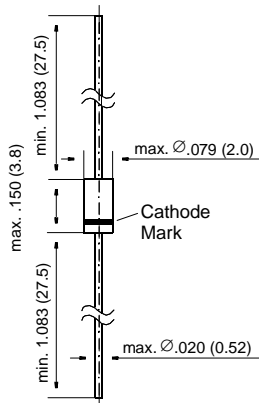


BAT46

Schottky Diodes

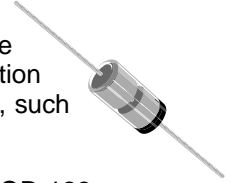
DO-35



Dimensions in inches and (millimeters)

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.
- ◆ This diode is also available in the SOD-123 case with type designation BAT46W and in the MiniMELF case with type designations LL46.



MECHANICAL DATA

Case: DO-35 Glass Case

Weight: approx. 0.13 g

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Forward Continuous Current at $T_{amb} = 25\text{ °C}$	I_F	150 ¹⁾	mA
Repetitive Peak Forward Current at $t_p < 1\text{ s}$, $\delta < 0.5$, $T_{amb} = 25\text{ °C}$	I_{FRM}	350 ¹⁾	mA
Surge Forward Current at $t_p < 10\text{ ms}$, $T_{amb} = 25\text{ °C}$	I_{FSM}	750 ¹⁾	mA
Power Dissipation ¹⁾ at $T_{amb} = 65\text{ °C}$	P_{tot}	150 ¹⁾	mW
Junction Temperature	T_j	125	°C
Ambient Operating Temperature Range	T_{amb}	-65 to +125	°C
Storage Temperature Range	T_S	-65 to +150	°C

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

BAT46

ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

	Symbol	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage tested with 100 μ A Pulses	$V_{(BR)R}$	100	–	–	V
Forward Voltage Pulse Test $t_p < 300 \mu s$, $\delta < 2\%$ at $I_F = 0.1 \text{ mA}$	V_F	–	–	0.25	V
at $I_F = 10 \text{ mA}$	V_F	–	–	0.45	V
at $I_F = 250 \text{ mA}$	V_F	–	–	1	V
Leakage Current Pulse Test $t_p < 300 \mu s$, $\delta < 2\%$ at $V_R = 1.5 \text{ V}$	I_R	–	–	0.5	μ A
at $V_R = 1.5 \text{ V}$, $T_j = 60 \text{ }^\circ\text{C}$	I_R	–	–	5	μ A
at $V_R = 10 \text{ V}$	I_R	–	–	0.8	μ A
at $V_R = 10 \text{ V}$, $T_j = 60 \text{ }^\circ\text{C}$	I_R	–	–	7.5	μ A
at $V_R = 50 \text{ V}$	I_R	–	–	2	μ A
at $V_R = 50 \text{ V}$, $T_j = 60 \text{ }^\circ\text{C}$	I_R	–	–	15	μ A
at $V_R = 75 \text{ V}$	I_R	–	–	5	μ A
at $V_R = 75 \text{ V}$, $T_j = 60 \text{ }^\circ\text{C}$	I_R	–	–	20	μ A
Capacitance at $V_R = 0 \text{ V}$, $f = 1 \text{ MHz}$	C_{tot}	–	10	–	pF
at $V_R = 1 \text{ V}$, $f = 1 \text{ MHz}$	C_{tot}	–	6	–	pF
Thermal Resistance Junction to Ambient Air	R_{thJA}	–	–	0.3 ¹⁾	K/mW

¹⁾ Valid provided that leads at a distance of 4 mm from the case are kept at ambient temperature (DO-35)