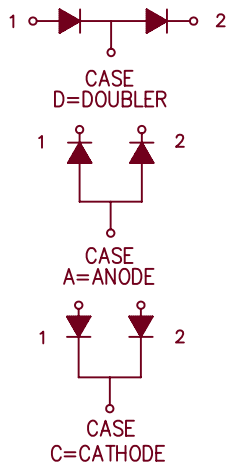
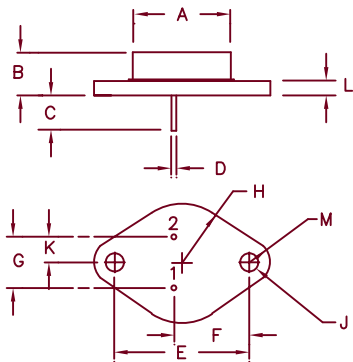


# Schottky Rectifier

## SBT6040 — SBT6050



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	—	.875	—	22.23	Dia.
B	.250	.450	6.35	11.43	
C	.435	—	11.05	—	
D	.057	.065	1.45	1.65	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	—	.180	—	4.57	Rad.

TO-204AE (LARGE PIN TO-3)

Microsemi Catalog Number	Industry Part Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
	60CDQ035	35V	35V
SBT6040*	60CDQ040	40V	40V
SBT6045*	60CDQ045	45V	45V
SBT6050*		50V	50V

\*Add D, C, or A

- Schottky Barrier Rectifier
- Guard Ring Protection
- 175°C Operation
- $V_{RRM} - 40$  to 50V
- 60 Amperes
- Reverse Energy Tested

### Electrical Characteristics Per Leg

Average forward current per leg	$I_{F(AV)}$ 30 Amps	$T_C = 147^\circ\text{C}$ , square wave, $R_{\theta JC} = 1.2^\circ\text{C/W}$
Average forward current per leg	$I_{F(AV)}$ 30 Amps	$T_C = 130^\circ\text{C}$ , square wave, $R_{\theta JC} = 2.0^\circ\text{C/W}$
Maximum surge current	$I_{FSM}$ 600 Amps	8.3 ms, half sine $T_J = 175^\circ\text{C}$
Max repetitive peak reverse current	$I_{R(OV)}$ 2 Amps	$f = 1$ KHz, $25^\circ\text{C}$ , 1 $\mu\text{sec}$ square wave
Max peak forward voltage	$V_{FM}$ .55 Volts	$I_{FM} = 30\text{A}$ : $T_J = 175^\circ\text{C}^*$
Max peak forward voltage	$V_{FM}$ .68 Volts	$I_{FM} = 30\text{A}$ : $T_J = 25^\circ\text{C}^*$
Max peak reverse current	$I_{RM}$ 15 mA	$V_{RRM}$ , $T_J = 125^\circ\text{C}^*$
Max peak reverse current	$I_{RM}$ 1.2 mA	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Typical junction capacitance per leg	$C_J$ 1800 pF	$V_R = 5.0\text{V}$ , $T_J = 25^\circ\text{C}$

\*Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

### Thermal and Mechanical Characteristics

Operating junction temp range	$T_{SG}$	$-65^\circ\text{C}$ to $175^\circ\text{C}$
Storage temp range	$T_J$	$-65^\circ\text{C}$ to $175^\circ\text{C}$
Maximum thermal resistance (standard polarity)	$R_{\theta JC}$	1.2°C/W Junction to case
Maximum thermal resistance (reverse polarity)	$R_{\theta JC}$	2.0°C/W Junction to case
Typical thermal resistance (greased)	$R_{\theta CS}$	0.5°C/W Case to sink
Weight		1.0 ounces (28 grams) typical



