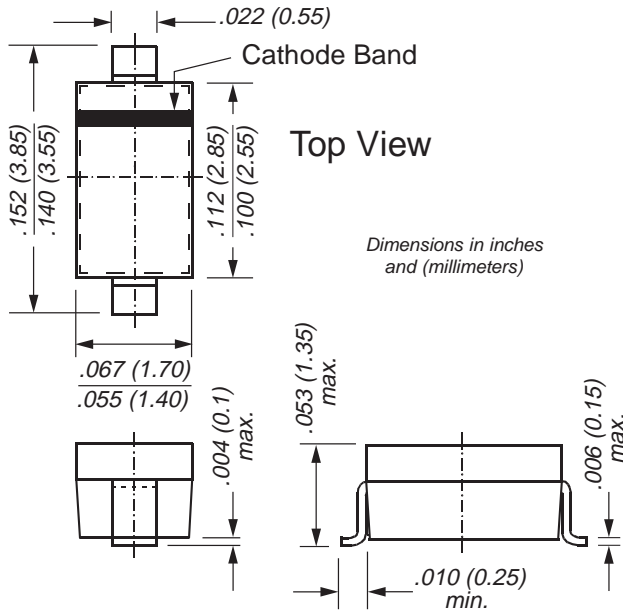


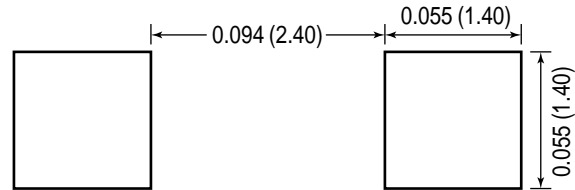


## Schottky Diodes

**SOD-123**



### Mounting Pad Layout



### Features

- For general purpose applications
- These diodes feature very low turn-on voltage and fast switching. These devices are protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges.
- These diodes are also available in the DO-35 case with the type designations BAT42 to BAT43 and in the MiniMELF case with the type designations LL42 to LL43.

### Mechanical Data

**Case:** SOD-123 Plastic Package

**Weight:** approx. 0.01g

**Marking Codes:** BAT42W = L2  
BAT43W = L3

#### Packaging Codes/Options:

D3/10K per 13" reel (8mm tape), 30K/box  
D4/3K per 7" reel (8mm tape), 30K/box

### Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameters	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	VRRM	30	V
Forward Continuous Current at T <sub>amb</sub> = 25°C	I <sub>F</sub>	200	mA
Repetitive Peak Forward Current at t <sub>p</sub> < 1s, δ < 0.5, T <sub>amb</sub> = 25°C	I <sub>FRM</sub>	500	mA
Surge Forward Current at t <sub>p</sub> < 10 ms, T <sub>amb</sub> = 25°C	I <sub>FSM</sub>	4 <sup>(1)</sup>	A
Power Dissipation <sup>(1)</sup> at T <sub>amb</sub> = 65°C	P <sub>tot</sub>	200 <sup>(1)</sup>	mW
Thermal Resistance Junction to Ambient Air	R <sub>θJA</sub>	300 <sup>(1)</sup>	°C/W
Junction Temperature	T <sub>j</sub>	125	°C
Ambient Operating Temperature Range	T <sub>amb</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>s</sub>	-55 to +150	°C

