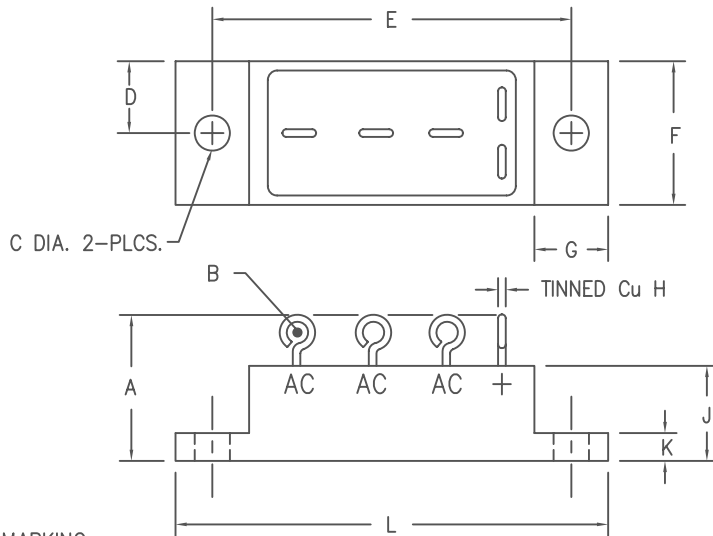


# Three Phase Bridge Standard & Fast Recovery 678, 682, 695 & 696 Series



Dim.	Inches	Millimeter
A	.820 MAX.	20.83 MAX.
B	.09 DIA. TYP.	2.29 DIA. TYP.
C	.164-.174 DIA.	4.17-4.42 DIA.
D	.365-.385	9.27-9.78
E	1.870-1.880	47.50-47.75
F	.740-.760	18.80-19.30
G	.370-.390	9.40-9.91
H	.040 TYP.	1.02 TYP.
J	.486-.506	12.34-12.85
K	.115-.135	2.92-3.42
L	2.240-2.260	56.90-57.40

## MARKING:

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

Microsemi Catalog Number Std. Recovery	Microsemi Catalog Number Fast Recovery	Repetitive Peak Reverse Voltage V <sub>RRM</sub>
678-1, 695-1	682-1, 696-1	100V
678-2, 695-2	682-2, 696-2	200V
678-3, 695-3	682-3, 696-3	300V
678-4, 695-4	682-4, 696-4	400V
678-5, 695-5	682-5, 696-5	500V
678-6, 695-6	682-6, 696-6	600V

- Current ratings to 25A
- 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
- MIL-PRF-19500 Similarity
- Sn/Pb terminations

## Electrical Characteristics

	678	695	682	696
Maximum DC output current—T <sub>C</sub> = 55°C	I <sub>O</sub> 25A	15A	20A	15A
Maximum DC output current—T <sub>C</sub> = 100°C	I <sub>O</sub> 18.5A	9A	14A	9A
Maximum surge current—T <sub>C</sub> = 100°C	I <sub>FSM</sub> 150A	80A	150A	60A
Max peak forward voltage per leg @ 25°C	V <sub>FM</sub> 1.2V @ 10A*	1.2V @ 2A*	1.2V @ 6A*	1.2V @ 2A*
Max peak reverse current per leg @ 25°C, V <sub>RRM</sub>	I <sub>RM</sub> 10uA	5uA	10uA	5uA
Max peak reverse current per leg @ 100°C, V <sub>RRM</sub>	I <sub>RM</sub> 200uA	150uA	200uA	150uA
Max. recovery time per leg 1A, 1A, 0.5A	t <sub>rr</sub> ---	---	500nS	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 678, 682 series	R <sub>θJC</sub>	1.5°C/W junction to case
Max. thermal resistance 695, 696 series	R <sub>θJC</sub>	3.0°C/W junction to case
Weight—typical all parts		1.0 ounces (30 grams) typical



