



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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## 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

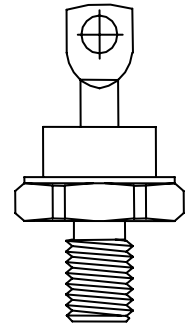
### DEVICES

<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

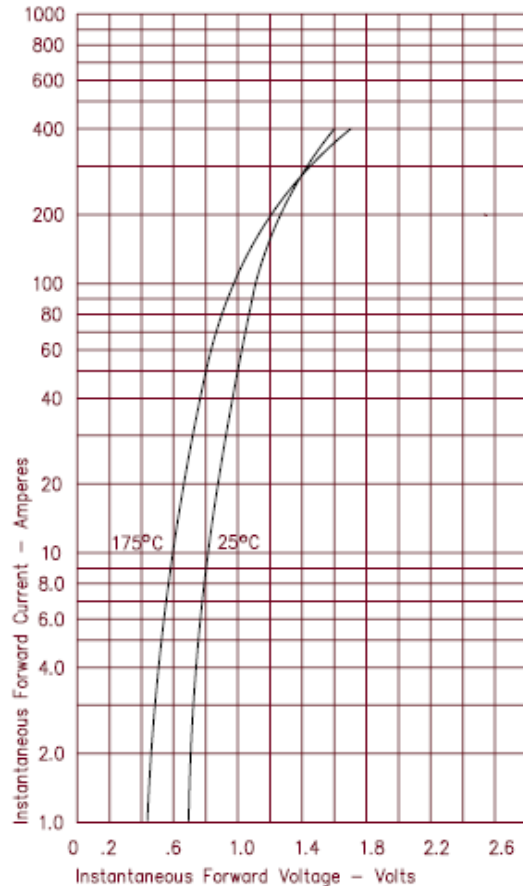
\* Pulse test: Pulse width 300 μsec, Duty cycle 2%

## HIGH RELIABILITY ULTRA FAST RECOVERY RECTIFIER

### GRAPHS

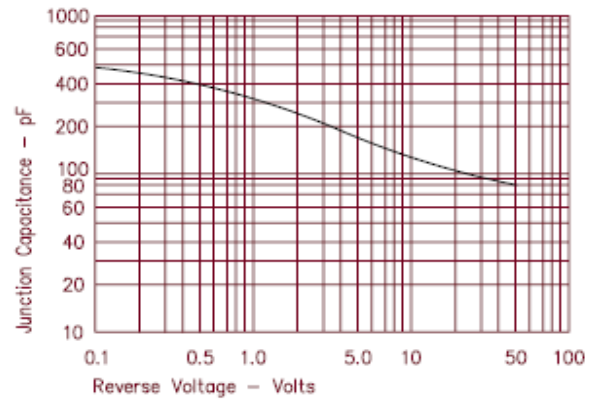
**FIGURE 1**

**TYPICAL FORWARD CHARACTERISTICS**



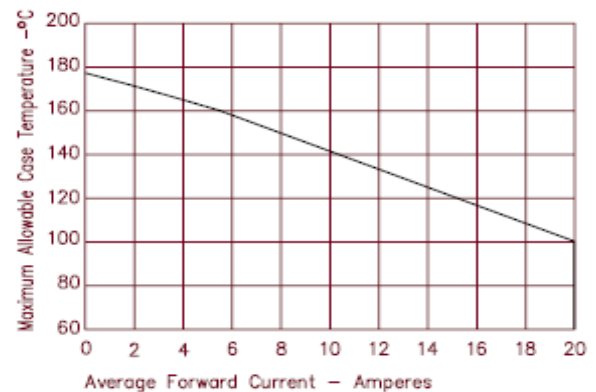
**FIGURE 3**

**TYPICAL JUNCTION CAPACITANCE**



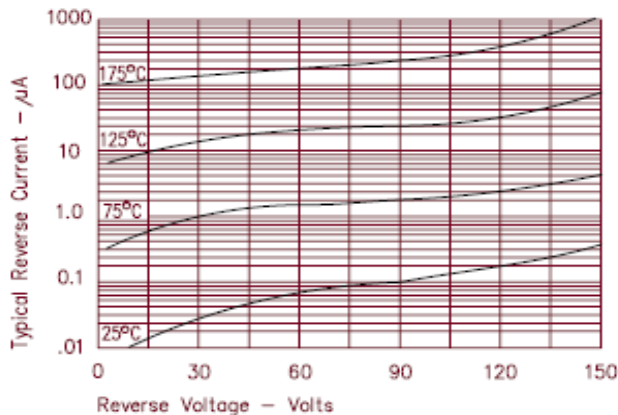
**FIGURE 4**

**FORWARD CURRENT DERATING**



**FIGURE 2**

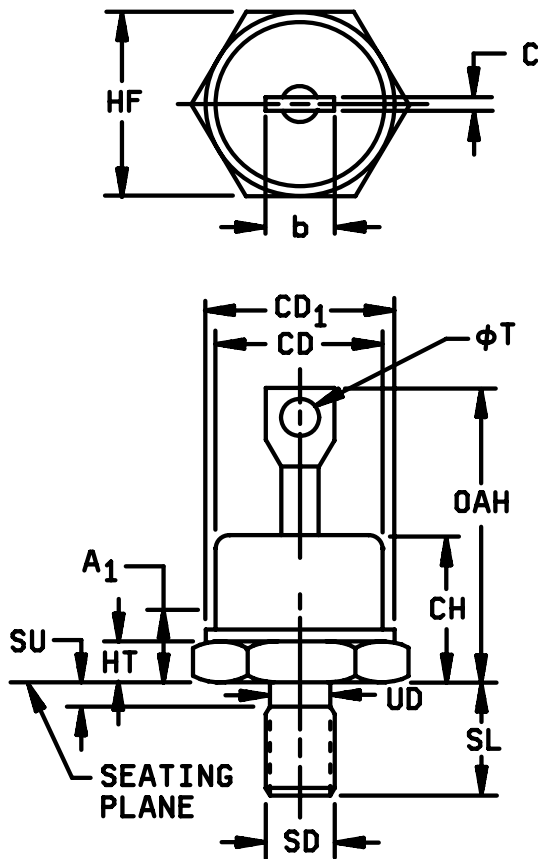
**TYPICAL REVERSE CHARACTERISTICS**





## HIGH RELIABILITY ULTRA FAST RECOVERY RECTIFIER

### PACKAGE DIMENSIONS



	Dimensions				Notes
	Inches		Millimeters		
	Min	Max	Min	Max	
A1		.250		6.35	
b		.250		6.35	3
C	.018	.065	0.46	1.65	
CD	.265	.424	6.74	10.77	
CD1	.265	.437	6.74	11.10	
CH	.300	.405	7.62	10.28	
HF	.424	.437	10.77	11.10	
HT	.075	.175	1.91	4.44	
OAH	.600	.800	15.24	20.32	
SD					4, 6
SL	.422	.453	10.72	11.50	
SU		.078		1.98	5
phi T	.066	.103	1.68	2.62	
UD	.163	.189	4.14	4.80	

#### NOTES:

- Dimensions are in inches.
- Millimeter equivalents are given for general information only.
- Angular orientation and contour of this terminal is undefined.
- Pitch diameter .190-32 UNF-2A (coated) - .1697 (4.310 mm).
- Length of incomplete or undercut threads of UD.
- Anode for R suffix devices.
- In accordance with ASME Y14.5M, diameters are equivalent to  $\phi x$  symbology.

#### Physical dimensions (DO-4)