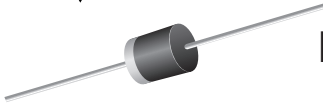




**THE DATASHEET OF
SB050-E3/54**

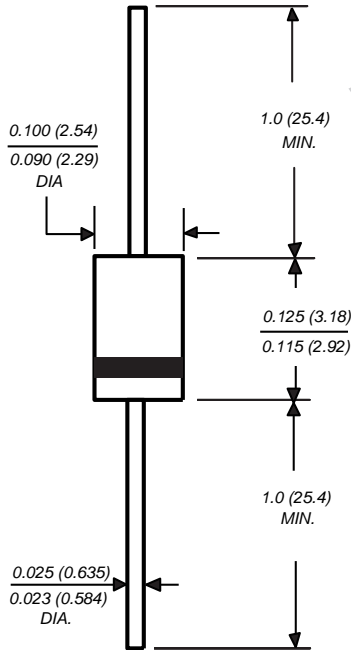




Miniature Schottky Barrier Rectifiers

Reverse Voltage 20 to 60V
Forward Current 0.6A

Case Style MPG06



Dimensions in inches and (millimeters)

Extended Voltage Range

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Low power loss, high efficiency
- For use in low voltage high frequency inverters, free wheeling, and polarity protection applications
- Guardring for overvoltage protection

Mechanical Data

Case: Molded plastic body

Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026

High temperature soldering guaranteed:
250°C/10 seconds 0.375" (9.5mm) lead length, 5lbs. (2.3kg) tension

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.0064oz., 0.181g

Maximum Ratings and Thermal Characteristics (T_A = 25°C unless otherwise noted)

Parameter	Symbol	SB020	SB030	SB040	SB050	SB060	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	20	30	40	50	60	V
Maximum RMS voltage	V _{RMS}	14	21	28	35	42	V
Maximum DC blocking voltage	V _{DC}	20	30	40	50	60	V
Maximum average forward rectified current at 0.375" (9.5mm) lead length (See Fig. 1)	I _{F(AV)}	0.6					A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	20					A
Typical thermal resistance ⁽²⁾	R _{θJA}	80					°C/W
	R _{θJL}	20					
Operating junction temperature range	T _J	-65 to +125			-65 to +150		°C
Storage temperature range	T _{STG}	-65 to +150					°C

Electrical Characteristics (T_A = 25°C unless otherwise noted)

Maximum instantaneous forward voltage at 0.6A ⁽¹⁾	V _F	0.55		0.70		V	
Maximum instantaneous reverse current at rated DC blocking voltage ⁽¹⁾	I _R	0.5					mA
		10		5.0			

Notes:

(1) Pulse test: 300µs pulse width, 1% duty cycle

(2) Thermal resistance junction to lead P.C.B. mounted 0.375" (9.5mm) lead length

SB020 thru SB060



Vishay Semiconductors
formerly General Semiconductor

Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 1 – Forward Current Derating Curve

