FAIRCHILD
SEMICONDUCTOR ™

*Discrete POWER & Signal Technologies*

1N4933GP-1N4937GP

1N4933GP - 1N4937GP

Features

- Low forward voltage drop.

- High surge current capability.

- High reliability.

- High current capability.

DO-41
COLOR BAND DENOTES CATHODE

1.0 min (25.4)

Dimensions in inches (mm)

$\dfrac{0.205}{0.160}$ $\dfrac{(5.21)}{(4.06)}$

$\dfrac{0.107}{0.080}$ $\dfrac{(2.72)}{(2.03)}$

$\dfrac{0.034}{0.028}$ $\dfrac{(0.86)}{(0.71)}$
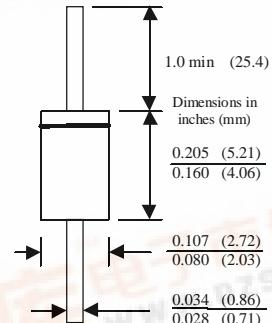
1.0 Ampere Glass Passivated Fast Recovery Rectifiers

Absolute Maximum Ratings* $T_A = 25°C$ unless otherwise noted

Symbol	Parameter	Value	Units
I_O	Average Rectified Current .375 " lead length @ $T_A = 75°C$	1.0	A
$i_{f(surge)}$	Peak Forward Surge Current 8.3 ms single half-sine-wave Superimposed on rated load (JEDEC method)	30	A
P_D	Total Device Dissipation Derate above 25°C	2.73 18	W mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	55	°C/W
T_{stg}	Storage Temperature Range	-65 to +175	°C
T_J	Operating Junction Temperature	-65 to +175	°C

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

Electrical Characteristics $T_A = 25°C$ unless otherwise noted

| Parameter	Device					Units
	4933GP	4934GP	4935GP	4936GP	4937GP	
Peak Repetitive Reverse Voltage	50	100	200	400	600	V
Maximum RMS Voltage	35	70	140	280	420	V
DC Reverse Voltage (Rated V_R)	50	100	200	400	600	V

Maximum Reverse Current
  @ rated V_R $T_A = 25°C$
        $T_A = 125°C$
	5.0
	100
						μA
						μA

Maximum Reverse Recovery Time $I_F = 0.5$ A, $I_R = 1.0$ A, $I_{RR} = 0.25$A	150					nS
Maximum Forward Voltage @ 1.0 A	1.2					V
Typical Junction Capacitance $V_R = 4.0$ V, f = 1.0 MHz	15					pF

Typical Characteristics

Forward Current Derating Curve

FORWARD CURRENT (A) vs AMBIENT TEMPERATURE (°C)

SINGLE PHASE
HALF WAVE
60HZ
RESISTIVE OR
INDUCTIVE LOAD
.375" 9.0 mm LEAD
LENGTHS
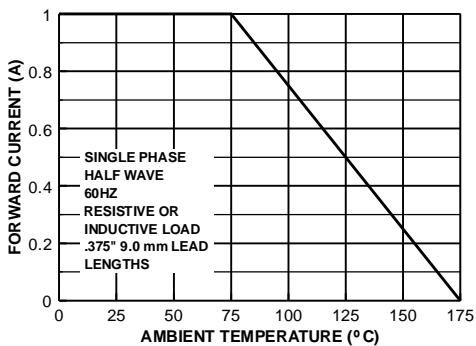
Forward Characteristics

FORWARD CURRENT (A) vs FORWARD VOLTAGE (V)

$T_A = 25°C$
Pulse Width = 300μS
2% Duty Cycle
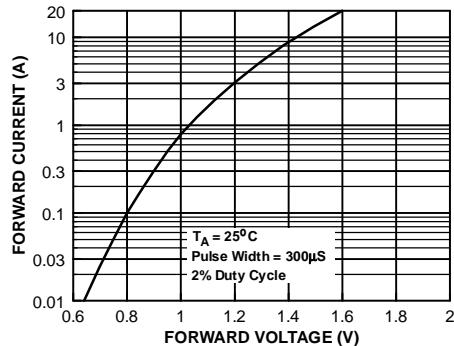
Non-Repetitive Surge Current

