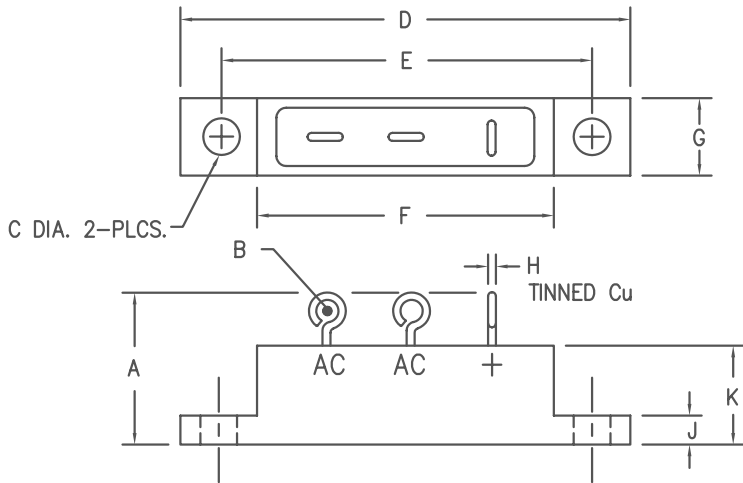


# Center Tap & Doubler Assemblies Standard & Fast Recovery 681 & 689 Series



Dim.	Inches	Millimeter
A	.660 MAX.	16.76 MAX.
B	.09 DIA. TYP.	2.29 DIA. TYP.
C	.165-.175 DIA.	4.19-4.45 DIA.
D	2.240-2.260	56.90-57.40
E	1.870-1.880	47.50-47.75
F	1.480-1.490	37.59-37.85
G	.334-.354	8.48-8.99
H	.040 TYP.	1.02 TYP.
J	.115-.135	2.92-3.43
K	.302-.322	7.67-8.18

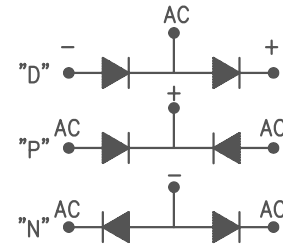
Orientation of terminals shown for "D". For "P" or "N" center terminal is 90° from the AC terminals.

**MARKING:**

Alternating Current Input: AC  
Cathode Positive Output: +  
Anode Negative: -  
Part Number is printed on the body

**NOTES:**

Add suffix P, N or D for terminal configuration P, N or D  
For example, for center tap configuration P order 681-IP



Microsemi Catalog Number Std. Recovery	Microsemi Catalog Number Fast Recovery	Repetitive Peak Reverse Voltage $V_{RRM}$
681-1	689-1	100V
681-2	689-2	200V
681-3	689-3	300V
681-4	689-4	400V
681-5	689-5	500V
681-6	689-6	600V

- Current ratings to 15A
- $V_{RRM}$  to 600V
- Only fused-in-glass diodes used
- 150°C junction temperature
- Surge ratings to 150A
- Recovery times to 500ns
- Electrically isolated Aluminum case
- Controlled avalanche characteristics

Electrical Characteristics			
		681	689
Maximum DC output current- $T_C = 55^\circ C$	$I_O$	15A	15A
Maximum DC output current- $T_C = 100^\circ C$	$I_O$	10.5A	10.5A
Maximum surge current- $T_C = 100^\circ C$	$I_{FSM}$	150A	150A
Max peak forward voltage per leg @ 25°C	$V_{FM}$	1.2V @ 10A*	1.2V @ 10A*
Max peak reverse current @ 25°C, at $V_{rrm}$	$I_{RM}$	10uA	10uA
Max peak reverse current @ 100°C, at $V_{rrm}$	$I_{RM}$	200uA	200uA
Max. recovery time 1A, 1A, 0.5A	$t_{rr}$	---	500ns

\*Pulse test: Pulse width 300  $\mu$ sec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temperature range	$T_{STG}$	-65°C to 150°C
Operating temperature range	$T_J$	-65°C to 150°C
Max.thermal resistance	$R_{\theta JC}$	6.0°C/W
Max. thermal resistance junction to ambient	$R_{\theta JA}$	20°C/W
Weight-typical		10 grams

