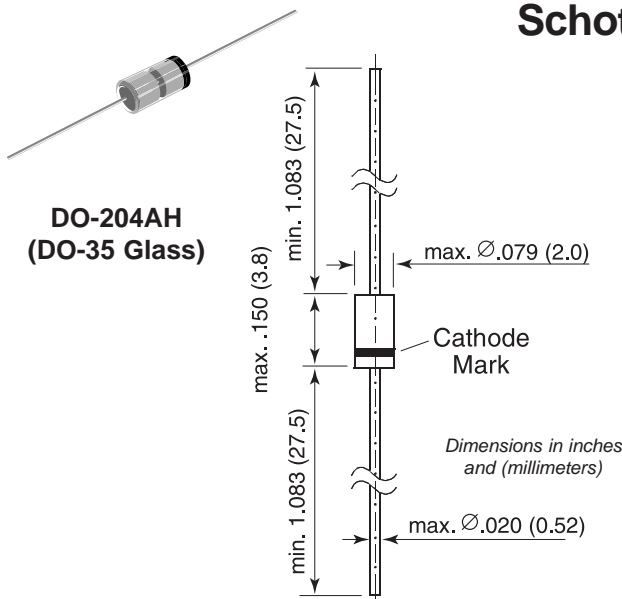


Schottky Diodes



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 SOD-123 case with the type designations BAT42W to BAT43W and in designations LL42 to LL43.

Mechanical Data

Case: DO-35 Glass Case

Weight: approx. 0.13g

Packaging Codes/Options:

D7/10K per 13" reel (52mm tape), 20K/box

D8/10K per Ammo tape (52mm tape), 20K/box

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

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	30	V
Forward Continuous Current at $T_{amb} = 25^{\circ}\text{C}$	I_F	200 ⁽¹⁾	mA
Repetitive Peak Forward Current at $t_p < 1\text{s}$, $\delta < 0.5$, $T_{amb} = 25^{\circ}\text{C}$	I_{FRM}	500 ⁽¹⁾	mA
Surge Forward Current at $t_p < 10\text{ms}$, $T_{amb} = 25^{\circ}\text{C}$	I_{FSM}	4 ⁽¹⁾	A
Power Dissipation ⁽¹⁾ at $T_{amb} = 65^{\circ}\text{C}$	P_{tot}	200 ⁽¹⁾	mW
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	300 ⁽¹⁾	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_j	125	$^{\circ}\text{C}$
Ambient Operating Temperature Range	T_{amb}	-65 to +125	$^{\circ}\text{C}$
Storage Temperature Range	T_s	-65 to +150	$^{\circ}\text{C}$

Electrical Characteristics ($T_j = 25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R = 100\mu\text{A}$ (pulsed)	30	—	—	V
Leakage Current Pulse Test $t_p < 300\mu\text{s}$, $\delta < 2\%$	I_R	$V_R = 25\text{V}$ $V_R = 25\text{V}$, $T_j = 100^{\circ}\text{C}$	—	—	0.5 100	μA
Forward Voltage Pulse Test $t_p < 300\mu\text{s}$, $\delta < 2\%$	V_F	BAT42, 43 BAT42 BAT43 BAT43 BAT43 $I_F = 200\text{mA}$ $I_F = 10\text{mA}$ $I_F = 50\text{mA}$ $I_F = 2\text{mA}$ $I_F = 15\text{mA}$	— — — 0.26 —	— — — — —	1 0.4 0.65 0.33 0.45	V
Capacitance	C_{tot}	$V_R = 1\text{V}$, $f = 1\text{MHz}$	—	7	—	pF
Reverse Recovery Time	t_{rr}	$I_F = 10\text{mA}$, $I_R = 10\text{mA}$ $I_{rr} = 1\text{mA}$, $R_L = 100\Omega$	—	—	5	ns
Detection Efficiency	η_v	$R_L = 15\text{K}\Omega$, $C_L = 300\text{pF}$ $f = 45\text{MHz}$, $V_{RF} = 2\text{V}$	80	—	—	%

Note: (1) Valid provided that leads at a distance of 4mm from case are kept at ambient temperature

