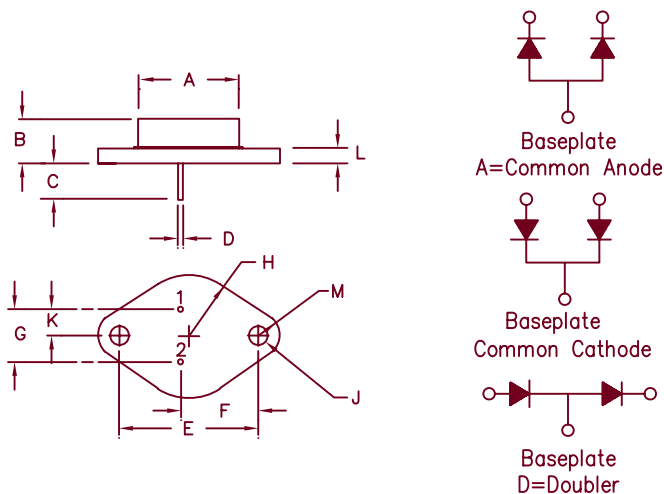


Silicon Dual Power Rectifier

ST6020 — ST60100



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	.057	.063	1.45	1.60	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-3

Microsemi
Catalog Number

ST6020*
ST6040*
ST6060*
ST6080*
ST60100*

Peak
Reverse Voltage

200V
400V
600V
800V
1000V

*Add D, or A

Standard processing is common cathode with no suffix added.

- Glass passivated die
- Glass to metal seal construction
- V_{RRM} 200 to 1000V
- 400A Surge Rating
- Available as common anode, common cathode, or doubler

Electrical Characteristics Per Leg

Average forward current per leg (standard)
Average forward current per leg (reverse)
Maximum surge current
Max $I^2 t$ for fusing
Max peak forward voltage
Max peak reverse current
Max peak reverse current
Max recommended operating frequency

$I_F(AV)$ 20 Amps
 $I_F(AV)$ 20 Amps
 I_{FSM} 400 Amps
 $I^2 t$ 665 $A^2 s$
 V_{FM} 1.1 Volts
 I_{RM} 10 μA
 I_{RM} 1.0 mA
10kHz

$T_C = 150^\circ C$, half sine wave, $R_{\theta JC} = 1.2^\circ C/W$
 $T_C = 146^\circ C$, half sine wave, $R_{\theta JC} = 1.4^\circ C/W$
8.3ms, half sine, $T_J = 175^\circ C$

$I_{FM} = 30A$; $T_J = 25^\circ C$
 $V_{RRM}, T_J = 25^\circ C$
 $V_{RRM}, T_J = 150^\circ C$

*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

T_{STG}
 T_J
 $R_{\theta JC}$
 $R_{\theta JC}$
 $R_{\theta CS}$

$-65^\circ C$ to $200^\circ C$
 $-65^\circ C$ to $175^\circ C$
 $1.2^\circ C/W$ Junction to case
 $1.4^\circ C/W$ Junction to case
 $0.5^\circ C/W$ Case to sink
1.0 ounces (28 grams) typical



