



**VOLTAGE : 30 V**

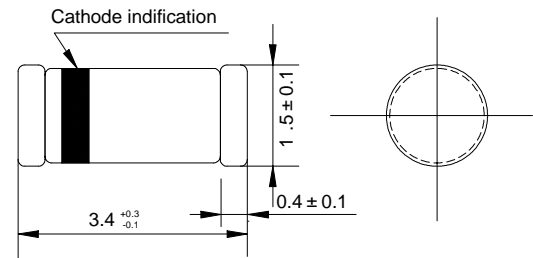
**MINI-MELF**

## 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 type designations BAT42 to BAT43 and in the SOD-123 case with type designations BAT42W to BAT43W



Dimensions in millimeters

## Mechanical Data

Case: MINI-MELF, glass case

Polarity: Color band denotes cathode

Weight: 0.031 grams

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.

### MAXIMUM RATINGS

		LL42/LL43	UNITS
Peak reverse voltage	$V_{RRM}$	30	V
Forward continuous current	$I_F$	200 <sup>1)</sup>	m A
Surge forward current at $t_p=10$ ms	$I_{FSM}$	4.0 <sup>1)</sup>	A
Power dissipation	$P_{tot}$	200 <sup>1)</sup>	mW
Thermal resistance junction to ambient air	$R_{\theta JA}$	0.3 <sup>1)</sup>	/W
Junction temperature	$T_j$	125	
Storage temperature range	$T_{STG}$	-55 --- + 150	

<sup>1)</sup>Valid provided that electrodes are kept at ambient temperature.

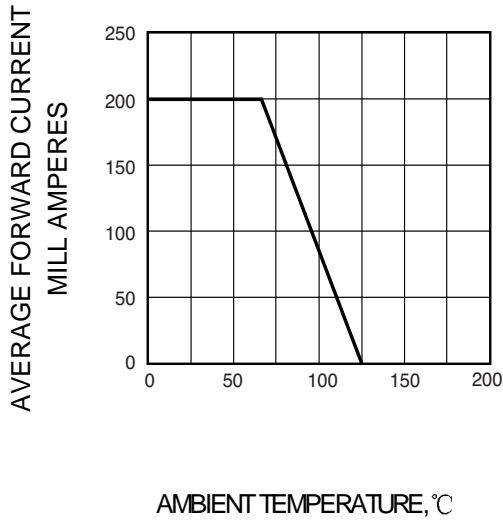
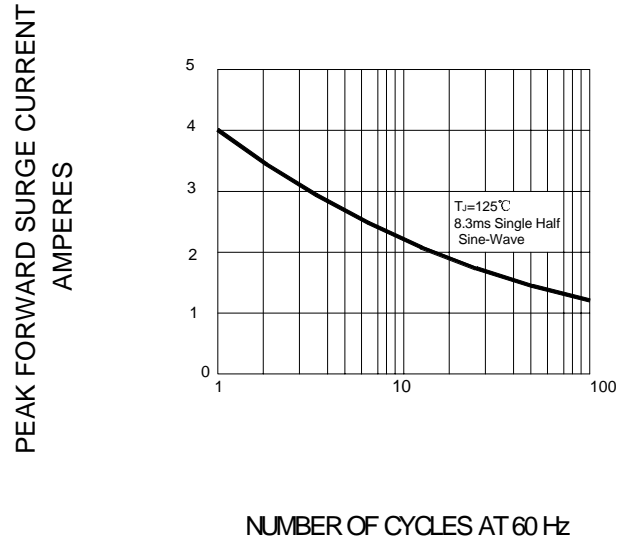
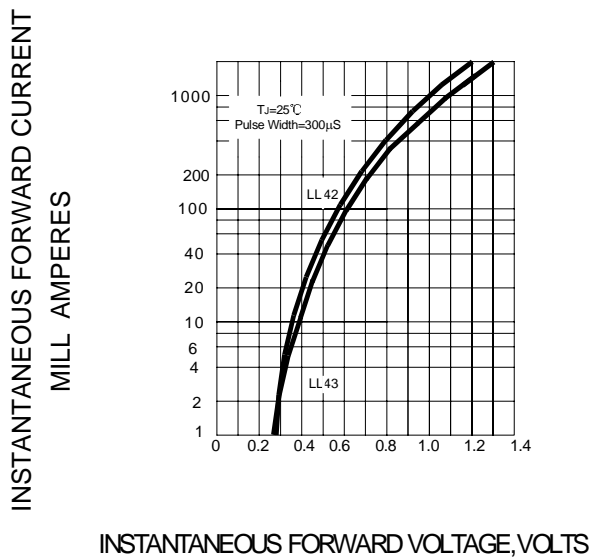
## ELECTRICAL CHARACTERISTICS

		MIN	TYP	MAX	UNITS
Reverse breakdown voltage at $I_R=100\mu\text{A}$	$V_{(BR)}$	30	-	-	V
Forward voltage pulse test $t_p=300\mu\text{s}, \delta < 2\%$ @ $I_F=200\text{mA}$ @ $I_F=10\text{mA}$ LL42 @ $I_F=50\text{mA}$ LL42 @ $I_F=2\text{mA}$ LL43 @ $I_F=15\text{mA}$ LL43	$V_F$	- - - - -	- - - - -	1.0 0.40 0.65 0.33 0.45	V
Leakage current pulse test $t_p < 300\mu\text{s}, \delta < 2\%$ @ $V_R=25\text{V}$ @ $V_R=25\text{V}, T_J=100$	$I_R$	- -	- -	0.5 100	$\mu\text{A}$
Junction capacitance at $V_R=1\text{V}$ $f=1\text{MHz}$	$C_J$	-	7.0	-	pF
Reverse recovery time	$t_{rr}$	-	-	5 <sup>2)</sup>	ns
Rectification efficiency	$\eta_V$	80 <sup>3)</sup>	-	-	%

<sup>2)</sup> $I_F=10\text{mA}, I_R=10\text{mA}, I_{rr}=1\text{mA}, R_L=100\Omega$

<sup>3)</sup> $R_L=15\text{K}\Omega, C_L=300\text{pF}, f=45\text{MHz}, V_{RF}=2\text{V}$

## Ratings AND Characteristic Curves

**FIG.1 –FORWARD DERATING CURVE**

**FIG.2 –PEAK FORWARD SURGE CURRENT**

**FIG.3–TYPICAL FORWARD CHARACTERISTIC**

**FIG.4–PEAK JUNCTION CAPACITANCE**
