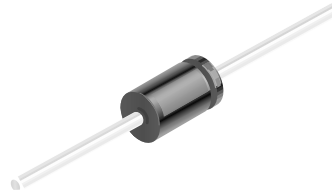




# 1N4933GP - 1N4937GP

## Features

- Low forward voltage drop.
- High surge current capability.
- High reliability.
- High current capability.



**DO-41**  
COLOR BAND DENOTES CATHODE

## Fast Rectifiers (Glass Passivated)

### Absolute Maximum Ratings\* T<sub>A</sub> = 25°C unless otherwise noted

Symbol	Parameter	Value					Units
		4933G	4934	4935	4936	4937	
V <sub>RRM</sub>	Maximum Repetitive Reverse Voltage	50	100	200	400	600	V
I <sub>F(AV)</sub>	Average Rectified Forward Current, .375 " lead length @ T <sub>A</sub> = 75°C	1.0					A
I <sub>FSM</sub>	Non-repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave	30					A
T <sub>stg</sub>	Storage Temperature Range	-65 to +175					°C
T <sub>J</sub>	Operating Junction Temperature	-65 to +175					°C

\*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

### Thermal Characteristics

Symbol	Parameter	Value	Units
P <sub>D</sub>	Power Dissipation	2.73	W
R <sub>θJA</sub>	Thermal Resistance, Junction to Ambient	55	°C/W

### Electrical Characteristics T<sub>A</sub> = 25°C unless otherwise noted

Symbol	Parameter	Device					Units
		4933G	4934	4935	4936	4937	
V <sub>F</sub>	Forward Voltage @ 1.0 A	1.2					V
t <sub>rr</sub>	Reverse Recovery Time I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>rr</sub> = 0.25 A	150					ns
I <sub>R</sub>	Reverse Current @ rated V <sub>R</sub> T <sub>A</sub> = 25°C T <sub>A</sub> = 125°C	5.0 100					μA μA
C <sub>T</sub>	Total Capacitance V <sub>R</sub> = 4.0 V, f = 1.0 MHz	15					pF

