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 Website: <http://www.microsemi.com>

## HIGH RELIABILITY ULTRA FAST RECOVERY RECTIFIER

Qualified per MIL-PRF-19500/478

- 175°C Junction Temperature
- VRRM 50 to 150 Volts
- 20 Amps Current Rating

### DEVICES

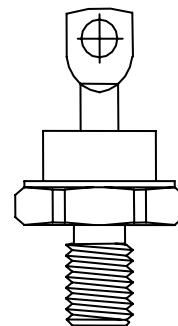
<b>1N5812</b>	<b>1N5812R</b>
<b>1N5814</b>	<b>1N5814R</b>
<b>1N5816</b>	<b>1N5816R</b>

### LEVELS

**JAN**  
**JANTX**  
**JANTXV**  
**JANS**

### ABSOLUTE MAXIMUM RATINGS (T<sub>C</sub> = +25°C unless otherwise noted)

Parameters / Test Conditions	Symbol	Value	Unit
Peak Repetitive Reverse Voltage 1N5812 / R 1N5814 / R 1N5816 / R	V <sub>RWM</sub>	50 100 150	V
Peak Working Reverse Voltage 1N5812 / R 1N5814 / R 1N5816 / R	V <sub>RRM</sub>	50 100 150	V
Average Forward Current, T <sub>C</sub> = 100°	I <sub>F</sub>	20	A
Peak Surge Forward Current @ t <sub>p</sub> = 8.3ms, half sinewave, T <sub>C</sub> = 100°C	I <sub>FSM</sub>	400	A
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	1.5	°C/W
Operating Junction Temperature Range	T <sub>J</sub>	-65°C to 175°C	°C
Storage Temperature Range	T <sub>stg</sub>	-65°C to 175°C	°C



**DO-203AA (DO-4)**

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = +25°C, unless otherwise noted)

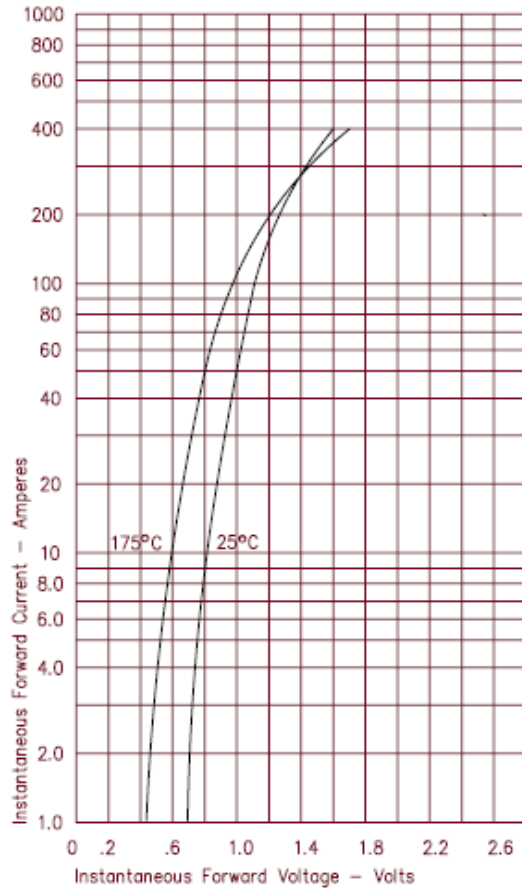
Parameters / Test Conditions	Symbol	Min.	Max.	Unit
Forward Voltage I <sub>FM</sub> = 10A, T <sub>C</sub> = 25°C*	V <sub>FM</sub>		0.860	V
Forward Voltage I <sub>FM</sub> = 20A, T <sub>C</sub> = 25°C*	V <sub>FM</sub>		0.950	V
Forward Voltage I <sub>FM</sub> = 10A, T <sub>C</sub> = 100°C*	V <sub>FM</sub>		0.780	V
Reverse Current V <sub>RM</sub> = 50V, T <sub>C</sub> = 25°C V <sub>RM</sub> = 100V, T <sub>C</sub> = 25°C V <sub>RM</sub> = 150V, T <sub>C</sub> = 25°C	I <sub>RM</sub>		10	μA
Reverse Current V <sub>RM</sub> = 50V, T <sub>C</sub> = 100°C V <sub>RM</sub> = 100V, T <sub>C</sub> = 100°C V <sub>RM</sub> = 150V, T <sub>C</sub> = 100°C	I <sub>RM</sub>		1	mA
Reverse Recovery Time I <sub>F</sub> = I <sub>R</sub> = 1A	T <sub>rr</sub>		35	ns
Capacitance Junction V <sub>R</sub> = 10V, f = 1MHz, T <sub>J</sub> = 25°C	C <sub>J</sub>		300	pF

\* Pulse test: Pulse width 300 μsec, Duty cycle 2%

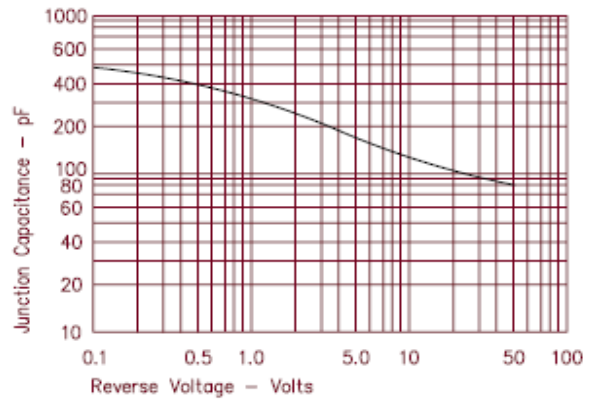
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### GRAPHS

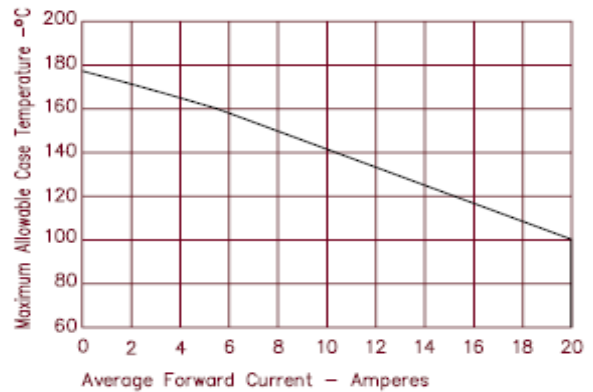
**FIGURE 1**  
**TYPICAL FORWARD CHARACTERISTICS**



**FIGURE 3**  
**TYPICAL JUNCTION CAPACITANCE**



**FIGURE 4**  
**FORWARD CURRENT DERATING**



**FIGURE 2**  
**TYPICAL REVERSE CHARACTERISTICS**

