SMALL SIGNAL SCHOTTKY DIODES | **VOLTAGE : 30 V**

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

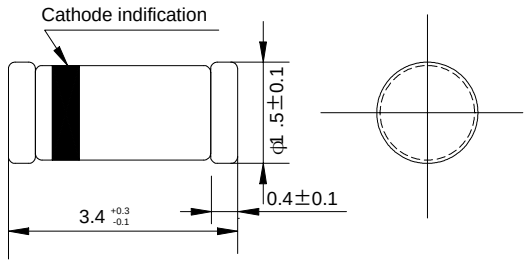
MECHANICAL DATA

◇ Case: MINI-MELF,glass case

◇ Polarity: Color band denotes cathode

◇ Weight: 0.031 grams

MINI-MELF



Dimensions in millimeters

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[1)]	m A
Surge forward current at t_p=10 ms	I_{FSM}	4.0[1)]	A
Power dissipation	P_{tot}	200[1)]	mW
Thermal resistance junction to ambient air	$R_{\theta JA}$	0.3[1)]	°C/W
Junction temperature	T_j	125	°C
Storage temperature range	T_{STG}	-55 --- + 150	°C

[1)]Valid provided that electrodes are kept at ambient temperature.

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ELECTRICAL CHARACTERISTICS

		MIN	TYP	MAX	UNITS
Reverse breakdown voltage at I_R=100μA	$V_{(BR)}$	30	-	-	V
Forward voltage pulse test tp=300μs,δ＜2%					
@I_F=200mA	V_F	-	-	1.0	V
@I_F=10mA LL42		-	-	0.40	
@I_F=50mA LL42		-	-	0.65	
@I_F=2mA LL43		-	-	0.33	
@I_F=15mA LL43		-	-	0.45	
Leakage current pulse test t_p＜300μs,δ＜2%					
@V_R=25V	I_R	-	-	0.5	μA
@V_R=25V,T_J=100°C		-	-	100	
Junction capacitance at V_R=1V f=1MH$_Z$	C_J	-	7.0	-	pF
Reverse recovery time	t_{rr}	-	-	5[2)]	ns
Rectification efficiency	ηv	80[3)]	-	-	%

[2)] I_F=10mA,I_R=10mA,I_{rr}=1mA,R_L=100Ω

[3)] R_L=15KΩ,C_L=300pF,f=45MHz,V_{RF}=2V

FIG.1 –FORWARD DERATING CURVE

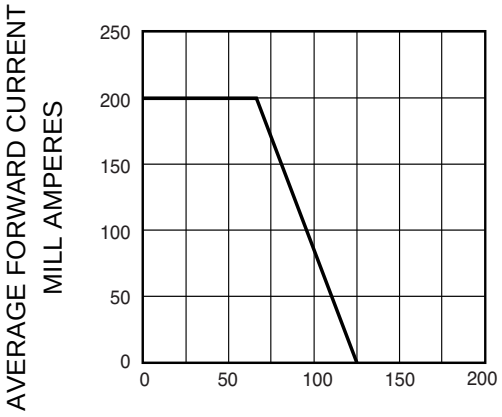

FIG.2 –PEAK FORWARD SURGE CURRENT

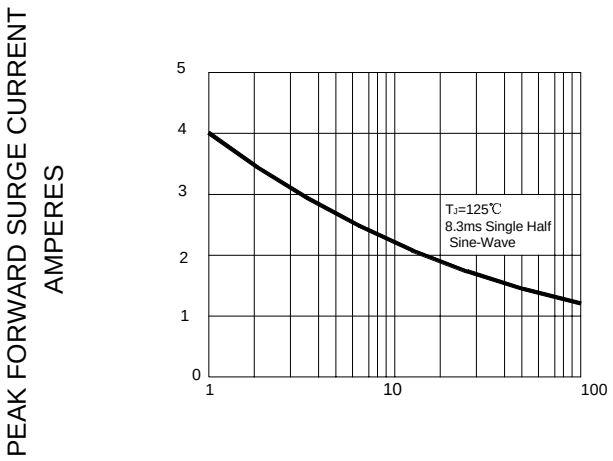

FIG.3–TYPICAL FORWARD CHARACTERISTIC

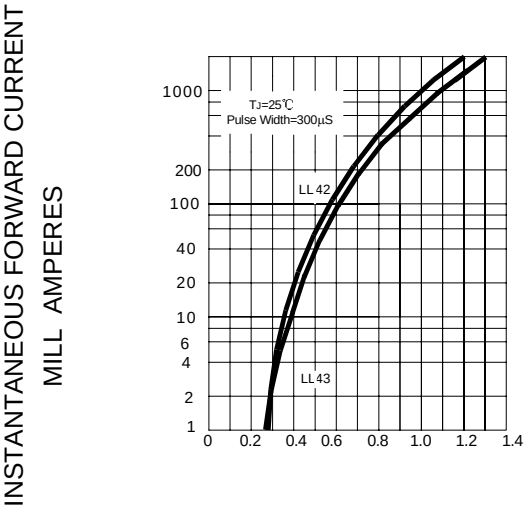

FIG.4–PEAK JUNCTION CAPACITANCE