BAT42, BAT43

Vishay Semiconductors
formerly General Semiconductor



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

Fig. 1 – Admissible Power Dissipation vs. Ambient Temperature

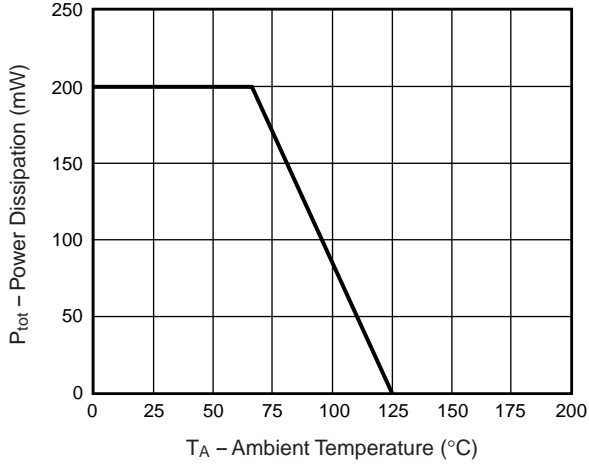


Fig. 2 – Typical Reverse Characteristics

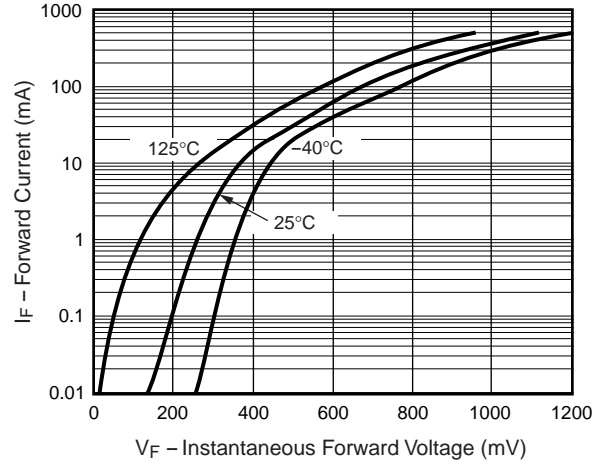


Fig. 3 – Typical Reverse Characteristics

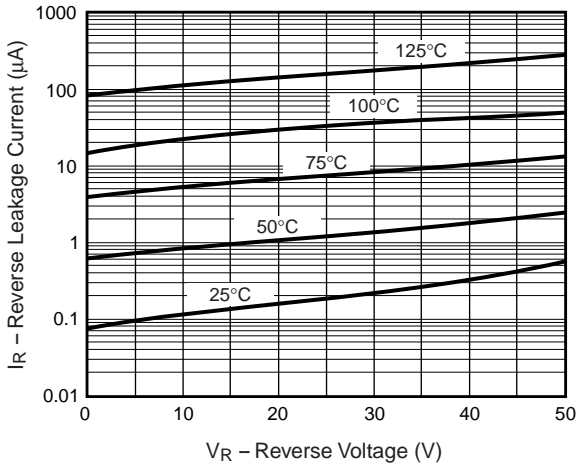
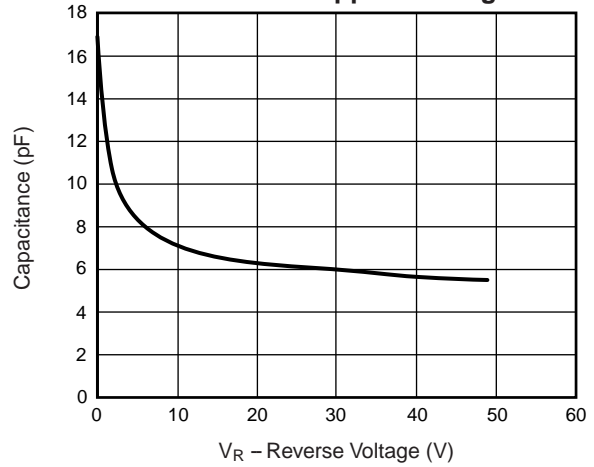


Fig. 4 – Typical Capacitance vs. Reverse Applied Voltage



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