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06-01-07 Rev. 3

# 678, 682, 695 & 696

Figure 1  
Typical Forward Characteristics – Per Leg  
678 Series

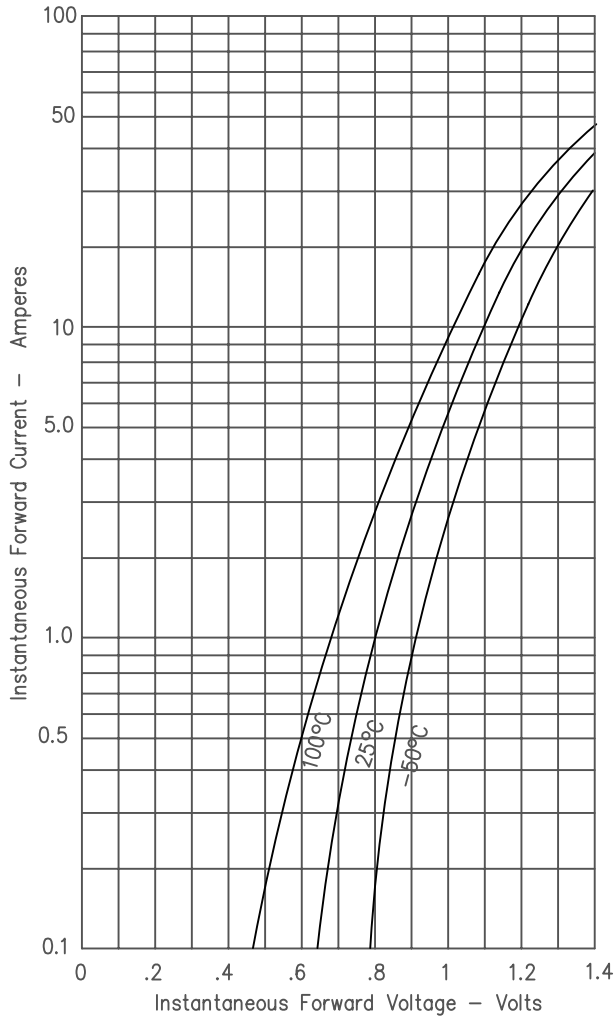


Figure 3  
Typical Forward Characteristics – Per Leg  
682 Series

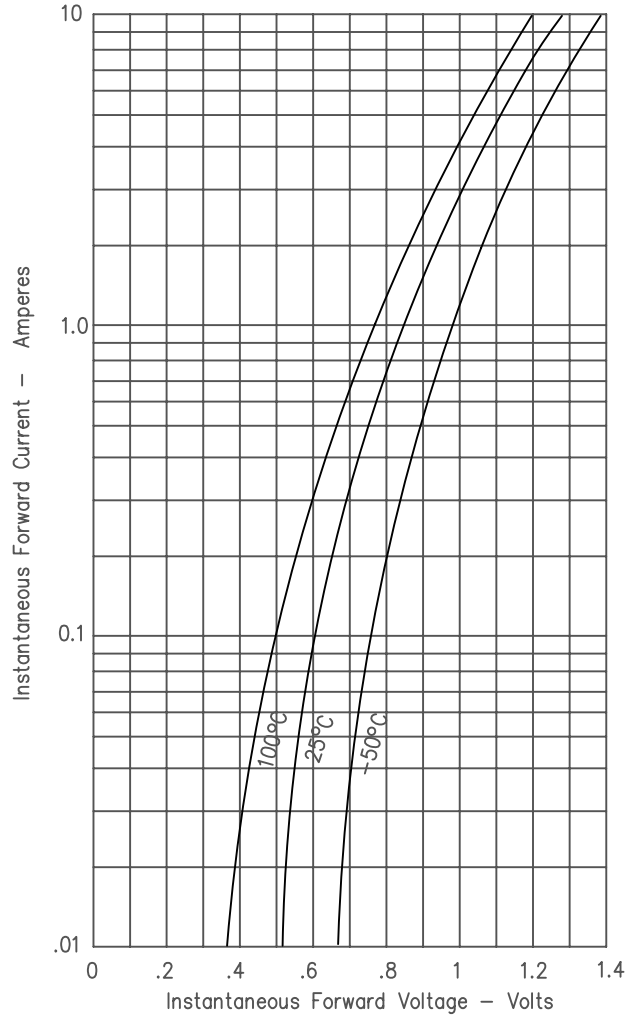
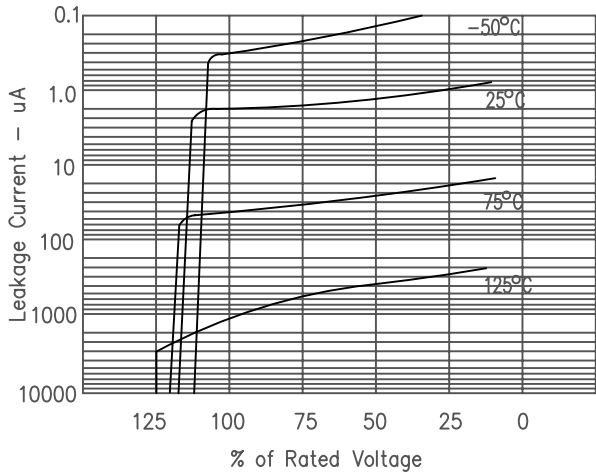


