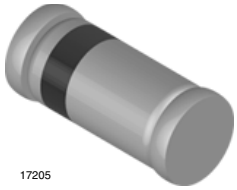
Small Signal Schottky Diodes

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-V to BAT43W-V.
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC

RoHS COMPLIANT



Mechanical Data

Case: MiniMELF SOD-80
Weight: approx. 31 mg
Cathode band color: black
Packaging codes/options:
GS18/10 k per 13" reel (8 mm tape), 10 k/box
GS08/2.5 k per 7" reel (8 mm tape), 12.5 k/box

Parts Table

Part	Ordering code	Type Marking	Remarks
LL42	LL42-GS18 or LL42-GS08	-	Tape and Reel
LL43	LL43-GS18 or LL43-GS08	-	Tape and Reel

Absolute Maximum Ratings

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Repetitive peak reverse voltage		V_{RRM}	30	V
Forward continuous current		I_F	200[1)]	mA
Repetitive peak forward current	t_p < 1 s, δ < 0.5	I_{FRM}	500[1)]	mA
Surge forward current	t_p = 10 ms	I_{FSM}	4[1)]	A
Power dissipation[1)]	T_{amb} = 65 °C	P_{tot}	200[1)]	mW

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

Thermal Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		R_{thJA}	300[1)]	K/W
Junction temperature		T_j	125	°C
Ambient operating temperature range		T_{amb}	- 55 to + 125	°C
Storage temperature range		T_{stg}	- 65 to + 150	°C

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

Electrical Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Part	Symbol	Min.	Typ.	Max.	Unit
Reverse breakdown voltage	I_R = 100 µA (pulsed)		$V_{(BR)}$	30			V
Leakage current[1)]	V_R = 25 V		I_R			0.5	µA
	V_R = 25 V, T_j = 100 °C		I_R			100	µA
Forward voltage[1)]	I_F = 200 mA		V_F			1000	mV
	I_F = 10 mA	LL42	V_F			400	mV
	I_F = 50 mA	LL42	V_F			650	mV
	I_F = 2 mA	LL43	V_F	260		330	mV
	I_F = 15 mA	LL43	V_F			450	mV
Diode capacitance	V_R = 1 V, f = 1 MHz		C_D		7		pF
Reverse recovery time	I_F = 10 mA, I_R = 10 mA, i_R = 1 mA, R_L = 100 Ω		t_{rr}			5	ns
Rectification efficieny	R_L = 15 kΩ, C_L = 300 pF, f = 45 MHz, V_{RF} = 2 V		η_v	80			%

[1)] Pulse test t_p < 300 µs, t_p/T < 0.02

Typical Characteristics

T_{amb} = 25 °C, unless otherwise specified

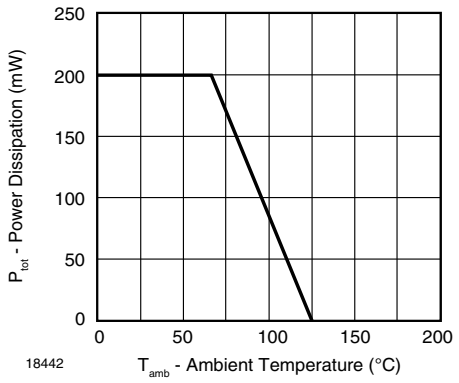


Figure 1. Admissible Power Dissipation vs. Ambient Temperature

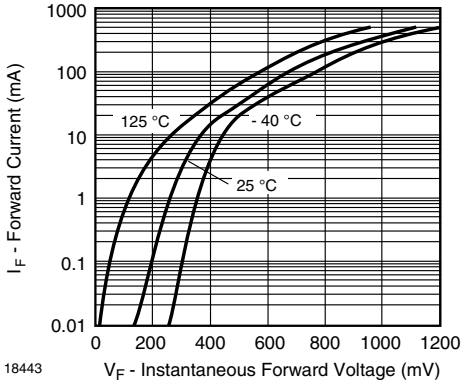


Figure 2. Typical Reverse Characteristics

For technical questions within your region, please contact one of the following:
DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com

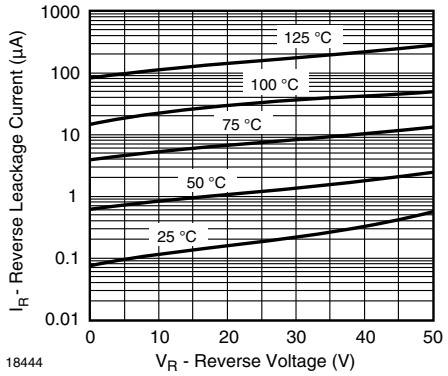


Figure 3. Typical Reverse Characteristics

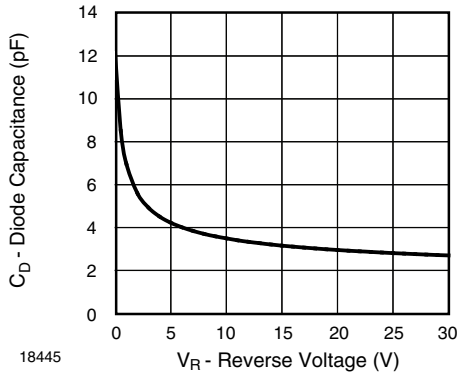
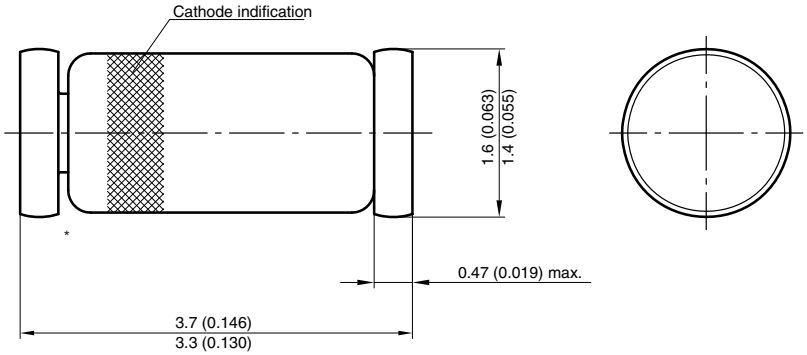


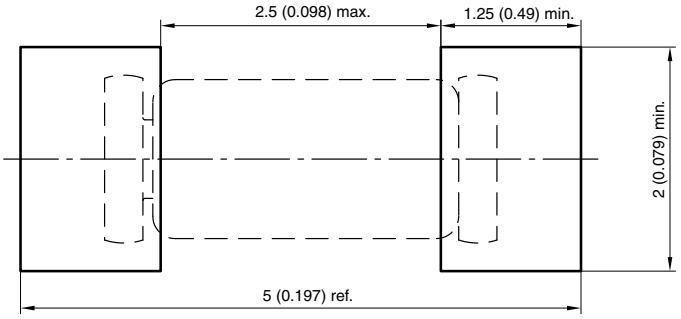
Figure 4. Typical Capacitance vs. Reverse Voltage

Package Dimensions in millimeters (inches): **MiniMELF SOD-80**



* The gap between plug and glass can be either on cathode or anode side

Foot print recommendation:



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