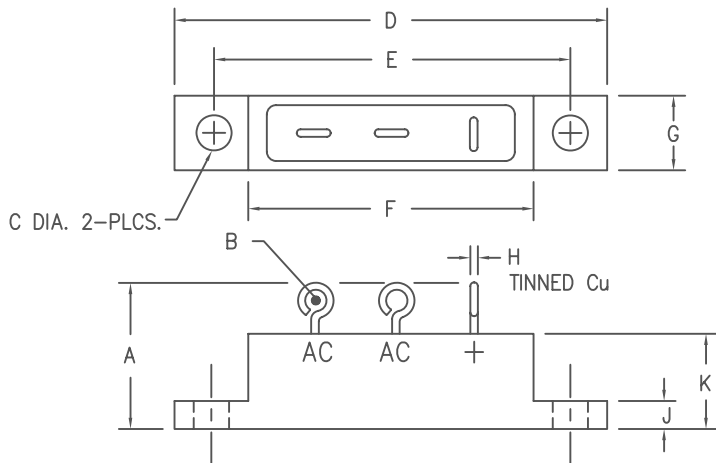


# Center Tap & Doubler Assemblies Standard & Fast Recovery 681 & 689 Series



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

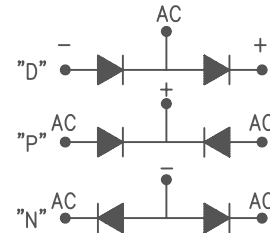
**MARKING:**

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

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



Microsemi Catalog Number Std. Recovery	Microsemi Catalog Number Fast Recovery	Repetitive Peak Reverse Voltage V <sub>RRM</sub>
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<sub>RRM</sub> 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 <sub>C</sub> = 55°C	15A	15A
Maximum DC output current—T <sub>C</sub> = 100°C	10.5A	10.5A
Maximum surge current—T <sub>C</sub> = 100°C	150A	150A
Max peak forward voltage per leg @ 25°C	1.2V @ 10A*	1.2V @ 10A*
Max peak reverse current @ 25°C, at V <sub>rrm</sub>	10uA	10uA
Max peak reverse current @ 100°C, at V <sub>rrm</sub>	200uA	200uA
Max. recovery time 1A, 1A, 0.5A	---	500nS

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

### Thermal and Mechanical Characteristics

Storage temperature range	T <sub>STG</sub>	-65°C to 150°C
Operating temperature range	T <sub>J</sub>	-65°C to 150°C
Max.thermal resistance	R <sub>θJC</sub>	6.0°C/W
Max. thermal resistance junction to ambient	R <sub>θJA</sub>	20°C/W
Weight—typical		10 grams



8700 East Thomas Road, P.O. Box 1390  
Scottsdale, AZ 85252  
PH: (480) 941-6300  
FAX: (480) 947-1503  
www.microsemi.com

06-01-07 Rev. 2

# 681 & 689

Figure 1  
Typical Forward Characteristics - Per Leg

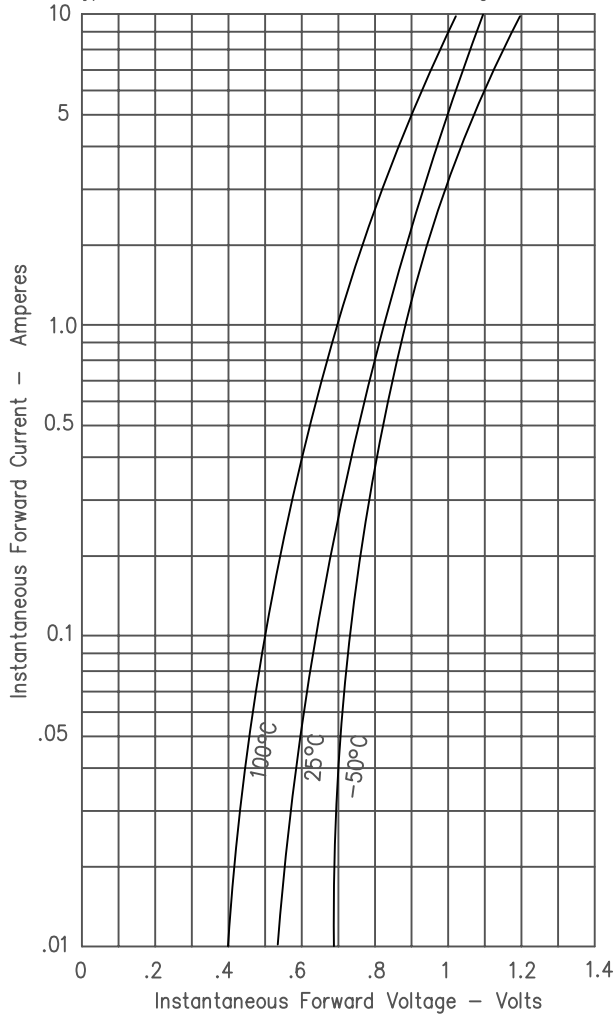


Figure 3  
Current Derating

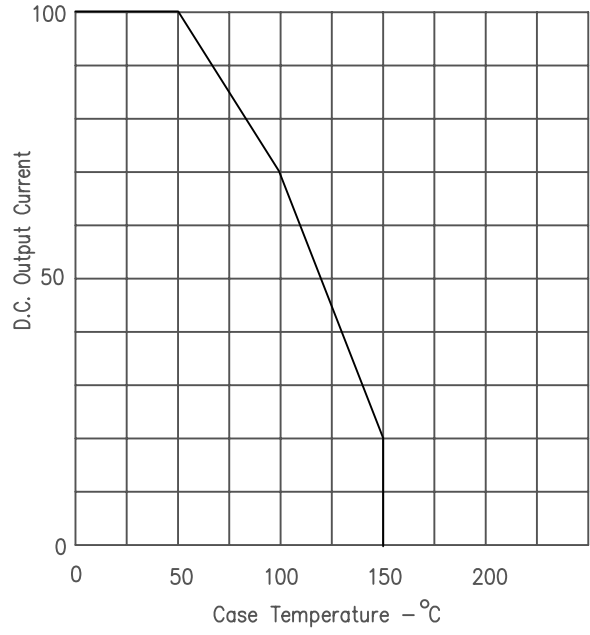


Figure 2  
Typical Reverse Leakage Current - Per Leg

