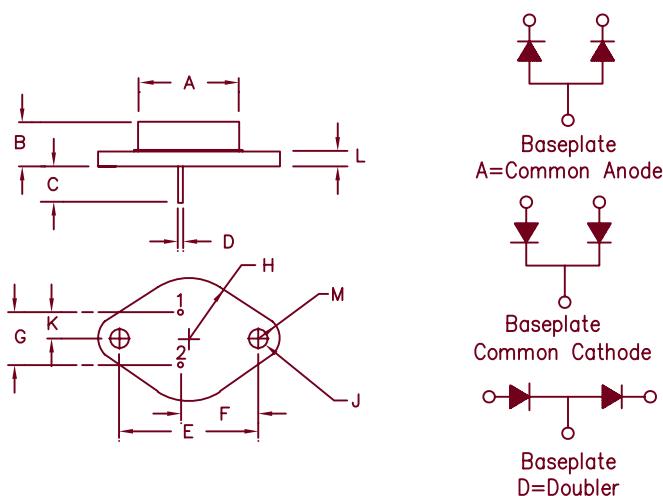


Silicon Dual Power Rectifier ST3020 — ST30100



Dim.	Inches		Millimeter		
	Minimum	Maximum	Minimum	Maximum	Notes
A	—	.875	—	22.23	Dia.
B	.250	.450	6.35	11.43	
C	.312	—	7.92	—	
D	.038	.043	.97	1.09	Dia.
E	1.177	1.197	29.90	30.40	
F	.655	.675	16.64	17.15	
G	.420	.440	10.67	11.18	
H	—	.525	—	13.34	Rad.
J	.151	.161	3.84	4.09	Dia.
K	.205	.225	5.21	5.72	
L	—	.135	—	3.43	
M	—	.188	—	4.78	Rad.

TO-204AA (TO-3)

Microsemi
Catalog Number

ST3010*

ST3020*

ST3040*

ST3060*

ST3080*

ST30100*

*Add D, C, or A

Peak
Reverse Voltage

100V

200V

400V

600V

800V

1000V

- Glass Passivated Die
- Glass to metal seal construction
- V_{RRM} 200 to 1000V
- 250A Surge Rating
- Available as Common Anode, Common Cathode, or Doubler

Electrical Characteristics

Average forward current per leg (standard)

I_{F(AV)} 15 Amps

T_C = 125°C, half sine wave, R_{θJC} = 1.4°C/W

Average forward current per leg (reverse)

I_{F(AV)} 15 Amps

T_C = 82°C, half sine wave, R_{θJC} = 2.2°C/W

Maximum surge current

I_{FSM} 250 Amps

8.3ms, half sine, T_J = 200°C

Max I_{2t} for fusing

I_{2t} 260 A²s

Max peak forward voltage

V_{FM} 1.2 Volts

I_{FM} = 15A; T_J = 25°C*

Max peak reverse current

I_{RM} 10 μA

V_{RRM}, T_J = 25°C

Max peak reverse current

I_{RM} 1.0 mA

V_{RRM}, T_J = 150°C

Max Recommended Operating Frequency

10kHz

*Pulse test: Pulse width 300 μsec. Duty cycle 2%

Thermal and Mechanical Characteristics

Storage temperature range

T_{STG}

-65°C to 200°C

Operating junction temp range

T_J

-65°C to 200°C

Maximum thermal resistance (standard polarity)

R_{θJC}

1.4°C/W Junction to Case

Maximum thermal resistance (reverse polarity)

R_{θJC}

2.2°C/W Junction to Case

Typical thermal resistance (greased)

