

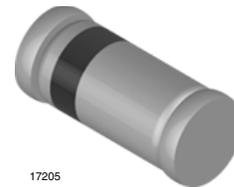
Small Signal Schottky Diodes

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



17205

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

$T_{amb} = 25\text{ }^{\circ}\text{C}$, 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	$t_p < 1\text{ s}, \delta < 0.5$	I_{FRM}	500 ¹⁾	mA
Surge forward current	$t_p = 10\text{ ms}$	I_{FSM}	4 ¹⁾	A
Power dissipation ¹⁾	$T_{amb} = 65\text{ }^{\circ}\text{C}$	P_{tot}	200 ¹⁾	mW

¹⁾ Valid provided that electrodes are kept at ambient temperature

Thermal Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, 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	$^{\circ}\text{C}$
Ambient operating temperature range		T_{amb}	- 55 to + 125	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 65 to + 150	$^{\circ}\text{C}$

¹⁾ Valid provided that electrodes are kept at ambient temperature

Electrical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

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

¹⁾ Pulse test $t_p < 300\text{ }\mu\text{s}$, $t_p/T < 0.02$

Typical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

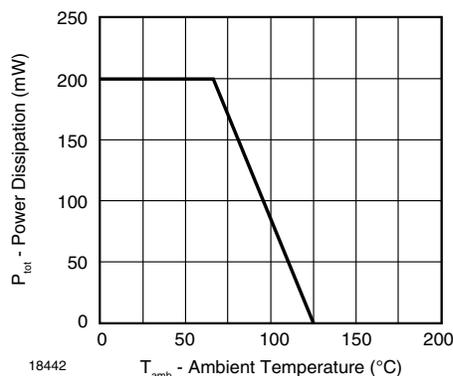


Figure 1. Admissible Power Dissipation vs. Ambient Temperature

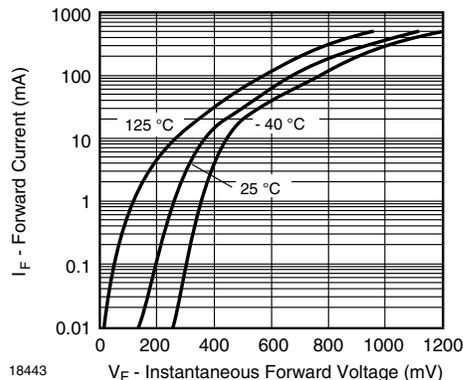


Figure 2. Typical Reverse Characteristics

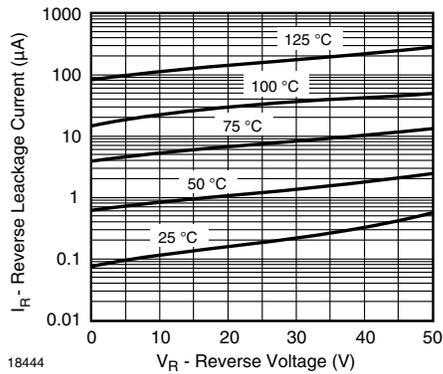


Figure 3. Typical Reverse Characteristics

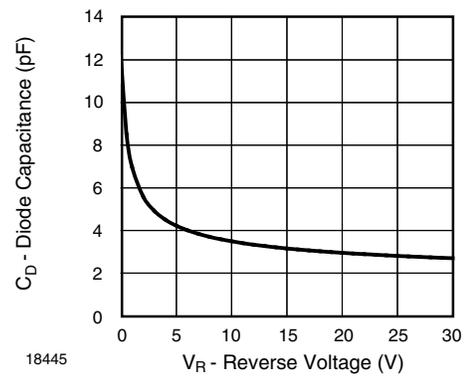
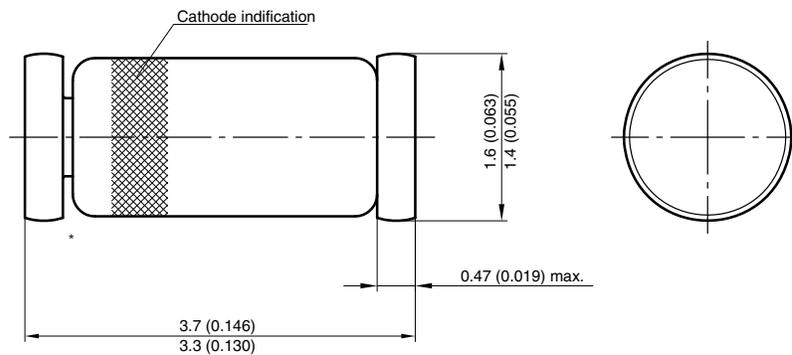


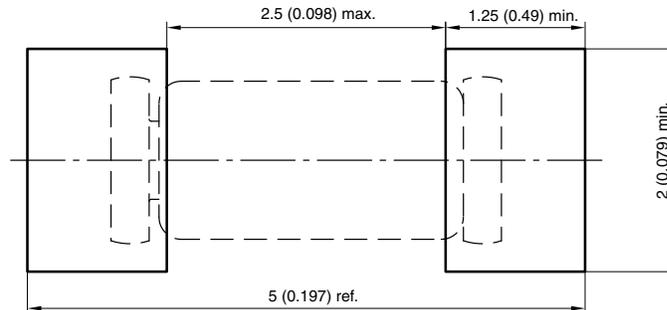
Figure 4. Typical Capacitance vs. Reverse Voltage

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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