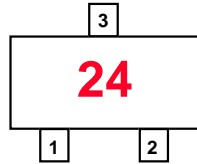
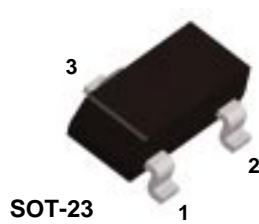
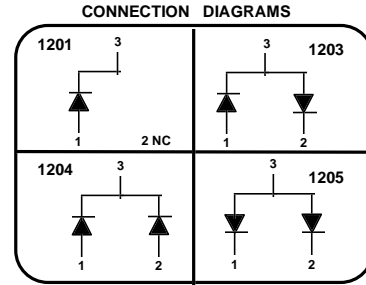


## MMBD1201 / 1203 / 1204 / 1205



**MARKING**

MMBD1201	24	MMBD1204A	27
MMBD1203	26	MMBD1205A	28



### High Conductance Ultra Fast Diode

Sourced from Process 1P.

#### Absolute Maximum Ratings\*

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
$W_{IV}$	Working Inverse Voltage	50	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	1.0	A
	Pulse width = 1.0 second	2.0	A
	Pulse width = 1.0 microsecond		
$T_{stg}$	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
		MMBD1201/1203/1204/1205*	
$P_D$	Total Device Dissipation Derate above 25°C	350	mW
		2.8	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)

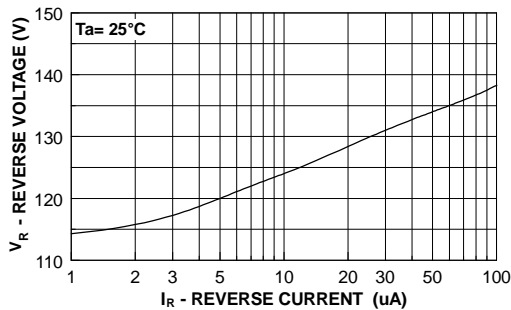
## Electrical Characteristics

TA = 25°C unless otherwise noted

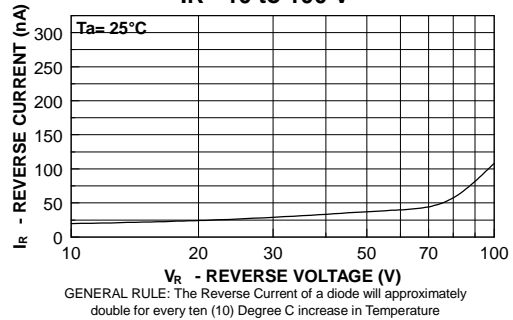
Symbol	Parameter	Test Conditions	Min	Max	Units
B <sub>V</sub>	Breakdown Voltage	I <sub>R</sub> = 100 μA	100		V
I <sub>R</sub>	Reverse Current	V <sub>R</sub> = 20 V V <sub>R</sub> = 50 V V <sub>R</sub> = 50 V, T <sub>A</sub> = 150°C		25 50 5.0	nA nA μA
V <sub>F</sub>	Forward Voltage	I <sub>F</sub> = 1.0 mA I <sub>F</sub> = 10 mA I <sub>F</sub> = 100 mA I <sub>F</sub> = 200 mA I <sub>F</sub> = 300 mA	550 660 820 0.87	600 740 920 1.0 1.1	mV mV mV V V
C <sub>T</sub>	Diode Capacitance	V <sub>R</sub> = 0, f = 1.0 MHz		2.0	pF
T <sub>RR</sub>	Reverse Recovery Time	I <sub>RR</sub> = 1.0 mA, I <sub>F</sub> = I <sub>R</sub> = 10 mA, R <sub>L</sub> = 100Ω		4.0	nS

## Typical Characteristics

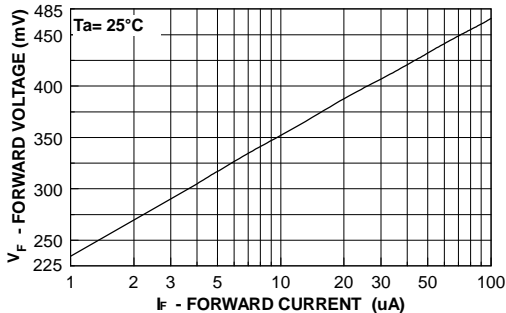
**REVERSE VOLTAGE vs REVERSE CURRENT**  
BV - 1.0 to 100 μA