Figure 2  
Typical Reverse Leakage Current – Per Leg  
678 & 682 Series



# 678, 682, 695 & 696

Figure 1  
Typical Forward Characteristics – Per Leg  
695 & 696 Series

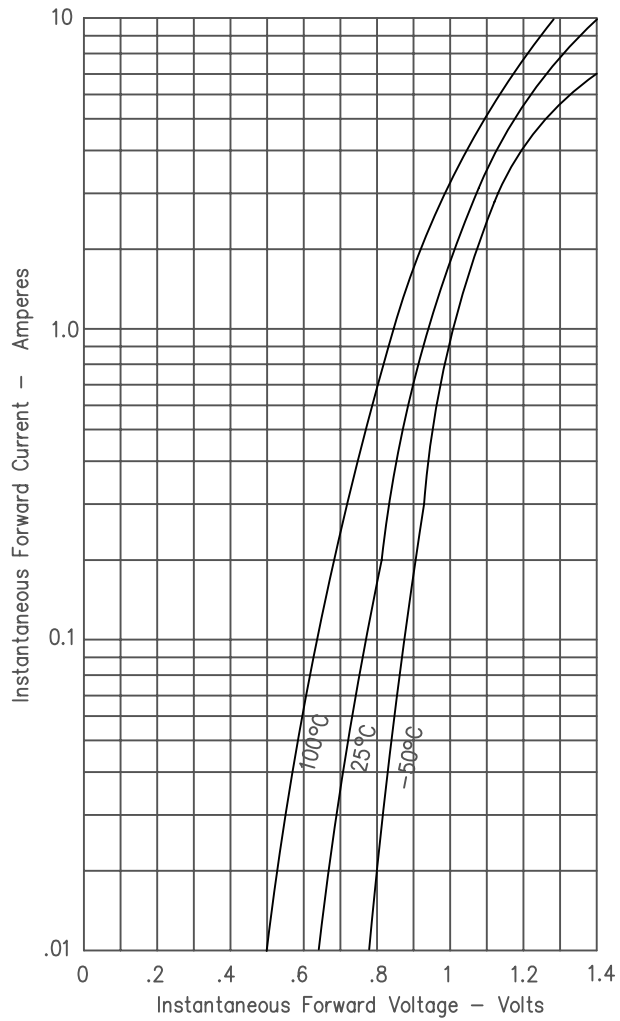


Figure 2  
Typical Reverse Leakage Current – Per Leg  
695 & 696 Series