12-1-04 Rev. 1

# 681 & 689

Figure 1  
Typical Forward Characteristics – Per Leg

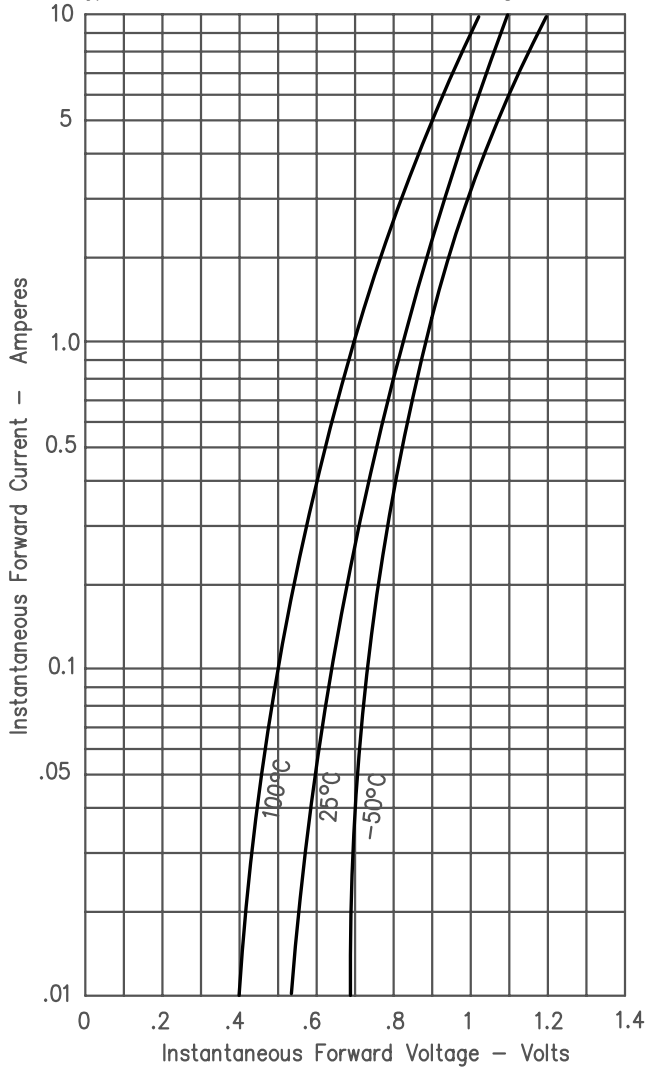


Figure 3  
Current Derating

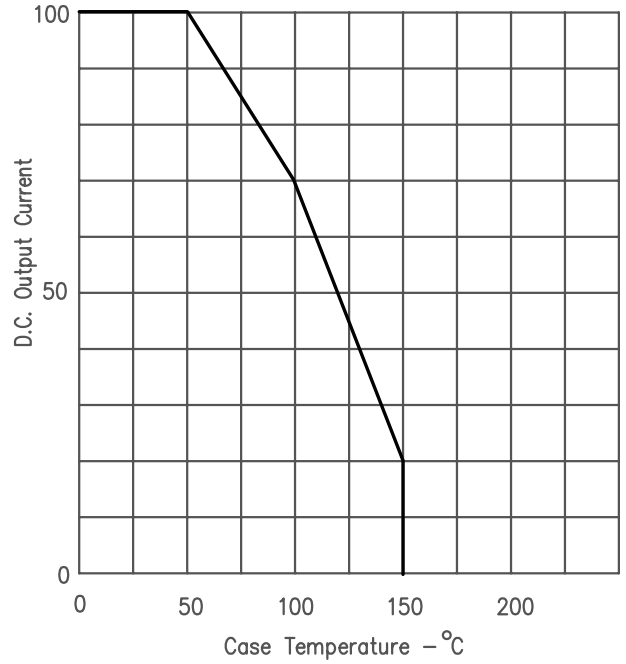


Figure 2  
Typical Reverse Leakage Current – Per Leg

