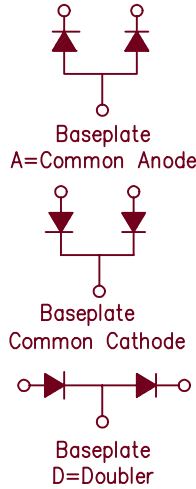
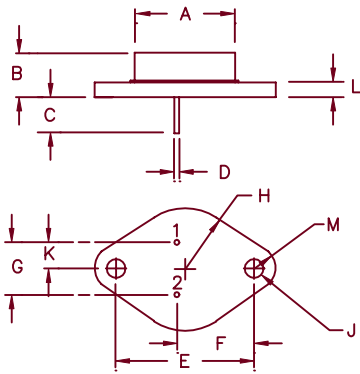


Silicon Dual Power Rectifier

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)	IF(AV) 15 Amps	TC = 125°C, half sine wave, R _{θJC} = 1.4°C/W TC = 82°C, half sine wave, R _{θJC} = 2.2°C/W 8.3ms, half sine, T _J = 200°C
Average forward current per leg (reverse)	IF(AV) 15 Amps	
Maximum surge current	IFSM 250 Amps	
Max I ² t for fusing	I ² t 260 A ² s	
Max peak forward voltage	V _{FM} 1.2 Volts	I _{FM} = 15A; T _J = 25°C*
Max peak reverse current	I _{RM} 10 μA	VRRM, T _J = 25°C
Max peak reverse current	I _{RM} 1.0 mA	VRRM, 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