R_{θCS}

0.5°C/W Case to sink

Weight

1.0 ounces (28 grams) typical

ST3020 - ST30100

Figure 1
Typical Forward Characteristics – Per Leg

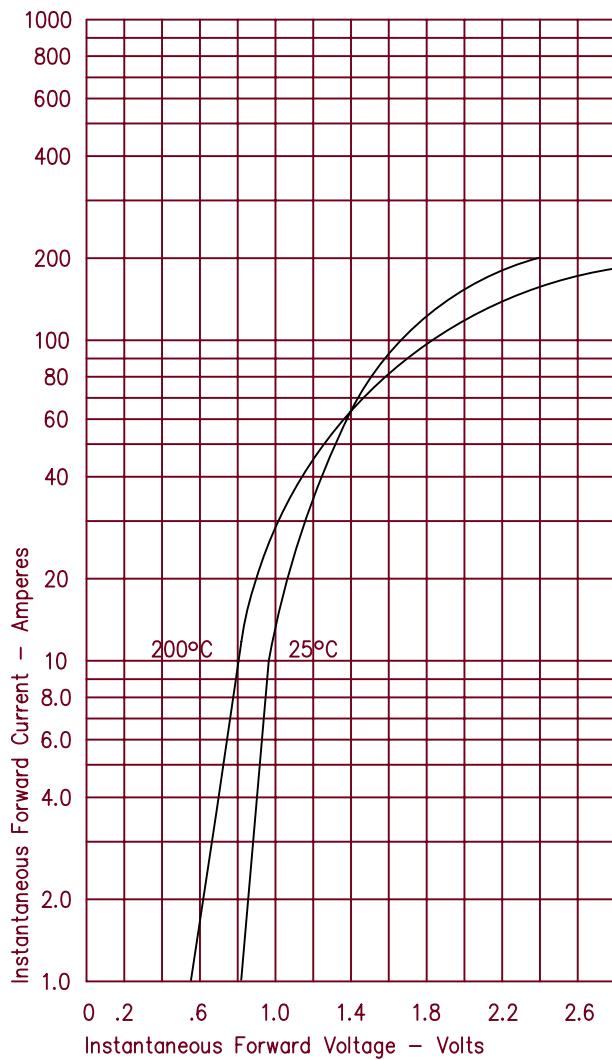


Figure 2
Typical Reverse Characteristics – Per Leg

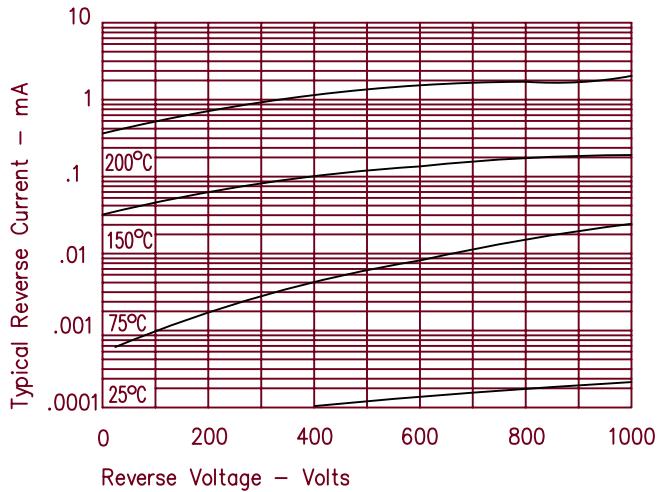


Figure 3
Forward Current Derating – Per Leg – Standard Polarity

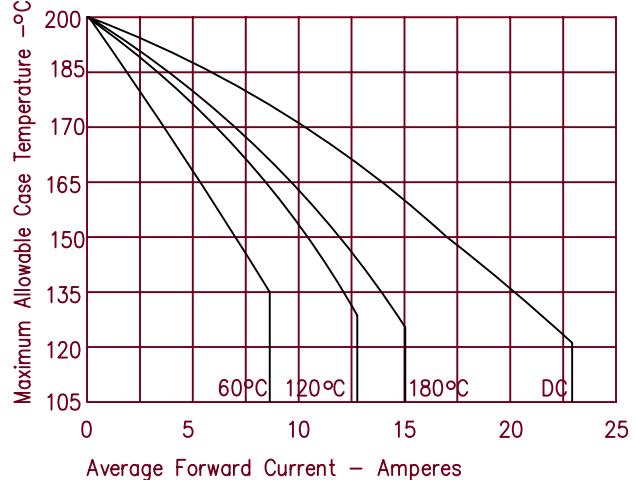


Figure 4
Maximum Forward Power Dissipation – Per Leg – Standard Polarity

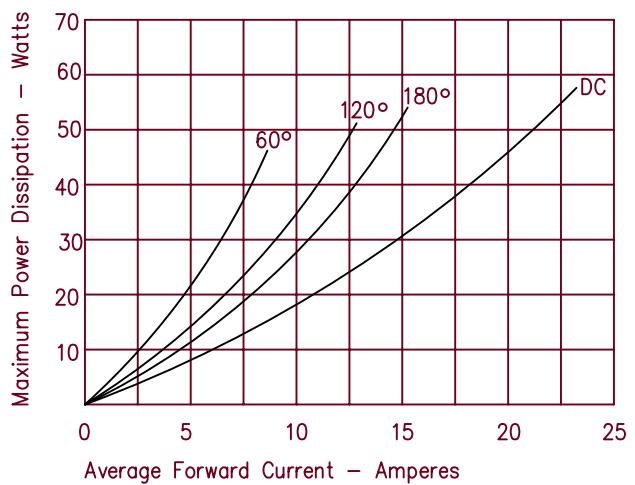


Figure 5
Forward Current Derating – Per Leg – Reverse Polarity