PEAK FORWARD SURGE CURRENT (A) vs NUMBER OF CYCLES AT 60Hz
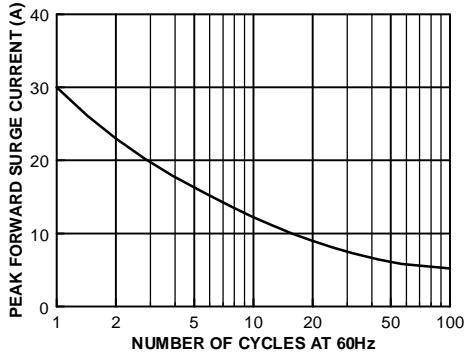
Reverse Characteristics

REVERSE CURRENT (μA) vs PERCENT OF RATED PEAK REVERSE VOLTAGE (%)

$T_A = 100°C$
$T_A = 25°C$

Typical Junction Capacitance

JUNCTION CAPACITANCE (pF) vs REVERSE VOLTAGE (V)

50Ω NONINDUCTIVE
50Ω NONINDUCTIVE
DUT
50V (approx)
50Ω NONINDUCTIVE
OSCILLOSCOPE (Note 1)
Pulse Generator (Note 2)
(-)
(+)
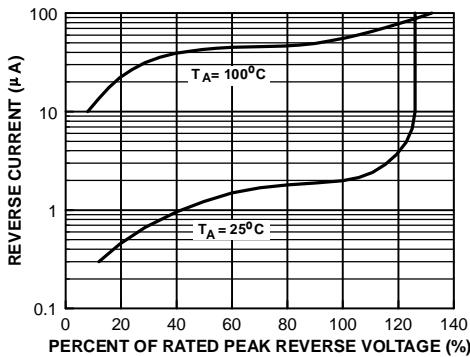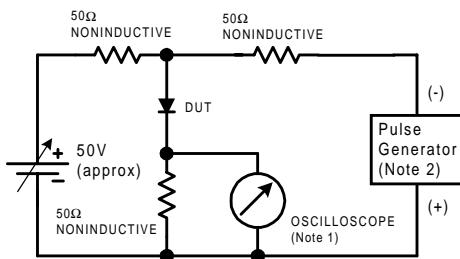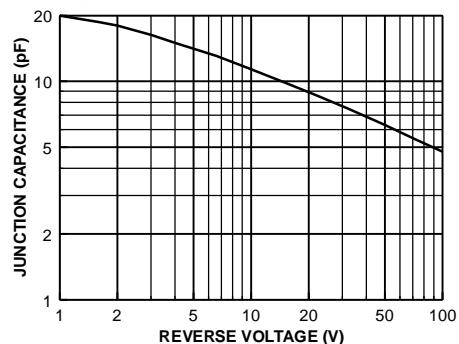
NOTES:
1. Rise time = 7.0 ns max; Input impedance = 1.0 megaohm 22 pf.
2. Rise time = 10 ns max; Source impedance = 50 ohms.

trr
+0.5A
0
-0.25A
-1.0A
1.0cm
SET TIME BASE FOR 5/ 10 ns/ cm
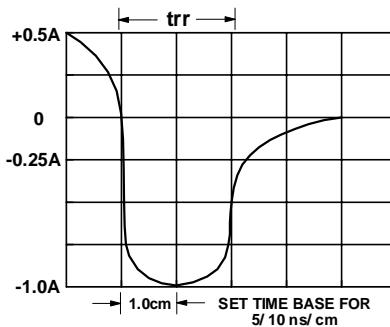
Reverse Recovery Time Characterstic and Test Circuit Diagram