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05-02-07 Rev. 2

ST6020 — ST60100

Figure 1
Typical Forward Characteristics — Per Leg

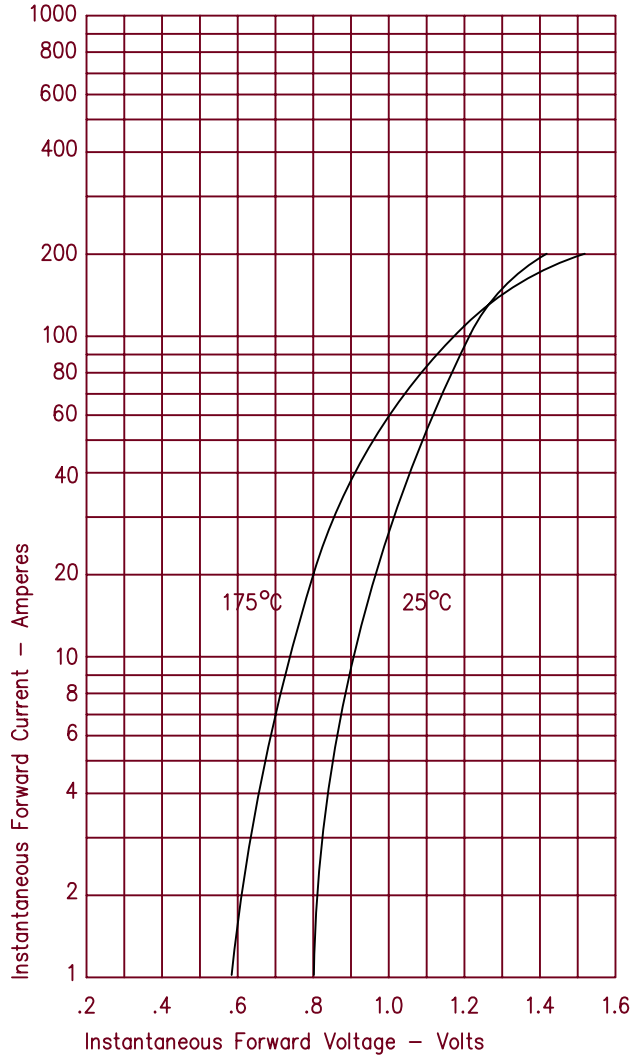


Figure 2
Typical Reverse Characteristics — Per Leg

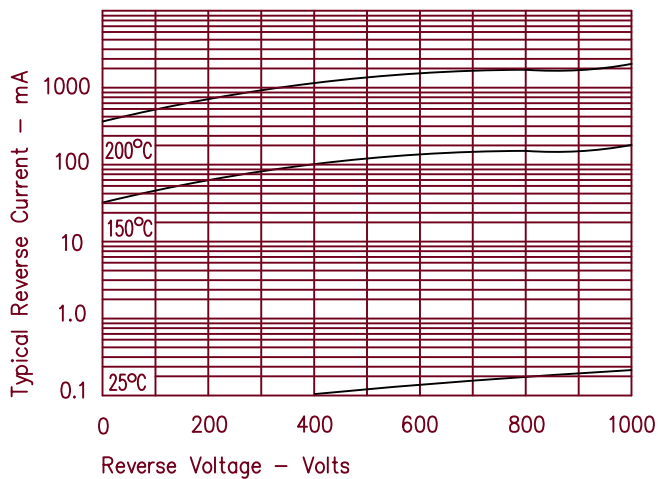


Figure 3
Forward Current Derating — Per Leg — Standard Polarity

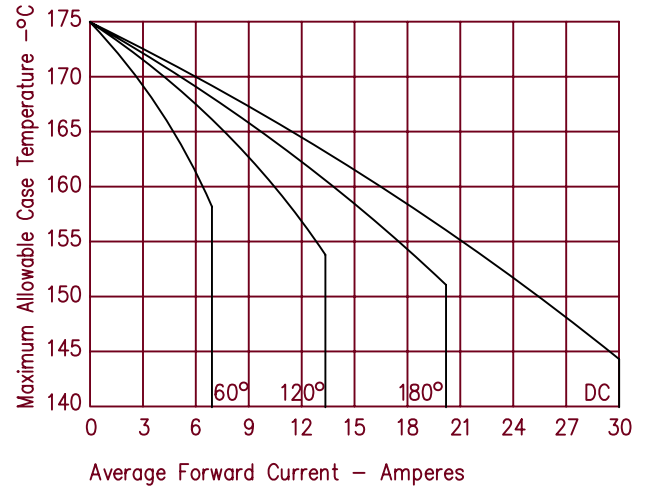


Figure 4
Maximum Forward Power Dissipation — Per Leg — Standard Polarity

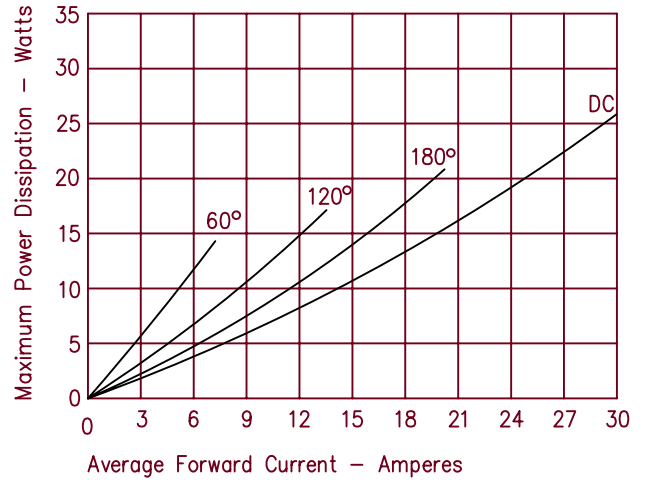
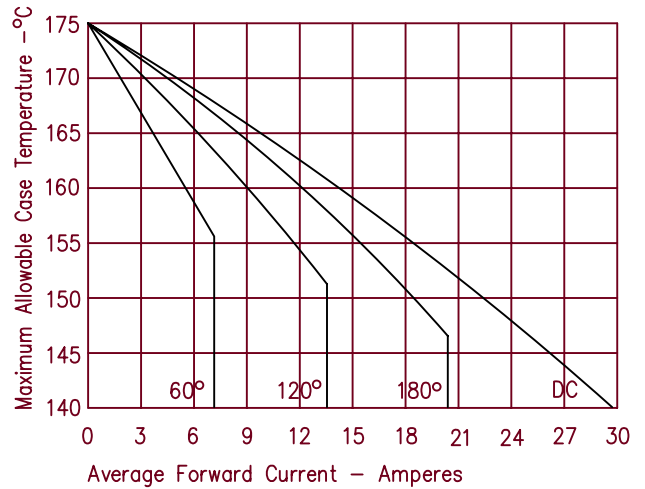


