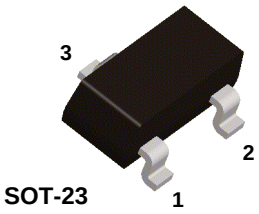
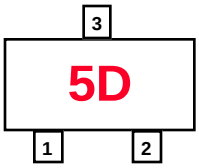
FAIRCHILD SEMICONDUCTOR TM

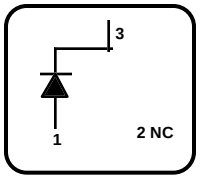
Discrete POWER & Signal Technologies

MMBD914





CONNECTION DIAGRAM



High Conductance Ultra Fast Diode

Sourced from Process 1P. See 1N4148 for characteristics.

Absolute Maximum Ratings*

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
W_{IV}	Working Inverse Voltage	75	V
I_O	Average Rectified Current	200	mA
I_F	DC Forward Current	600	mA
i_f	Recurrent Peak Forward Current	700	mA
$i_{f(surge)}$	Peak Forward Surge Current Pulse width = 1.0 second Pulse width = 1.0 microsecond	 1.0 2.0	 A A
T_{stg}	Storage Temperature Range	-55 to +150	°C
T_J	Operating Junction Temperature	150	°C

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

NOTES:
1) These ratings are based on a maximum junction temperature of 150 degrees C.
2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

TA = 25°C unless otherwise noted

Symbol	Characteristic	Max	Units
		MMBD914*	
P_D	Total Device Dissipation Derate above 25°C	350 2.8	mW mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	°C/W

*Device mounted on glass epoxy PCB 1.6" X 1.6" X 0.06"; mounting pad for the collector lead min. 0.93 in2

High Conductance Ultra Fast Diode

(continued)

Electrical Characteristics

TA = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
B_V	Breakdown Voltage	I_R = 100 µA I_R = 5.0 µA	100 75		V V
I_R	Reverse Current	V_R = 20 V V_R = 20 V, T_A = 150°C V_R = 75 V		25 50 5.0	nA µA µA
V_F	Forward Voltage	I_F = 10 mA		1.0	V
C_O	Diode Capacitance	V_R = 0, f = 1.0 MHz		4.0	pF
T_{RR}	Reverse Recovery Time	I_F = 10 mA, V_R = 6.0 V, I_{RR} = 1.0 mA, R_L = 100Ω		4.0	nS
V_{FM}	Peak Forward Recovery Voltage	I_F = 50 mA PEAK SQUARE WAVE PULSE WIDTH = 0.1 µS 5 kHz - 100 kHz REP RATE		2.5	v