

# Silicon Power Rectifier

## 1N3161 — 1N3177



**Notes:**

1. Full threads within 2 1/2 threads.
2. Standard Polarity: Stud is Cathode  
Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	3/4-16 UNF		---	---	1
B	1.218	1.250	30.93	31.75	
C	1.350	1.375	34.29	34.93	
D	5.30	5.90	134.62	149.86	
F	.793	.828	20.14	21.03	
G	.300	.325	7.62	8.25	
H	---	.900	---	22.86	
J	.660	.745	16.76	19.02	2
K	.338	.348	8.58	8.84	Dia.
M	.665	.755	16.89	19.17	
N	.125	.172	3.18	4.37	
R	---	1.10	---	27.94	Dia.

### D0205AB (D09)

Microsemi Catalog Number	Peak Reverse Voltage
1N3161	50V
1N3162	100V
1N3163	150V
1N3164	200V
1N3165	250V
1N3166	300V
1N3167	350V
1N3168	400V
1N3169	500V
1N3170	600V
1N3171,A	700V
1N3172,A	800V
1N3173,A	900V
1N3174,A	1000V
1N3175	1200V
1N3176	1400V
1N3177	1600V

Add R suffix for reverse polarity

- Glass to metal seal construction
- High surge current capability
- Glass Passivated Die
- Rugged construction
- $V_{RRM}$  50–1600 Volts

### Electrical Characteristics

Max average forward current	$I_{F(AV)}$ 240 Amps	$T_C = 149^\circ\text{C}$ , Half sine wave, $R_{\theta JC} = 0.20^\circ\text{C/W}$ 8.3ms, half sine, $T_J = 200^\circ\text{C}$ less than 8.33ms $I_F = 240\text{A}$ : $T_C = 25^\circ\text{C}$ $V_{RRM}$ , $T_C = 150^\circ\text{C}$ $V_{RRM}$ , $T_C = 25^\circ\text{C}$
Max surge current	$I_{FSM}$ 3000 Amps	
Max. $I^2t$ capability for fusing	$I^2t$ 37,480 <sup>2</sup> S	
Max peak forward voltage	$V_{FM}$ 1.25 Volts	
Max peak reverse current	$I_{RRM}$ 10mA	
Max peak reverse current	$I_{RRM}$ 75 $\mu\text{A}$	
Max recommended operating frequency	7.5 kHz	

### Thermal and Mechanical Characteristics

Operating junction temp range	$T_J$	-65°C to 200°C
Storage temperature range	$T_{STG}$	-65°C to 200°C
Maximum thermal resistance	$R_{\theta JC}$	0.20°C/W Junction to case
Typical thermal resistance (greased)	$R_{\theta CS}$	.08°C/W Case to sink
Max mounting torque		300–325 inch pounds
Weight		8.5 ounces (240 grams) typical

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Figure 1  
Typical Forward Characteristics

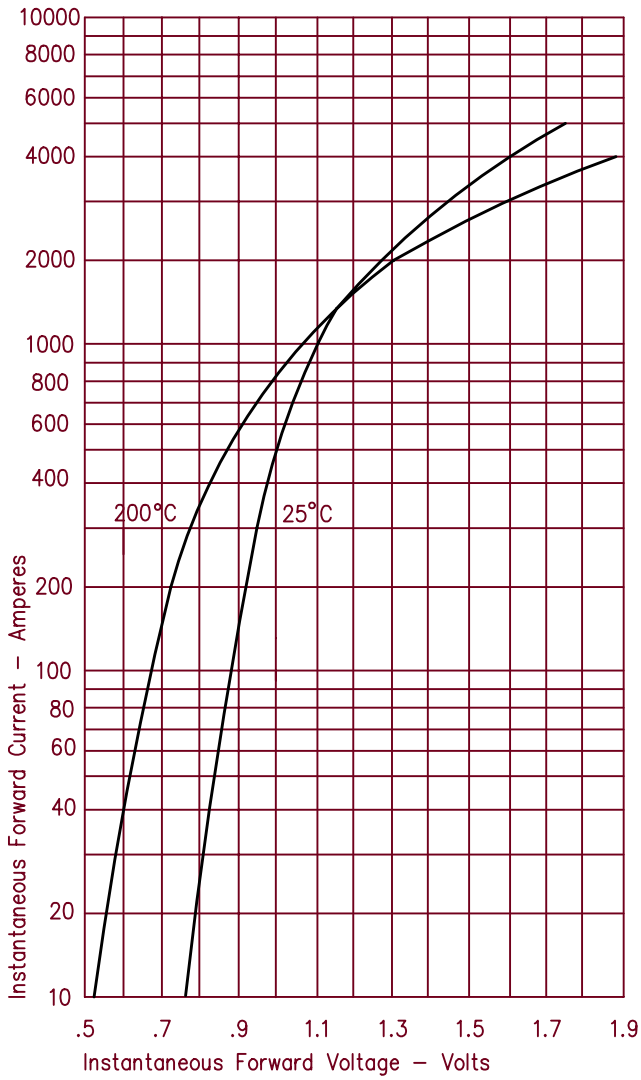


Figure 3  
Forward Current Derating

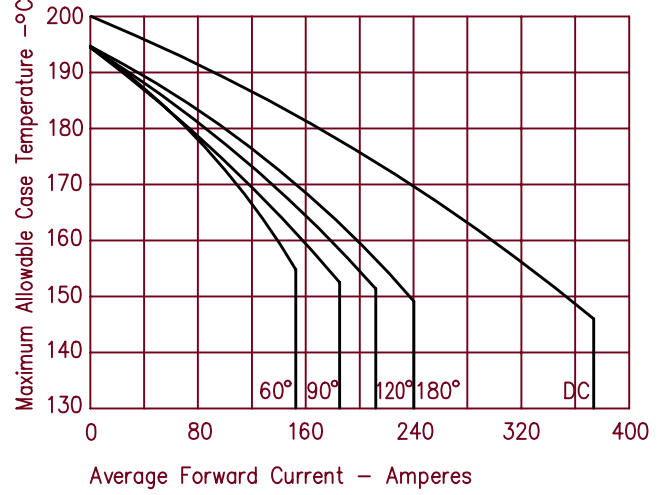


Figure 4  
Maximum Forward Power Dissipation

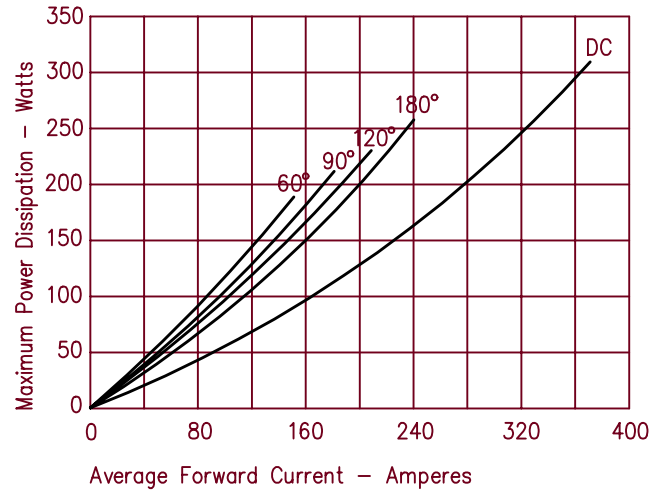


Figure 2  
Typical Reverse Characteristics

