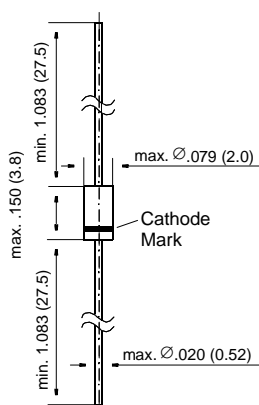


# BAT42, BAT43

## Schottky Diodes

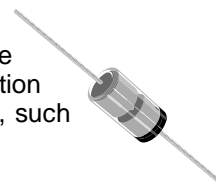
### DO-35



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.
- ◆ These diodes are also available in the SOD-123 case with the type designations BAT42W to BAT43W and in the MiniMELF case with type designations LL42 to LL43.



### 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	$V_{RRM}$	30	V
Forward Continuous Current at $T_{amb} = 25\text{ °C}$	$I_F$	200 <sup>1)</sup>	mA
Repetitive Peak Forward Current at $t_p < 1\text{ s}$ , $\delta < 0.5$ , $T_{amb} = 25\text{ °C}$	$I_{FRM}$	500 <sup>1)</sup>	mA
Surge Forward Current at $t_p < 10\text{ ms}$ , $T_{amb} = 25\text{ °C}$	$I_{FSM}$	4 <sup>1)</sup>	A
Power Dissipation <sup>1)</sup> at $T_{amb} = 65\text{ °C}$	$P_{tot}$	200 <sup>1)</sup>	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

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

# BAT42, BAT43

## ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

	Symbol	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage tested with 100 $\mu$ A Pulses	$V_{(BR)R}$	30	—	—	V
Forward Voltage Pulse Test $t_p < 300 \mu s$ , $\delta < 2\%$ at $I_F = 200 \text{ mA}$ at $I_F = 10 \text{ mA}$ at $I_F = 50 \text{ mA}$ at $I_F = 2 \text{ mA}$ at $I_F = 15 \text{ mA}$	$V_F$ $V_F$ $V_F$ $V_F$ $V_F$	— — — 0.26 —	— — — — —	1 0.4 0.65 0.33 0.45	V V V V V
Leakage Current Pulse Test $t_p < 300 \mu s$ , $\delta < 2\%$ at $V_R = 25 \text{ V}$ at $V_R = 25 \text{ V}$ , $T_j = 100 \text{ }^\circ\text{C}$	$I_R$ $I_R$	— —	— —	0.5 100	$\mu\text{A}$ $\mu\text{A}$
Capacitance at $V_R = 1 \text{ V}$ , $f = 1 \text{ MHz}$	$C_{tot}$	—	7	—	pF
Reverse Recovery Time from $I_F = 10 \text{ mA}$ through $I_R = 10 \text{ mA}$ to $I_R = 1 \text{ mA}$ , $R_L = 100 \Omega$	$t_{rr}$	—	—	5	ns
Detection Efficiency at $R_L = 15 \text{ K}\Omega$ , $C_L = 300 \text{ pF}$ , $f = 45 \text{ MHz}$ , $V_{RF} = 2 \text{ V}$	$\eta_v$	80	—	—	%
Thermal Resistance Junction to Ambient Air	$R_{thJA}$	—	—	0.3 <sup>1)</sup>	K/mW
<sup>1)</sup> Valid provided that leads at a distance of 4 mm from the case are kept at ambient temperature					