



SEMICONDUCTOR

BAT46W

SMALL SIGNAL SCHOTTKY DIODES

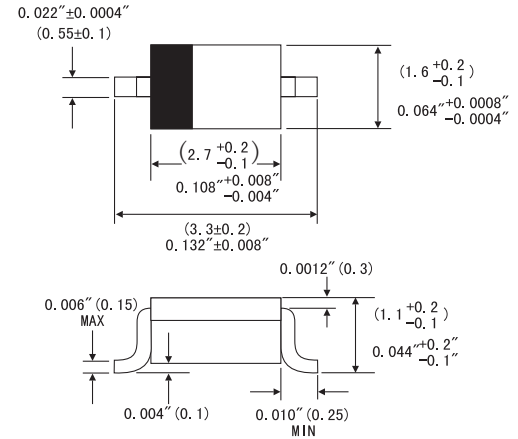
SMALL SIGNAL SCHOTTKY DIODES

## FEATURES

- For general purpose applications
- These diodes features 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 Mini-MELF case with the type designation LL46 and in the DO-35 case with the type designation BAT46, in the Micro-MELF case with type designation MCL46



## SOD-123



Dimensions in inches and (millimeters)

## MECHANICAL DATA

- Case: SOD-123 plastic case
- Weight: Approx. 0.01 gram

## ABSOLUTE RATINGS(LIMITING VALUES)

	Symbols	Value	Units
Repetitive Peak Reverse Voltage	$V_{RRM}$	100	V
Forward Continuous Current at $T_A=25^{\circ}C$	$I_F$	150 <sup>1)</sup>	mA
Repetitive Peak Forward Current at $t_p < 1s, \delta < 0.5, T_A=25^{\circ}C$	$I_{FRM}$	350 <sup>1)</sup>	mA
Surge forward current at $t_p < 10ms, T_A=25^{\circ}C$	$I_{FSM}$	750 <sup>1)</sup>	mA
Power Dissipation <sup>1)</sup> at $T_A=65^{\circ}C$	$P_{Tot}$	150 <sup>1)</sup>	mW
Junction temperature	$T_J$	125	$^{\circ}C$
Ambient Operating temperature Range	$T_A$	-65 to +125	$^{\circ}C$
Storage Temperature Range	$T_{STG}$	-65 to +150	$^{\circ}C$

1) Valid provided that electrodes are kept at ambient temperature



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## ELECTRICAL CHARACTERISTICS

(Ratings at 25°C ambient temperature unless otherwise specified)

	Symbols	Min.	Typ.	Max.	Units
Reverse breakdown voltage Tested with 100 $\mu$ A Pulses	V(BR)R	100			V
Forward voltage Pulse Test $t_p < 300\mu s$ , at $V_R = 10V$ , $T_J = 60^\circ C$ , $\delta < 2\%$					
at $I_F = 0.1mA$ ,	V <sub>F</sub>			0.25	V
at $I_F = 10mA$ ,	V <sub>F</sub>			0.45	V
at $I_F = 250mA$	V <sub>F</sub>			1	V
Leakage current pulse test $t_p < 300\mu s$ , $\delta < 2\%$					
at $V_R = 1.5V$ ,	I <sub>R</sub>			0.5	$\mu A$
at $V_R = 1.5V$ , $T_J = 60^\circ C$	I <sub>R</sub>			5	$\mu A$
at $V_R = 10V$	I <sub>R</sub>			0.8	$\mu A$
at $V_R = 10V$ , $T_J = 60^\circ C$	I <sub>R</sub>			7.5	$\mu A$
at $V_R = 50V$	I <sub>R</sub>			2	$\mu A$
at $V_R = 50V$ , $T_J = 60^\circ C$	I <sub>R</sub>			15	$\mu A$
at $V_R = 75V$	I <sub>R</sub>			5	$\mu A$
at $V_R = 75V$ , $T_J = 60^\circ C$	I <sub>R</sub>			20	$\mu A$
Junction Capacitance at $V_R = 0V$ , $f = 1MHz$	C <sub>J</sub>		10		pF
at $V_R = 1V$ , $f = 1MHz$	C <sub>J</sub>		6		pF
Thermal resistance junction to ambient Air	R $\theta$ JA			300 <sup>1)</sup>	K/W

1) Valid provided that electrodes are kept at ambient temperature