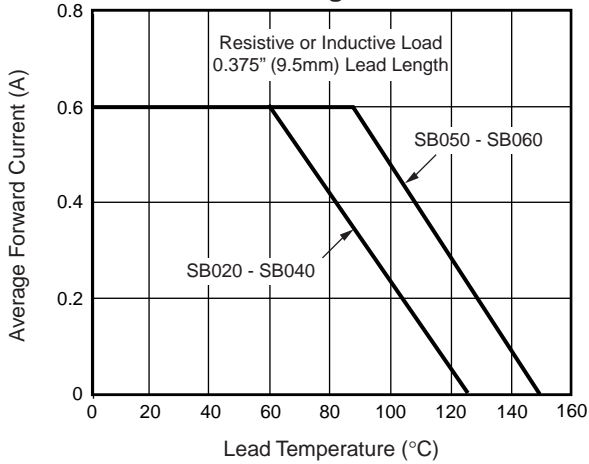


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

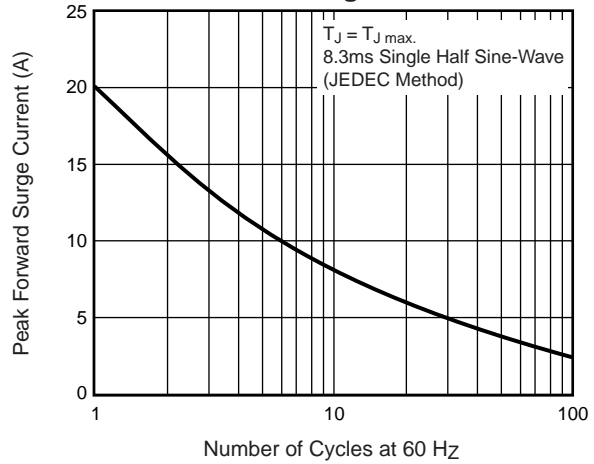


Fig. 3 – Typical Instantaneous Forward Characteristics

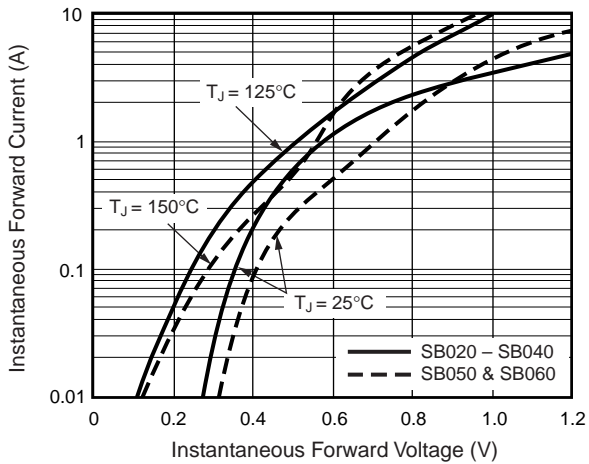


Fig. 4 – Typical Reverse Leakage Characteristics

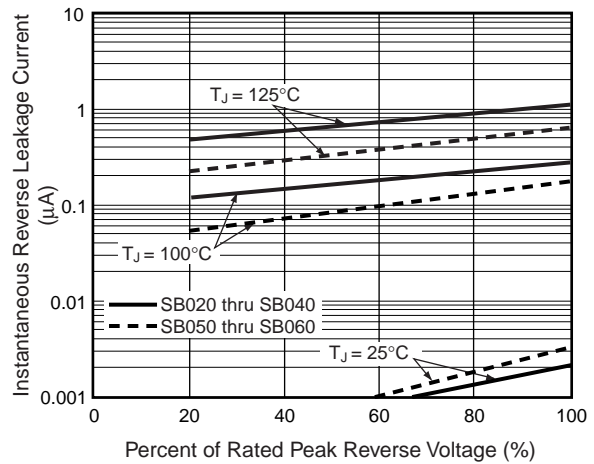


Fig. 5 – Typical Junction Capacitance

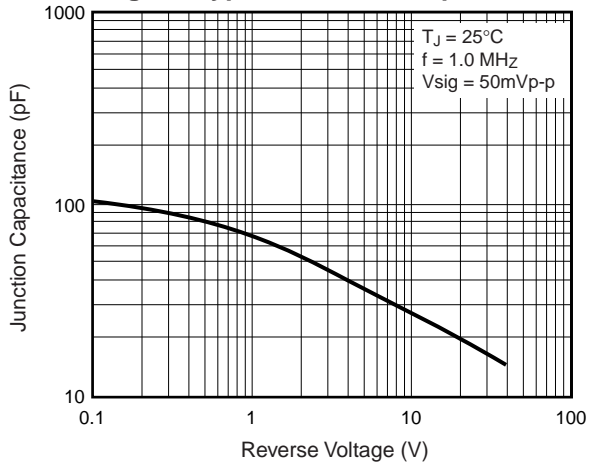
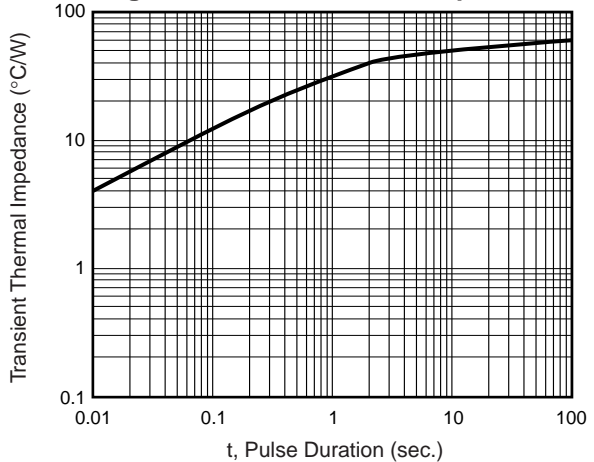


Fig. 6 – Transient Thermal Impedance




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