12-6-00 Rev. 1

ST3020 — ST30100

Figure 1
Typical Forward Characteristics — Per Leg



Figure 2
Typical Reverse Characteristics — Per Leg

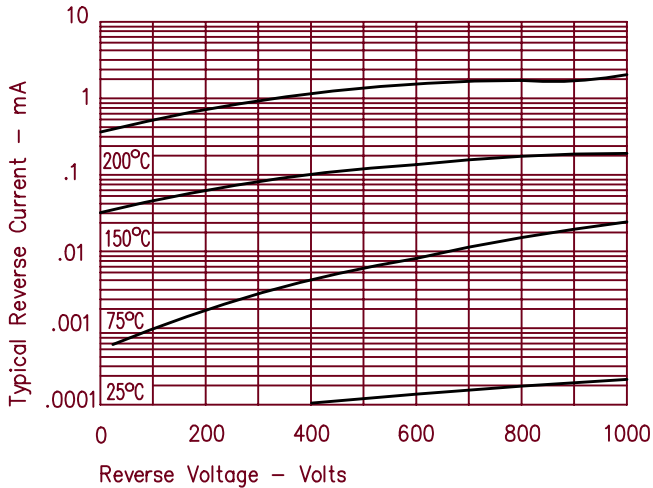


Figure 3
Forward Current Derating — Per Leg — Standard Polarity

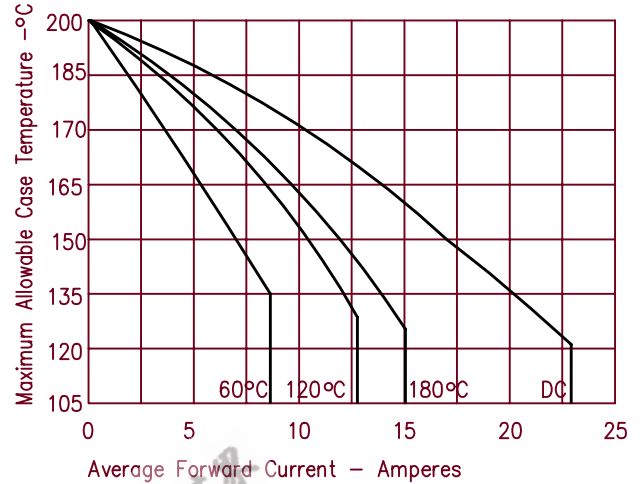


Figure 4
Maximum Forward Power Dissipation — Per Leg — Standard Polarity

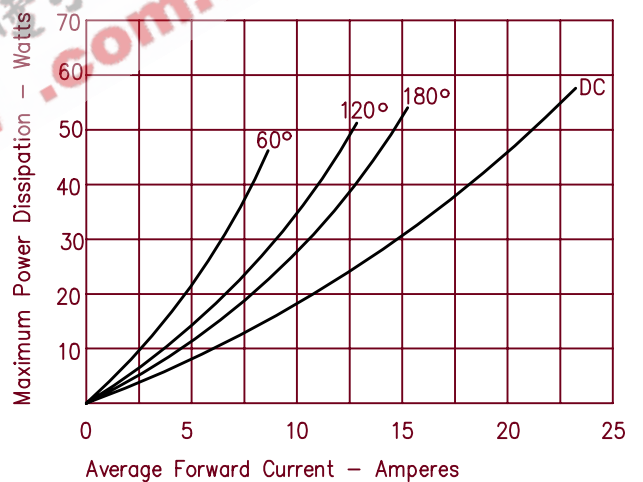
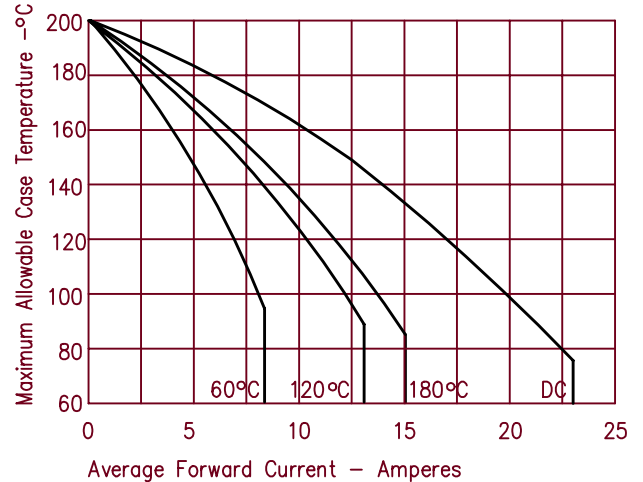


Figure 5
Forward Current Derating — Per Leg — Reverse Polarity



ST3020 – ST30100

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

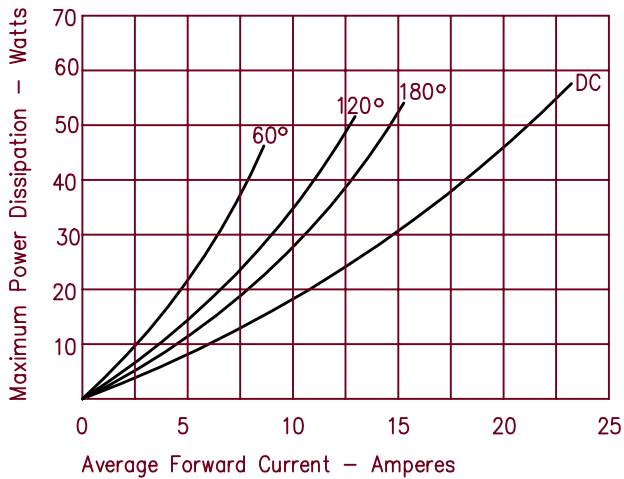


Figure 8
Transient Thermal Impedance – Per Leg – Reverse Polarity

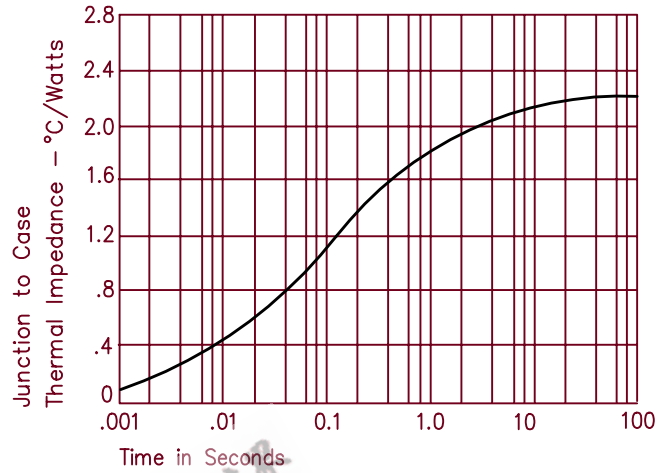


Figure 7
Transient Thermal Impedance – Per Leg – Standard Polarity

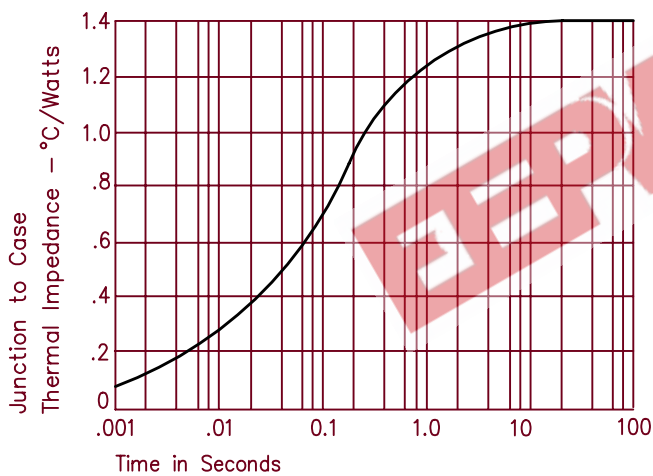


Figure 9
Maximum Nonrepetitive Surge Current – Per Leg

