain	3.0			$I_C = 10 \text{ mA}$, $V_{CE} = -20 \text{ V}$, $f = 100 \text{ MHz}$
t_{on}	Turn On Time (test circuit no. 407)		50	ns	$I_C \approx 50 \text{ mA}$, $I_{B1} \approx 5.0 \text{ mA}$
t_{off}	Turn Off Time (test circuit no. 407)		200	ns	$I_C \approx 50 \text{ mA}$, $I_{B1} \approx 5.0 \text{ mA}$, $I_{B2} \approx -5.0 \text{ mA}$

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1N456/457/458/459 T-01-09
FDLL456/457/458/459
1N456A/457A/458A/459A
FDLL456A/457A/458A/459A
 Low Leakage Diodes

- $I_R \dots 25 \text{ nA (MAX) @ WIV}$
- $C \dots 6.0 \text{ pF (MAX)}$

ABSOLUTE MAXIMUM RATINGS (Note 1)**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

Maximum Voltage and Currents

	1N456/A	1N457/A	1N458/A	1N459/A
WIV Working Inverse Voltage	25 V	60 V	125 V	175 V
I_O Average Rectified Current				200 mA
I_F Continuous Forward Current				500 mA
I_F Peak Repetitive Forward Current				600 mA
$I_F(\text{surge})$ Peak Forward Surge Current				
Pulse Width = 1 μs				4.0 A
Pulse Width = 1 s				1.0 A

PACKAGES

1N456	DO-35
1N457	DO-35
1N458	DO-35
1N459	DO-35
1N456A	DO-35
1N457A	DO-35
1N458A	DO-35
1N459A	DO-35
FDLL456	LL-34
FDLL457	LL-34
FDLL458	LL-34
FDLL459	LL-34
FDLL456A	LL-34
FDLL457A	LL-34
FDLL458A	LL-34
FDLL459A	LL-34

If you need this device in the SOT package, an electrical equivalent is available. See FDS01500 family.

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

SYMBOL	CHARACTERISTIC	MIN	MAX	UNITS	TEST CONDITIONS
V_F	Forward Voltage 1N456A/7A/8A/9A		1.0	V	$I_F = 100 \text{ mA}$
	1N456		1.0	V	$I_F = 40 \text{ mA}$
	1N457		1.0	V	$I_F = 20 \text{ mA}$
	1N458		1.0	V	$I_F = 7 \text{ mA}$
	1N459		1.0	V	$I_F = 3 \text{ mA}$
I_R	Reverse Current		25	nA	$V_R = \text{Rated WIV}$
			5.0	μA	$V_R = \text{Rated WIV}, T_A = 150^\circ\text{C}$
BV	Breakdown Voltage	30		V	$I_R = 100 \mu\text{A}$
	1N456/A	70		V	$I_R = 100 \mu\text{A}$
	1N457/A	150		V	$I_R = 100 \mu\text{A}$
	1N458/A	200		V	$I_R = 100 \mu\text{A}$
C	Capacitance		6.0	pF	$V_R = 0, f = 1 \text{ MHz}$

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.
- For product family characteristic curves, refer to Chapter 4, D2.

3469674 FAIRCHILD SEMICONDUCTOR

84D 27475 D1

FAIRCHILD

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**1N461A/462A/463A
FDLL461A/462A/463A**General Purpose High
Conductance Diodes

T-01-09

- $V_F \dots 1.0 \text{ V (MAX) @ } 100 \text{ mA}$
- $I_R \dots 500 \text{ nA (MAX) @ WIV}$

ABSOLUTE MAXIMUM RATINGS (Note 1)**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

PACKAGES

1N461A	DO-35
1N462A	DO-35
1N463A	DO-35
FDLL461A	LL-34
FDLL462A	LL-34
FDLL463A	LL-34

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

Maximum Voltage and Currents

	IN461A	IN462A	IN463A	IN464A
WIV Working Inverse Voltage	25 V	60 V	175 V	125 V
I_O Average Rectified Current	200 mA	200 mA	200 mA	200 mA
I_F Continuous Forward Current	500 mA	500 mA	500 mA	500 mA
i_f Peak Repetitive Forward Current	600 mA	600 mA	600 mA	600 mA
$I_f(\text{surge})$ Peak Forward Surge Current				
Pulse Width = 1 s	1.0 A	1.0 A	1.0 A	1.0 A
Pulse Width = 1 μ s	4.0 A	4.0 A	4.0 A	4.0 A

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		500 30	nA μ A	$V_R = \text{Rated WIV}$ $V_R = \text{Rated WIV}, T_A = 150^\circ\text{C}$
BV	Breakdown Voltage	IN461A	30	V	$I_R = 100 \mu\text{A}$
		IN462A	70	V	$I_R = 100 \mu\text{A}$
		IN463A	200	V	$I_R = 100 \mu\text{A}$
		IN464A	150	V	$I_R = 100 \mu\text{A}$

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.
- For product family characteristic curves, refer to Chapter 4, D2.

FAIRCHILD

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**1N482B/483B/484B/485B
FDLL482B/483B/484B/485B**General Purpose Low
Leakage Diodes

T-01-09

- V_F ... 1.0 V (MAX) @ 100 mA
- I_R ... 25 nA (MAX) @ WIV

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

Storage Temperature Range
Maximum Junction Operating Temperature
Lead Temperature (from 25°C)

-65°C to +200°C
+175°C
+260°C

Power Dissipation (Note 2)

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

500 mW
3.33 mW/°C

Maximum Voltage and Currents

	1N482B	1N483B	1N484B	1N485B	1N486B
WIV Working Inverse Voltage	36 V	70 V	130 V	180 V	225 V
I_O Average Rectified Current					200 mA
I_F Continuous Forward Current					500 mA
I_{fr} Peak Repetitive Forward Current					600 mA
$I_{f(surge)}$ Peak Forward Surge Current					
Pulse Width = 1 s					1.0
Pulse Width = 1 μ s					4.0

PACKAGES

1N482B	DO-35
1N483B	DO-35
1N484B	DO-35
1N485B	DO-35
FDLL482B	LL-34
FDLL483B	LL-34
FDLL484B	LL-34
FDLL485B	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
V_F	Forward Voltage		1.0	V	$I_F = 100$ mA
I_R	Reverse Current		25 5.0 50 10	nA μ A nA μ A	V_R = Rated WIV V_R = Rated WIV, $T_A = 150^\circ\text{C}$ $V_R = 225$ V $V_R = 225$ V, $T_A = 150^\circ\text{C}$
BV	Breakdown Voltage		40 80 150 200 250	V V V V V	$I_R = 100$ μ A $I_R = 100$ μ A $I_R = 100$ μ A $I_R = 100$ μ A $I_R = 100$ μ A

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.
- For product family characteristic curves, refer to Chapter 4, D2.