



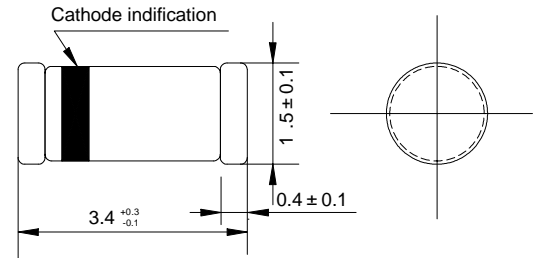
### MINI-MELF

## 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>	mA
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

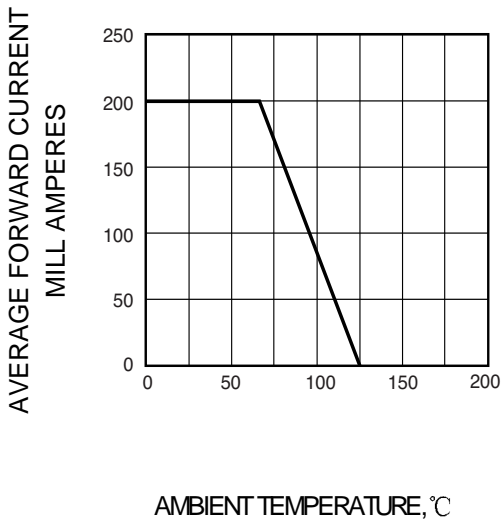
		MIN	TYP	MAX	UNITS
Reverse breakdown voltage at $I_R=100\mu A$	$V_{(BR)}$	30	-	-	V
Forward voltage pulse test $t_p=300\mu s, \delta < 2\%$ @ $I_F=200mA$ @ $I_F=10mA$ LL42 @ $I_F=50mA$ LL42 @ $I_F=2mA$ LL43 @ $I_F=15mA$ LL43	$V_F$	-	-	1.0 0.40 0.65 0.33 0.45	V
Leakage current pulse test $t_p < 300\mu s,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

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

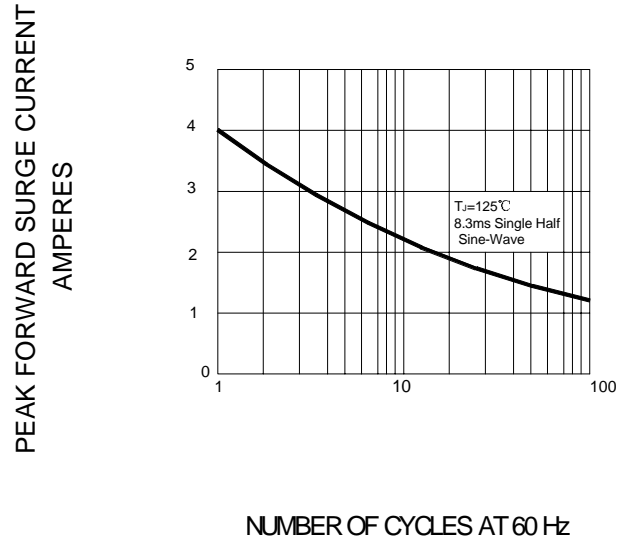
<sup>3)</sup> $R_L=15K\Omega, C_L=300pF, f=45MHz, V_{RF}=2V$

### Ratings AND Characteristic Curves

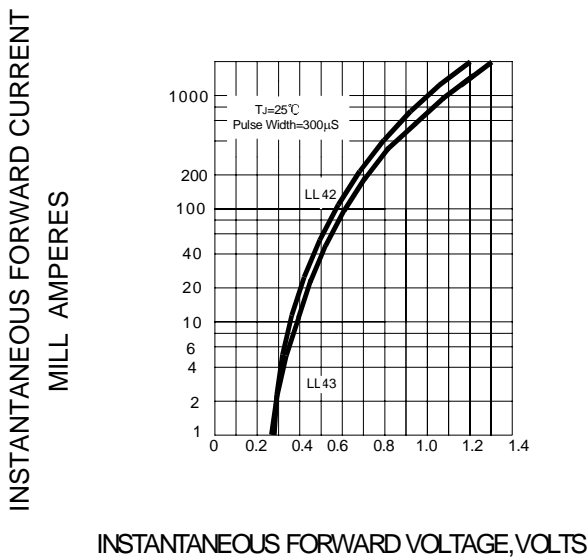
**FIG.1 –FORWARD DERATING CURVE**



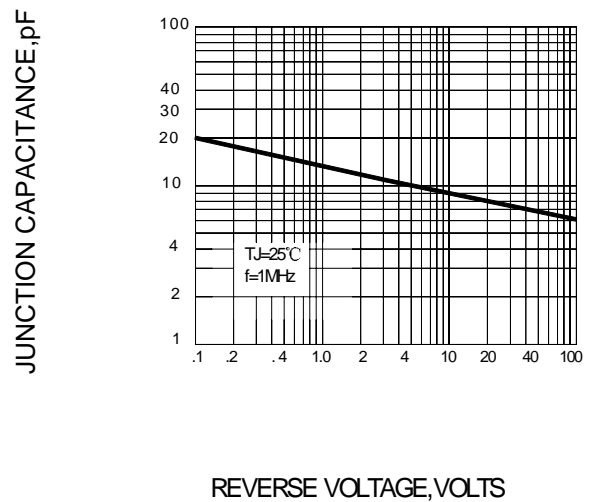
**FIG.2 –PEAK FORWARD SURGE CURRENT**



**FIG.3–TYPICAL FORWARD CHARACTERISTIC**



**FIG.4–PEAK JUNCTION CAPACITANCE**



Package	Reel	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)
minimelf	2500pcs	7inch	20000pcs	186×186×105	120,000pcs	443×215×305