Figure 5
Forward Current Derating — Per Leg — Reverse Polarity



ST6020 — ST60100

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

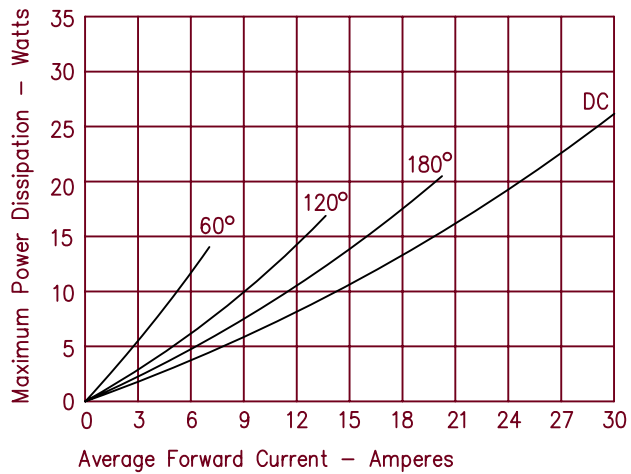


Figure 8
Transient Thermal Impedance — Reverse Polarity

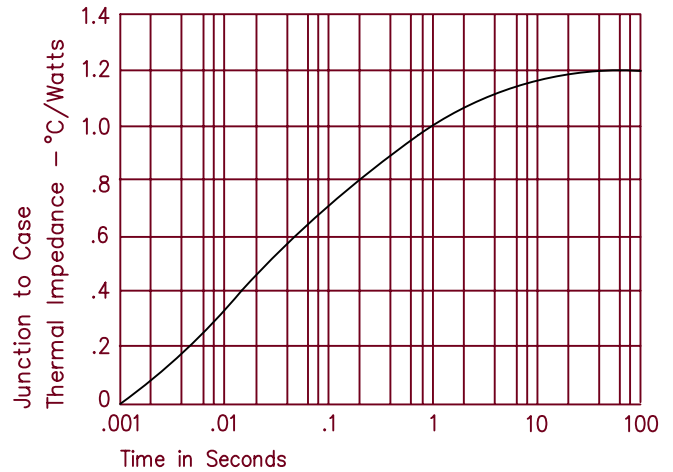


Figure 7
Transient Thermal Impedance — Per Leg — Standard Polarity

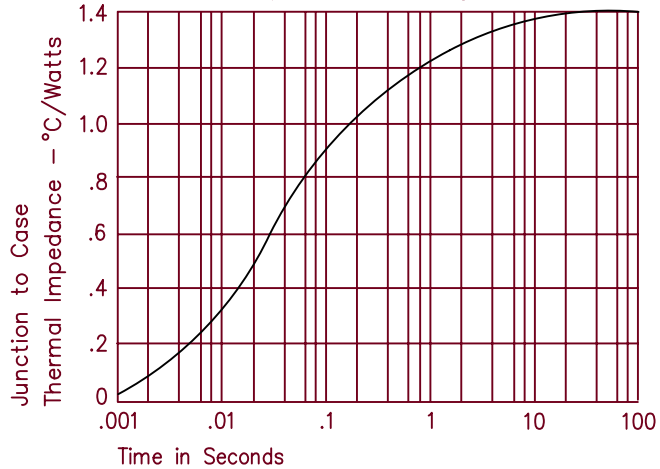


Figure 9
Maximum Nonrepetitive Surge Current

