

SMALL SIGNAL SCHOTTKY DIODES

VOLTAGE : 30 V

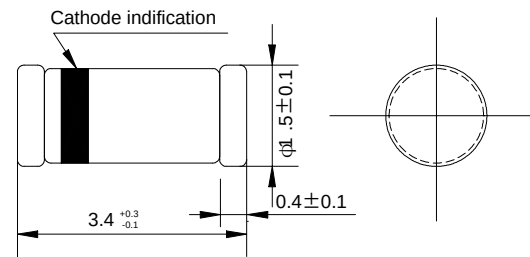
FEATURES

- ◇ 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.

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 $t_p < 300\mu s, \delta < 2\%$ @ $V_R=25V$ @ $V_R=25V, T_J=100^\circ C$	I_R	- -	- -	0.5 100	μA
Junction capacitance at $V_R=1V$ $f=1MHz$	C_J	-	7.0	-	pF
Reverse recovery time	t_{rr}	-	-	5 ²⁾	ns
Rectification efficiency	η_v	80 ³⁾	-	-	%

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

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

FIG.1 -FORWARD DERATING CURVE

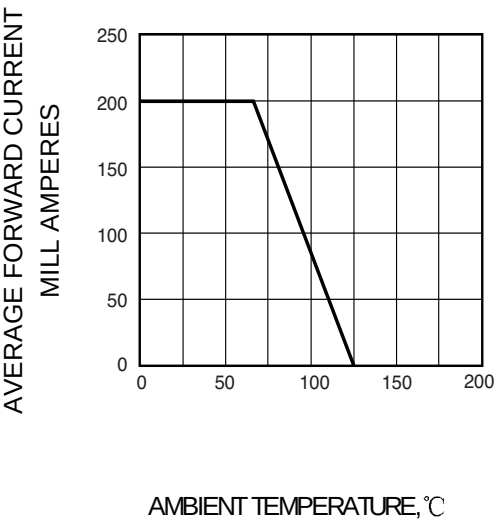


FIG.2 -PEAK FORWARD SURGE CURRENT

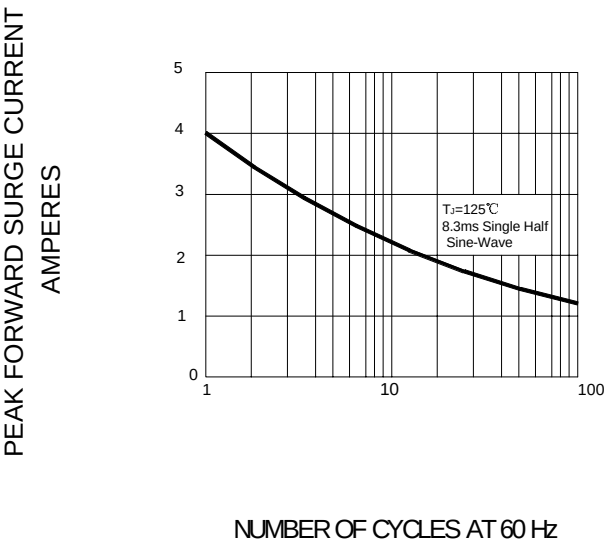


FIG.3-TYPICAL FORWARD CHARACTERISTIC

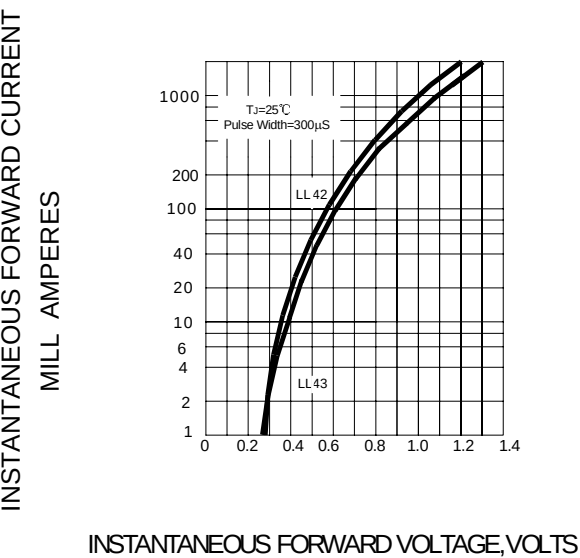


FIG.4-PEAK JUNCTION CAPACITANCE