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05-30-07 Rev. 3

# SBT6040 — SBT6050

Figure 1  
Typical Forward Characteristics

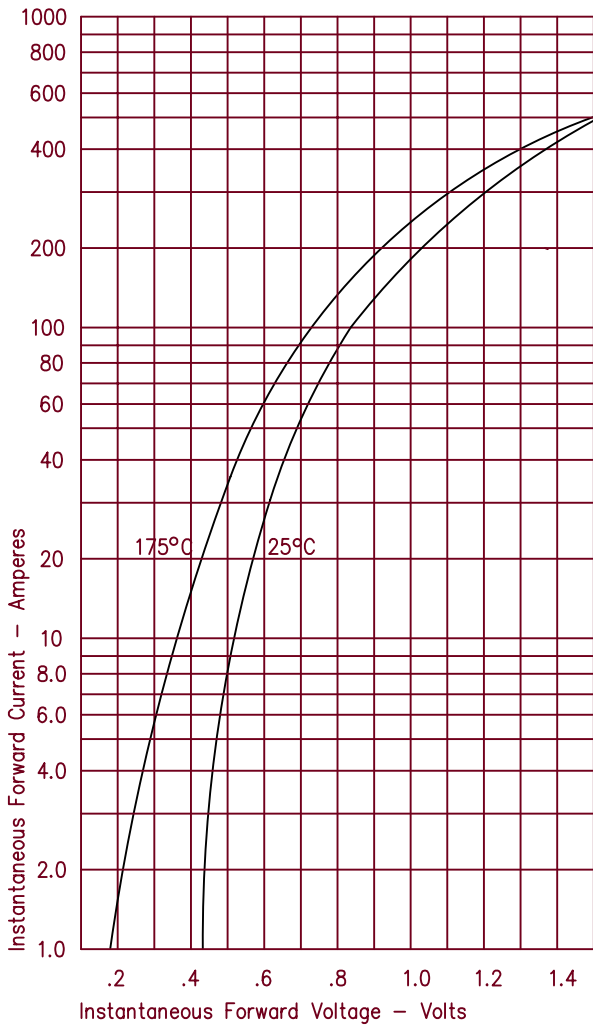


Figure 3  
Typical Junction Capacitance

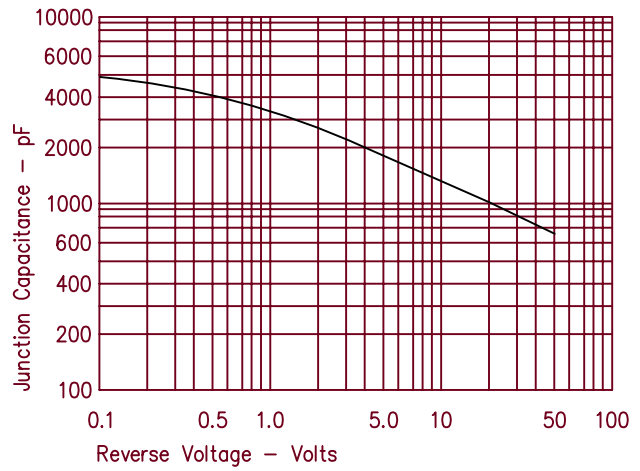


Figure 4  
Forward Current Derating - Standard Polarity

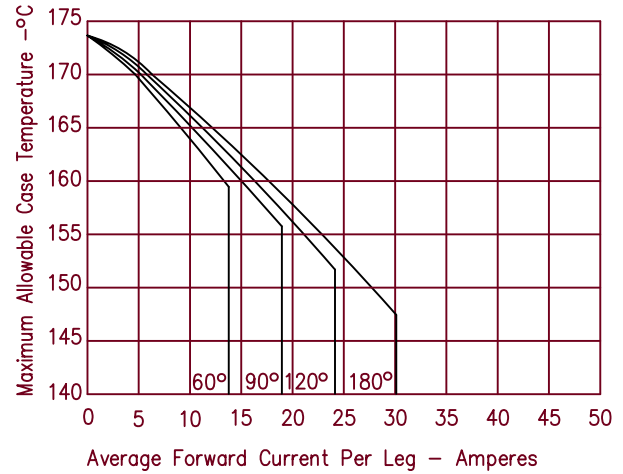


Figure 2  
Typical Reverse Characteristics

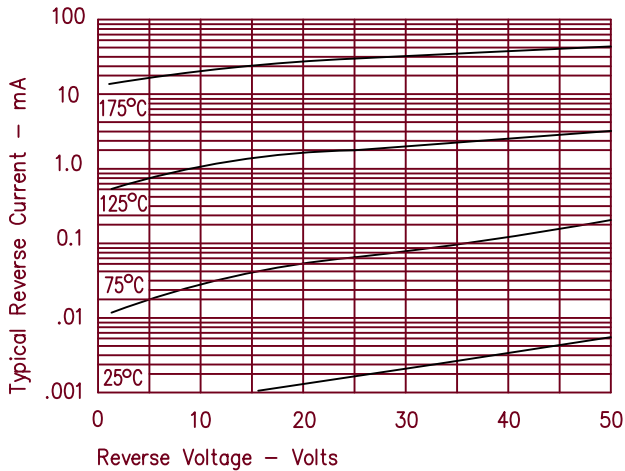


Figure 5  
Maximum Forward Power Dissipation - Standard Polarity

