JF SEMICONDUCTOR

## 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.

· These diodes are also available in the Mini-MELF case with type designation LL42 to LL43 and in the DO-35 case with the type designation BAT42 to BAT43,in the Micro-MELF case with type designation MCL42 to MCL43
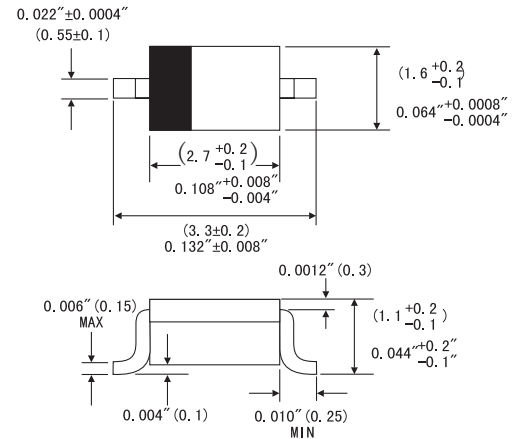
MECHANICAL DATA

· *Case*: SOD-123 plastic case

· *Weight*: Approx. 0.01 gram

SOD-123

0. 022″±0. 0004″
(0. 55±0. 1)

$(1. 6 \, {}^{+0.2}_{-0.1})$
0. 064″ ${}^{+0.0008}_{-0.0004}$

$(2. 7 \, {}^{+0.2}_{-0.1})$
0. 108″ ${}^{+0.008}_{-0.004}$″

(3. 3±0. 2)
0. 132″±0. 008″

0. 0012″ (0. 3)

0. 006″ (0. 15) MAX

$(1. 1 \, {}^{+0.2}_{-0.1})$
0. 044″ ${}^{+0.2}_{-0.1}$″

0. 004″ (0. 1)

0. 010″ (0. 25) MIN

Dimensions in inches and (millimeters)

ABSOLUTE RATINGS(LIMITING VALUES)

	Symbols	Value	Units
Repetitive Peak Reverse Voltage	V_{RRM}	30	V
Forward Continuous Current at T_A=25˚C	I_F	200 [1]	mA
Repetitive Peak Forward Current at t_P<1s, δ<0.5, T_A=25˚C	I_{FRM}	500 [1]	mA
Surge forward current at t_P<10mS , T_A=25˚C	I_{FSM}	4 [1]	A
Power Dissipation[1] at T_A=65˚C	P_{tot}	200 [1]	mW
Junction temperature	T_J	125	˚C
Ambient Operating temperature Range	T_A	-55 to+125	˚C
Storage Temperature Range	T_{STG}	-55 to+150	˚C
1) Valid provided that electrodes are kept at ambient temperature			

ELECTRICAL CHARACTERISTICS

	Symbols	Min.	Typ.	Max.	Unis
Reverse breakdown voltage Tested with 100µA Pulses	$V_{(BR)R}$	30			V
Forward voltage Pulse Test t_P<300µs,δ<2% at I_F=200mA,	V_F			1	V
at I_F=10mA, BAT42W	V_F			0.4	V
at I_F=50mA, BAT42W	V_F			0.65	V
at I_F=2mA , BAT43W	V_F	0.26		0.33	V
at I_F=15mA, BAT43W	V_F			0.45	V
Leakage current pulse test t_P<300µs ,δ<2% at V_R=25V,	I_R			0.5	µA
at V_R=50V, T_J=100˚C	I_R			100	µA
Junction Capacitance at V_R=25V ,f=1MHz	C_{tot}		7		pF
Reverse Recovery time Form I_F=10mA,through I_R=1mA R_L=100Ω	trr			5	ns
Detection efficiency at R_L=15KΩ C_L=300pF,f=45MHz, V_R=2V,	η	80			%
Thermal resistance junction to ambient	$R_{θJA}$			300 [1]	K/W
1) Valid provided that electrodes are kept at ambient temperature					