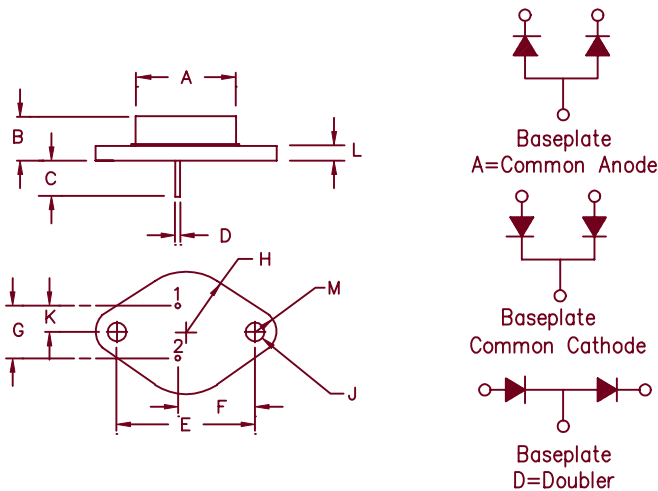


# Silicon Dual Power Rectifier ST3020 — ST30100



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
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

ST3020\*  
ST3040\*  
ST3060\*  
ST3080\*  
ST30100\*

Peak  
Reverse Voltage

200V  
400V  
600V  
800V  
1000V

\*Add D, C, or A

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

### Electrical Characteristics

Average forward current per leg (standard)  
Average forward current per leg (reverse)  
Maximum surge current  
Max I<sup>2</sup>t for fusing  
Max peak forward voltage  
Max peak reverse current  
Max peak reverse current  
Max Recommended Operating Frequency

IF(AV) 15 Amps  
IF(AV) 15 Amps  
IFSM 250 Amps  
I<sup>2</sup>t 260 A<sup>2</sup>s  
VFM 1.2 Volts  
IRM 10 μA  
IRM 1.0 mA  
10kHz

TC = 125°C, half sine wave, RθJC = 1.4°C/W  
TC = 82°C, half sine wave, RθJC = 2.2°C/W  
8.3ms, half sine, TJ = 200°C

IFM = 15A: TJ = 25°C  
VRRM, TJ = 25°C  
VRRM, TJ = 150°C

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

### Thermal and Mechanical Characteristics

Storage temperature range  
Operating junction temp range  
Maximum thermal resistance (standard polarity)  
Maximum thermal resistance (reverse polarity)  
Typical thermal resistance (greased)  
Weight

TSTG  
TJ  
RθJC  
RθJC  
RθCS

-65°C to 200°C  
-65°C to 200°C  
1.4°C/W Junction to Case  
2.2°C/W Junction to Case  
0.5°C/W Case to sink  
1.0 ounces (28 grams) typical