**Note:** (1) Valid provided that electrodes are kept at ambient temperature

# BAT42W, BAT43W

Vishay Semiconductors  
formerly General Semiconductor



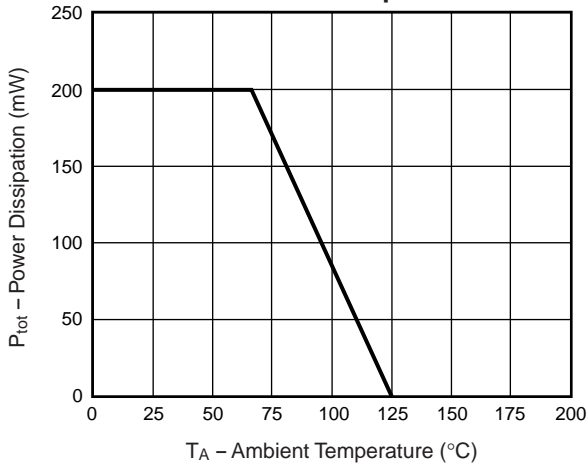
## Electrical Characteristics (T<sub>J</sub> = 25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Breakdown Voltage	V <sub>(BR)R</sub>	I <sub>R</sub> = 100μA (pulsed)	30	—	—	V
Leakage Current <sup>(1)</sup>	I <sub>R</sub>	V <sub>R</sub> = 25V V <sub>R</sub> = 25V, T <sub>j</sub> = 100°C	— —	— —	0.5 100	μA
Forward Voltage <sup>(1)</sup>	V <sub>F</sub>	I <sub>F</sub> = 200mA I <sub>F</sub> = 10mA I <sub>F</sub> = 50mA I <sub>F</sub> = 2mA I <sub>F</sub> = 15mA	— — — 0.26 —	— — — — —	1.0 0.4 0.65 0.33 0.45	V
Capacitance	C <sub>tot</sub>	V <sub>R</sub> = 1V, f = 1MHz	—	7	—	pF
Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> = 10mA to I <sub>R</sub> = 10mA to I <sub>R</sub> = 1mA, R <sub>L</sub> = 100Ω	—	—	5	ns
Detection Efficiency	η <sub>v</sub>	R <sub>L</sub> = 15KΩ, C <sub>L</sub> = 300pF, f = 45MHz, V <sub>RF</sub> = 2V	80	—	—	%

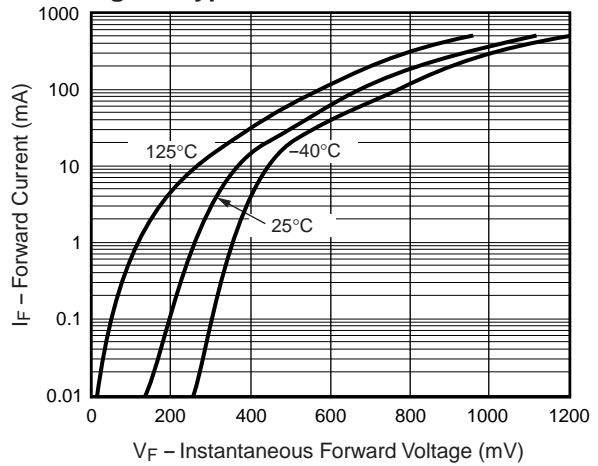
Note: (1) Pulse Test t<sub>p</sub> < 300μs, δ < 2%

## Ratings and Characteristic Curves (T<sub>A</sub> = 25°C unless otherwise noted)

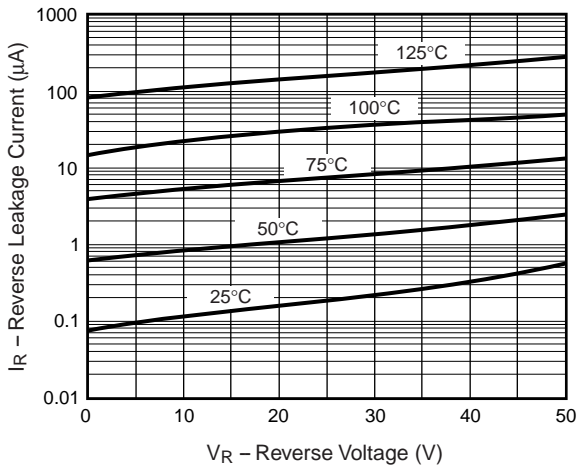
**Fig. 1 – Admissible Power Dissipation vs. Ambient Temperature**



**Fig. 2 – Typical Reverse Characteristics**



**Fig. 3 – Typical Reverse Characteristics**



**Fig. 4 – Typical Capacitance vs. Reverse Applied Voltage**