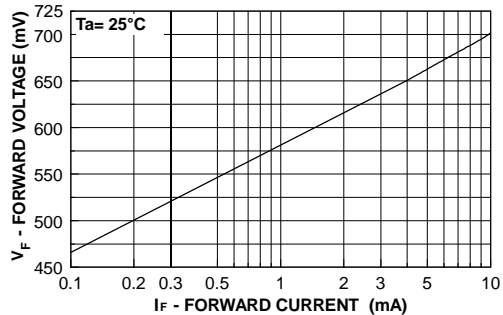
**REVERSE CURRENT vs REVERSE VOLTAGE**  
IR - 10 to 100 V



**FORWARD VOLTAGE vs FORWARD CURRENT**  
VF - 1.0 to 100 μA



**FORWARD VOLTAGE vs FORWARD CURRENT**  
VF - 0.1 to 10 mA



MMBD1201 / 1203 / 1204 / 1205

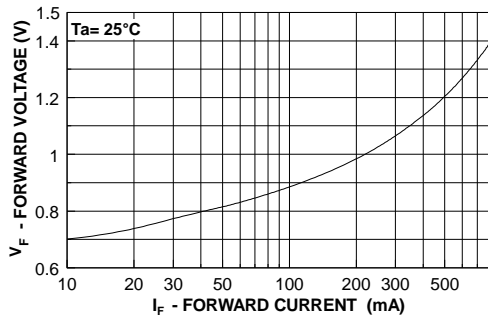
# High Conductance Ultra Fast Diode

(continued)

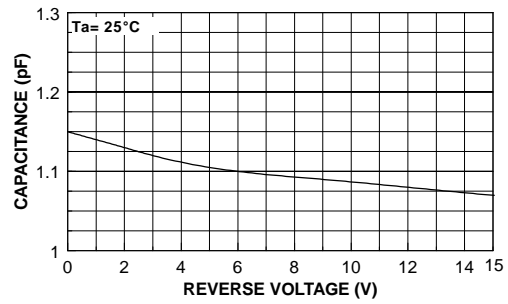
MMBD1201 / 1203 / 1204 / 1205

## Typical Characteristics (continued)

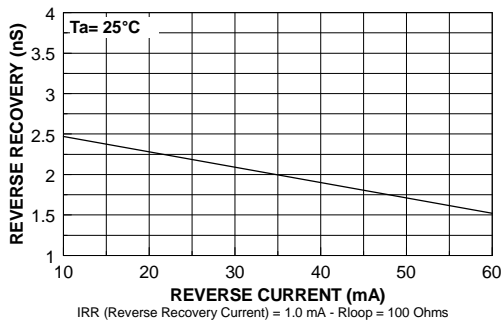
**FORWARD VOLTAGE vs FORWARD CURRENT**  
VF - 10 - 800 mA



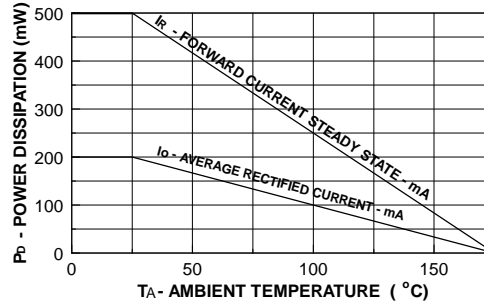
**CAPACITANCE vs REVERSE VOLTAGE**  
VR - 0.0 to 15 V



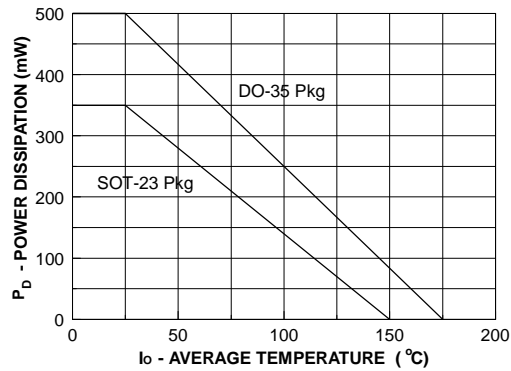
**REVERSE RECOVERY TIME vs REVERSE CURRENT**  
TRR - IR 10 mA vs 60 mA



**Average Rectified Current (Io) & Forward Current (IF) versus Ambient Temperature (TA)**



**POWER DERATING CURVE**



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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.
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