



SEMICONDUCTOR

BAT47

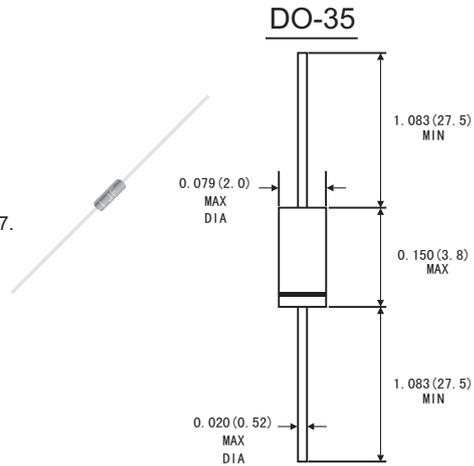
SMALL SIGNAL SCHOTTKY DIODES

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.
- This diode is also available in the MiniMELF case with the type designation LI47.
- High temperature soldering guaranteed: 260°C/10 seconds at terminals
- Component in accordance to RoHS 2011/65/EU

MECHANICAL DATA

- Case: DO-35 glass case
- Polarity: Color band denotes cathodes end
- Weight: Approx. 0.13 gram



Dimensions in inches and (millimeters)

ABSOLUTE RATINGS(LIMITING VALUES)

	Symbols	Value	Units
Repetitive Peak Reverse Voltage	V_{RRM}	20	V
Forward Continuous Current at $T_A=25^\circ\text{C}$	I_F	350 ¹⁾	mA
Repetitive Peak Forward Current at $t_p < 1\text{s}, \delta < 0.5$ $T_A=25^\circ\text{C}$	I_{FRM}	1 ¹⁾	A
Surge forward current at $t_p < 10\text{ms}$, $T_A=25^\circ\text{C}$	I_{FSM}	7.5 ¹⁾	A
Power Dissipation at $T_A=65^\circ\text{C}$	P_{tot}	330 ¹⁾	mW
Junction temperature	T_J	125	$^\circ\text{C}$
Ambient Operating temperature Range	T_A	-55 to+125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to+150	$^\circ\text{C}$

1) Valid provided that leads at a distance of 4mm from case are kept at ambient temperature

ELECTRICAL CHARACTERISTICS

	Symbols	Min.	Typ.	Max.	Unis
Reverse breakdown voltage Tested with 10 μA Pulses	$V_{(BR)R}$	20			V
Forward voltage Pulse Test $t_p < 300\mu\text{s}, \delta < 2\%$ at $I_F=0.1\text{mA}$, at $I_F=10\text{mA}$, at $I_F=300\text{mA}$	V_F V_F V_F			0.25 0.40 1.0	V V V
Leakage current pulse test $t_p < 300\mu\text{s}, \delta < 2\%$ at $V_R=10\text{V}$ at $V_R=10\text{V}, T_J=60^\circ\text{C}$ at $V_R=20\text{V}$ at $V_R=20\text{V}, T_J=60^\circ\text{C}$	I_R I_R I_R I_R			4 20 10 30	μA μA μA μA
Capacitance at $V_R=1\text{V}, f=1\text{MHz}$	C_J		12		pF
Thermal resistance junction to ambient Air	$R_{\theta JA}$			300 ¹⁾	$^\circ\text{C/W}$

1) Valid provided that leads at a distance of 4mm from case are kept at ambient temperature(DO-35)



SEMICONDUCTOR

BAT48

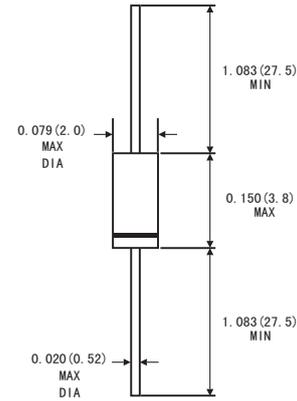
SMALL SIGNAL SCHOTTKY DIODES

FEATURES

- For general purpose applications
- This diode features very low turn-on voltage and fast switching.
- This device is protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges.
- This diode is also available in the MiniMELF case with the type designation LI48.
- High temperature soldering guaranteed: 260°C/10 seconds at terminals
- Component in accordance to RoHS 2011/65/EU



DO-35



Dimensions in inches and (millimeters)

MECHANICAL DATA

- Case: DO-35 glass case
- Polarity: color band denotes cathode end
- Weight: Approx. 0.13 gram

ABSOLUTE RATINGS(LIMITING VALUES)

	Symbols	Value	Units
Repetitive Peak Reverse Voltage	V_{RRM}	40	V
Forward Continuous Current at $T_A=25^\circ\text{C}$	I_F	350 ¹⁾	mA
Repetitive Peak Forward Current at $t_p < 1\text{s}$, $\delta < 0.5$ $T_A=25^\circ\text{C}$	I_{FRM}	1 ¹⁾	A
Surge forward current at $t_p < 10\text{ms}$, $T_A=25^\circ\text{C}$	I_{FSM}	7.5 ¹⁾	A
Power Dissipation at $T_A=65^\circ\text{C}$	P_{tot}	330 ¹⁾	mW
Junction temperature	T_J	125	$^\circ\text{C}$
Ambient Operating temperature Range	T_A	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$