1N4933GP-1N4937GP

## Typical Characteristics

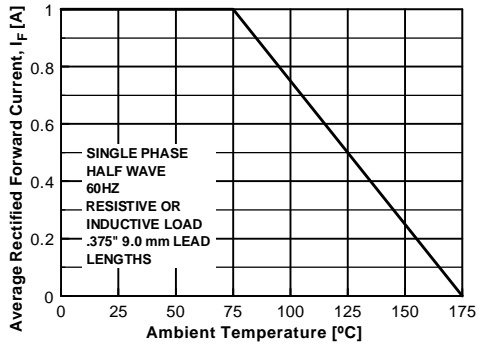


Figure 1. Forward Current Derating Curve

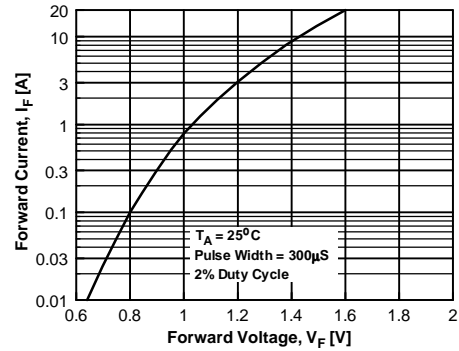


Figure 2. Forward Voltage Characteristics  
Reverse Characteristics

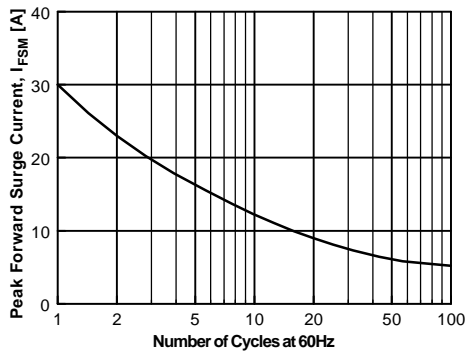


Figure 3. Non-Repetitive Surge Current

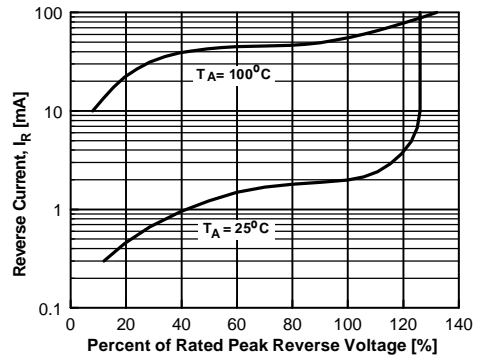


Figure 4. Reverse Current vs Reverse Voltage

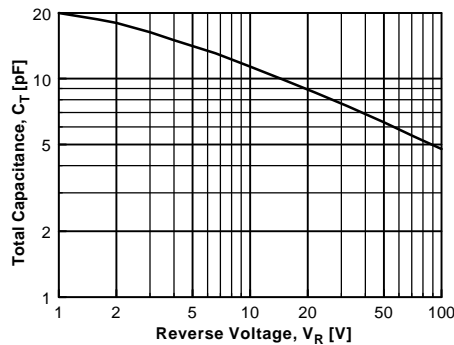
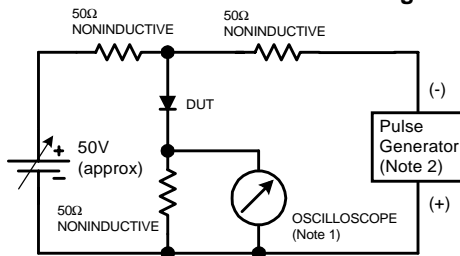
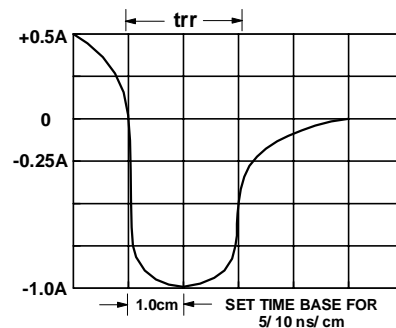


Figure 5. Total Capacitance



NOTES:

1. Rise time = 7.0 ns max; Input impedance = 1.0 megaohm 22 pf.
2. Rise time = 10 ns max; Source impedance = 50 ohms.



Reverse Recovery Time Characteristic and Test Circuit Diagram

## TRADEMARKS

The following are registered and unregistered trademarks Fairchild Semiconductor owns or is authorized to use and is not intended to be an exhaustive list of all such trademarks.

ACE <sub>x</sub> <sup>™</sup>	FAST <sup>®</sup>	OPTOLOGIC <sup>™</sup>	SMART START <sup>™</sup>	VCX <sup>™</sup>
Bottomless <sup>™</sup>	FAST <sub>r</sub> <sup>™</sup>	OPTOPLANAR <sup>™</sup>	STAR*POWER <sup>™</sup>	
CoolFET <sup>™</sup>	FRFET <sup>™</sup>	PACMAN <sup>™</sup>	Stealth <sup>™</sup>	
CROSSVOLT <sup>™</sup>	GlobalOptoisolator <sup>™</sup>	POP <sup>™</sup>	SuperSOT <sup>™</sup> -3	
DenseTrench <sup>™</sup>	GTO <sup>™</sup>	Power247 <sup>™</sup>	SuperSOT <sup>™</sup> -6	
DOME <sup>™</sup>	HiSeC <sup>™</sup>	PowerTrench <sup>®</sup>	SuperSOT <sup>™</sup> -8	
EcoSPARK <sup>™</sup>	ISOPLANAR <sup>™</sup>	QFET <sup>™</sup>	SyncFET <sup>™</sup>	
E <sup>2</sup> CMOS <sup>™</sup>	LittleFET <sup>™</sup>	QST <sup>™</sup>	TinyLogic <sup>™</sup>	
EnSigna <sup>™</sup>	MicroFET <sup>™</sup>	QT Optoelectronics <sup>™</sup>	TruTranslation <sup>™</sup>	
FACT <sup>™</sup>	MicroPak <sup>™</sup>	Quiet Series <sup>™</sup>	UHC <sup>™</sup>	
FACT Quiet Series <sup>™</sup>	MICROWIRE <sup>™</sup>	SILENT SWITCHER <sup>®</sup>	UltraFET <sup>®</sup>	

STAR\*POWER is used under license

## DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

## LIFE SUPPORT POLICY

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF FAIRCHILD SEMICONDUCTOR CORPORATION.

As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, or (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

## PRODUCT STATUS DEFINITIONS

### Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.