12-6-00 Rev. 1

# ST3020 – ST30100

Figure 1  
Typical Forward Characteristics – Per Leg



Figure 3  
Forward Current Derating – Per Leg – Standard Polarity

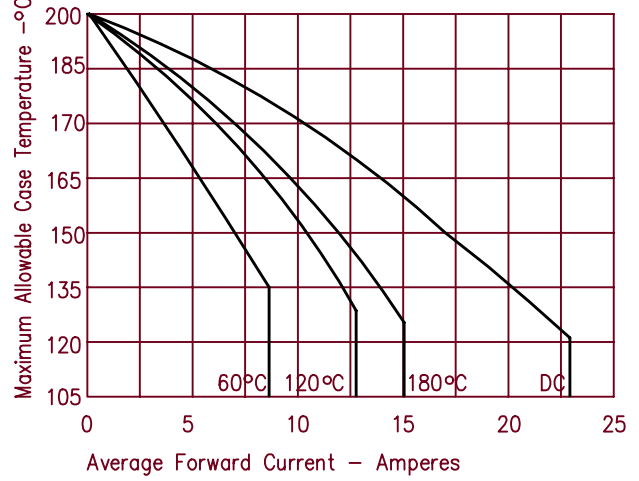


Figure 4  
Maximum Forward Power Dissipation – Per Leg – Standard Polarity

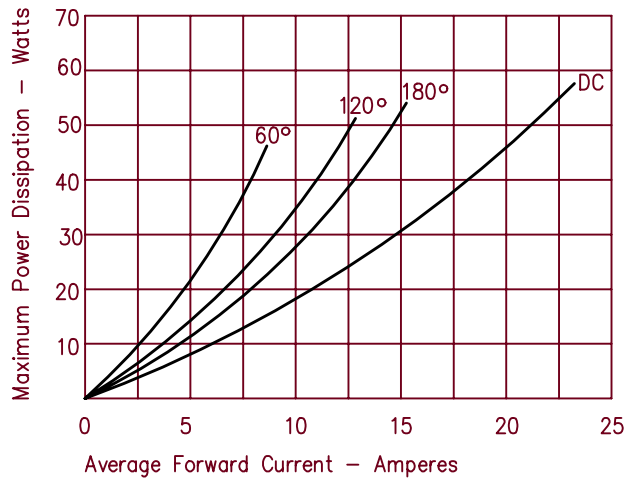


Figure 2  
Typical Reverse Characteristics – Per Leg

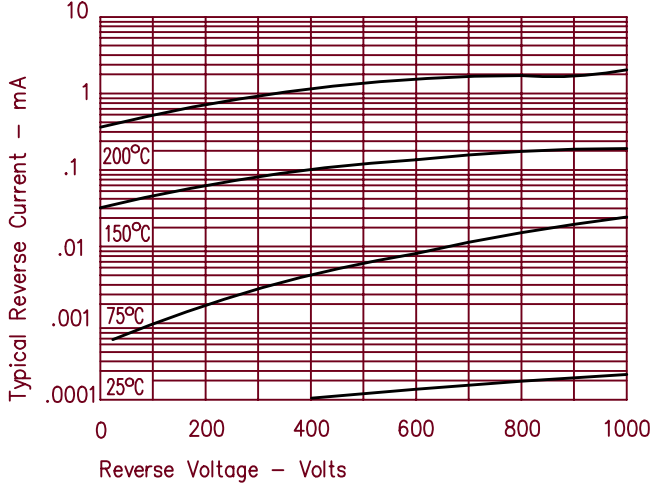
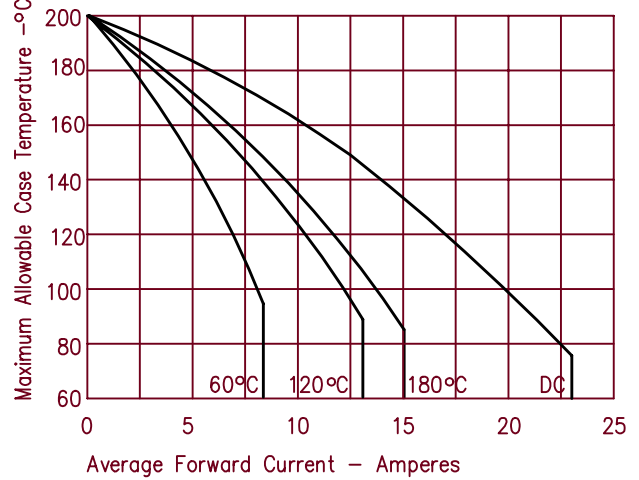


Figure 5  
Forward Current Derating – Per Leg – Reverse Polarity



# ST3020 – ST30100

Figure 6  
Maximum Forward Power Dissipation – Per Leg – Reverse Polarity

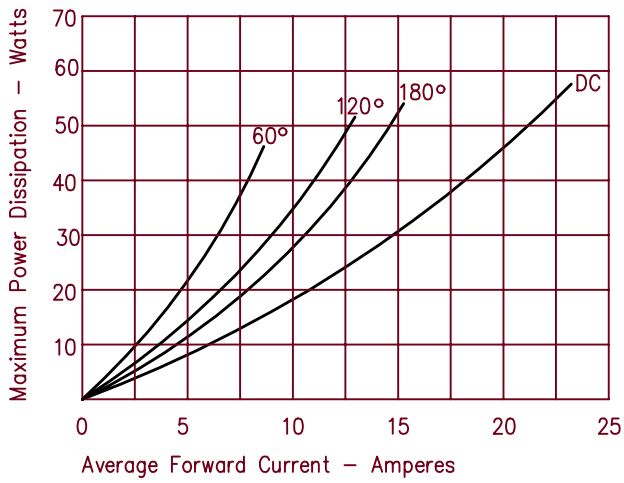


Figure 8  
Transient Thermal Impedance – Per Leg – Reverse Polarity

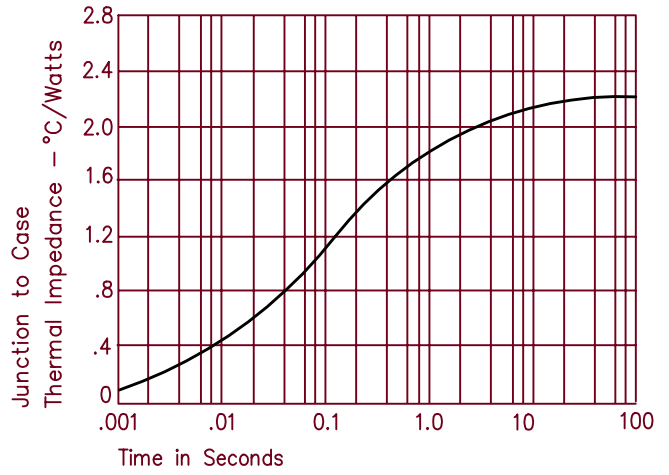


Figure 7  
Transient Thermal Impedance – Per Leg – Standard Polarity

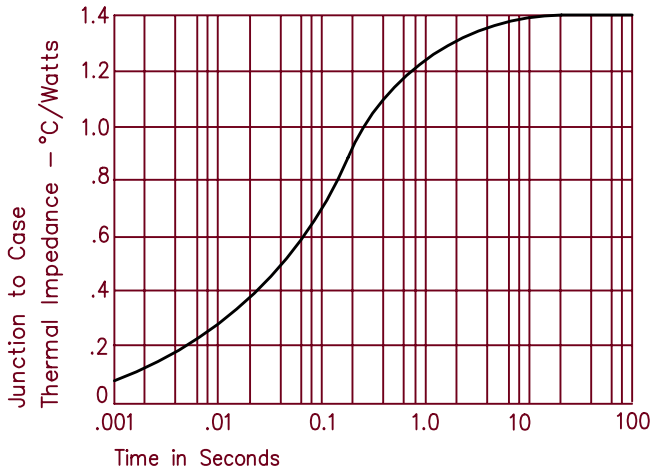


Figure 9  
Maximum Nonrepetitive Surge Current – Per Leg