1) Valid provided that leads at a distance of 4mm from case are kept at ambient temperature

ELECTRICAL CHARACTERISTICS

	Symbols	Min.	Typ.	Max.	Units
Reverse breakdown voltage Tested with 100 μA pulses	$V_{(BR)R}$	40			V
Forward voltage Pulse Test $t_p < 300\mu\text{s}$, $\delta < 2\%$ at $I_F=0.1\text{mA}$, at $I_F=10\text{mA}$, at $I_F=250\text{mA}$	V_F V_F V_F			0.25 0.40 0.90	V V V
Leakage current pulse test $t_p < 300\mu\text{s}$, $\delta < 2\%$ at $V_R=10\text{V}$ at $V_R=10\text{V}$, $T_J=60^\circ\text{C}$ at $V_R=20\text{V}$ at $V_R=20\text{V}$, $T_J=60^\circ\text{C}$ at $V_R=40\text{V}$ at $V_R=40\text{V}$, $T_J=60^\circ\text{C}$	I_R I_R I_R I_R I_R I_R			2 15 5 25 25 50	μA μA μA μA μA μA
Capacitance at $V_R=1\text{V}$, $f=1\text{MHz}$	C_J		12		pF
Thermal resistance junction to ambient Air	$R_{\theta JA}$			300 ¹⁾	$^\circ\text{C/W}$

1) Valid provided that leads at a distance of 4mm from case are kept at ambient temperature(DO-35)

RATINGS AND CHARACTERISTIC CURVES BAT47/BAT48

Figure 1. Forward current versus forward voltage at different temperatures(typical values)

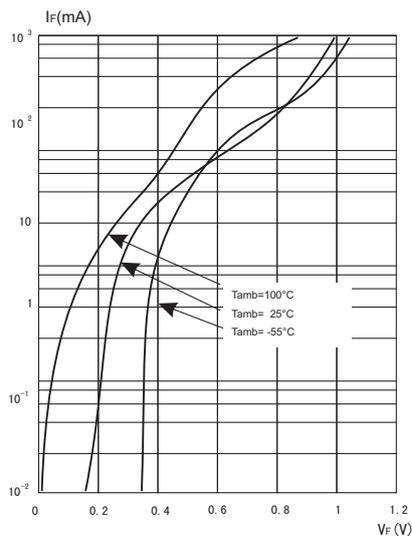


Figure 2. Forward current versus forward voltage (typical values)

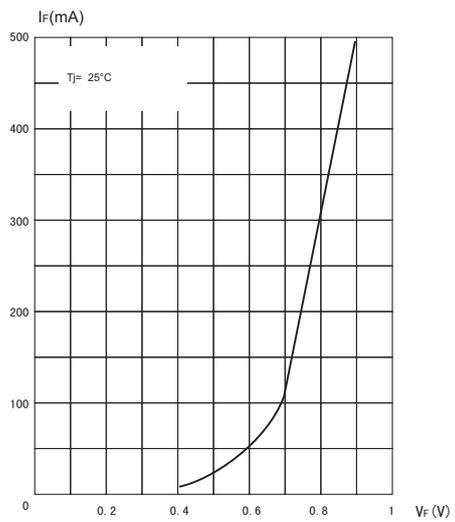
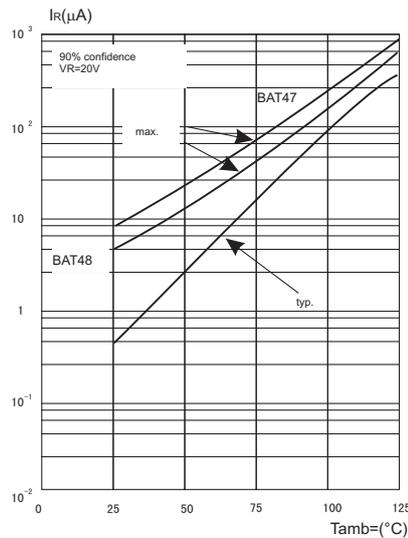


Figure 3. Reverse current versus ambient temperatures



RATINGS AND CHARACTERISTIC CURVES BAT47/ BAT48

Figure 4. Reverse current versus continuous Reverse voltage (typical values)

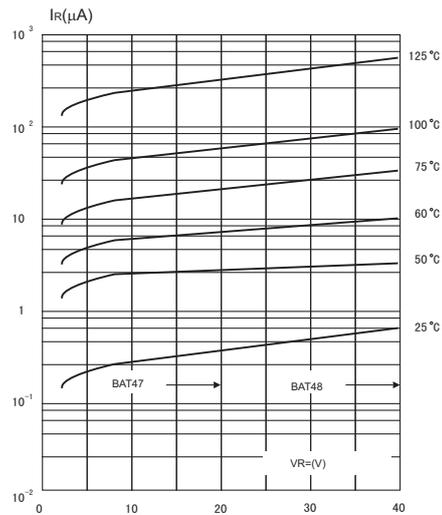


Figure 5. Capacitance C_J versus reverse applied voltage V_R (typical values)

