

Small Signal Schottky Diode



LINKS TO ADDITIONAL RESOURCES



MECHANICAL DATA

Case: MiniMELF (SOD-80)

Weight: approx. 31 mg

Cathode band color: black

Packaging codes/options:

GS18/10K per 13" reel (8 mm tape), 10K/box

GS08/2.5K per 7" reel (8 mm tape), 12.5K/box

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 (DO-204AH) case with type designations BAT42 to BAT43 and in the SOD-123 case with type designations BAT42W-V to BAT43W-V
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT

PARTS TABLE

PART	ORDERING CODE	CIRCUIT CONFIGURATION	REMARKS
LL42	LL42-GS18 or LL42-GS08	Single	Tape and reel
LL43	LL43-GS18 or LL43-GS08	Single	Tape and reel

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25^\circ C$, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		V_{RRM}	30	V
Forward continuous current ⁽¹⁾		I_F	200	mA
Repetitive peak forward current ⁽¹⁾	$t_p < 1 \text{ s}, \delta < 0.5$	I_{FRM}	500	mA
Surge forward current ⁽¹⁾	$t_p = 10 \text{ ms}$	I_{FSM}	4	A
Power dissipation ⁽¹⁾	$T_{amb} = 65^\circ C$	P_{tot}	200	mW

Note

⁽¹⁾ Valid provided that electrodes are kept at ambient temperature

THERMAL CHARACTERISTICS ($T_{amb} = 25^\circ C$, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air ⁽¹⁾		R_{thJA}	300	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

Note

⁽¹⁾ Valid provided that electrodes are kept at ambient temperature

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25^\circ C$, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	$I_R = 100 \mu A$ (pulsed)		$V_{(BR)}$	30			V
Leakage current ⁽¹⁾	$V_R = 25 V$		I_R		0.5	μA	
	$V_R = 25 V, T_j = 100^\circ C$		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	$I_F = 10 mA, I_R = 10 mA, i_R = 1 mA, R_L = 100 \Omega$		t_{rr}		5		ns
Rectification efficiency	$R_L = 15 k\Omega, C_L = 300 pF, f = 45 MHz, V_{RF} = 2 V$		η_V	80			%

Note

⁽¹⁾ Pulse test $t_p < 300 \mu s, t_p/T < 0.02$

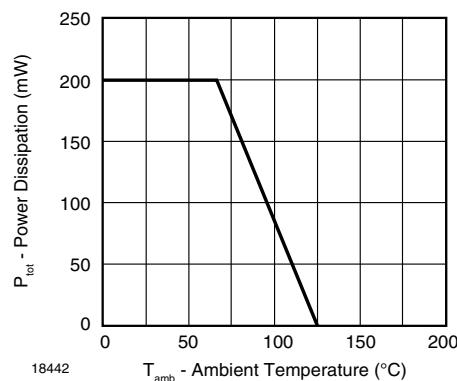
TYPICAL CHARACTERISTICS ($T_{amb} = 25^\circ C$, unless otherwise specified)


Fig. 1 - Admissible Power Dissipation vs. Ambient Temperature

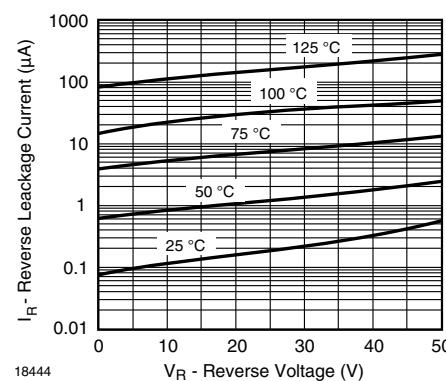
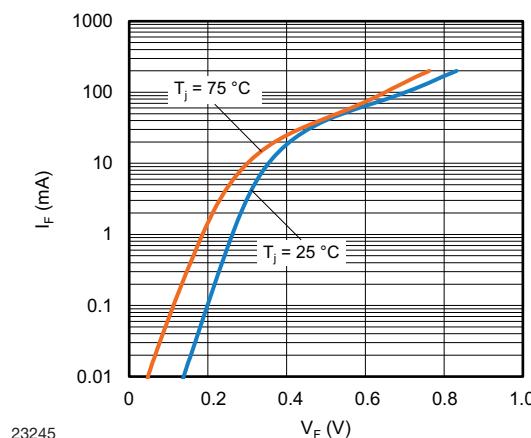
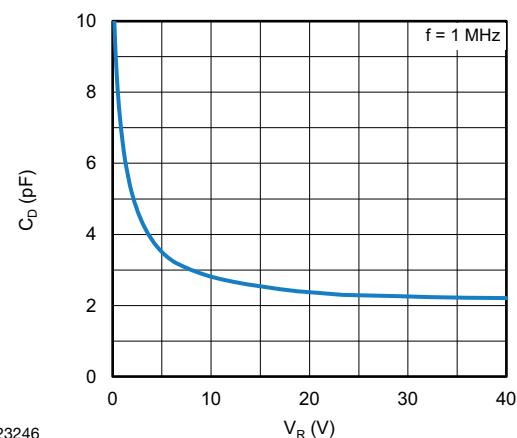


Fig. 3 - Typical Reverse Characteristics



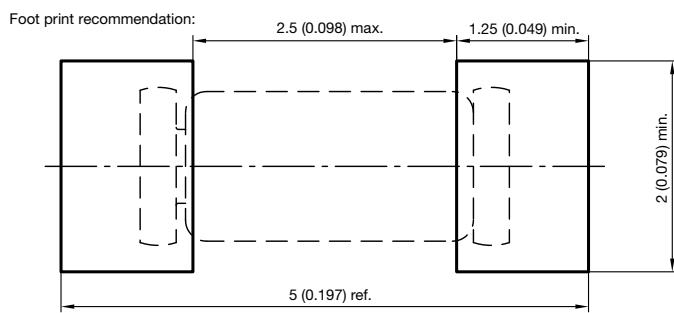
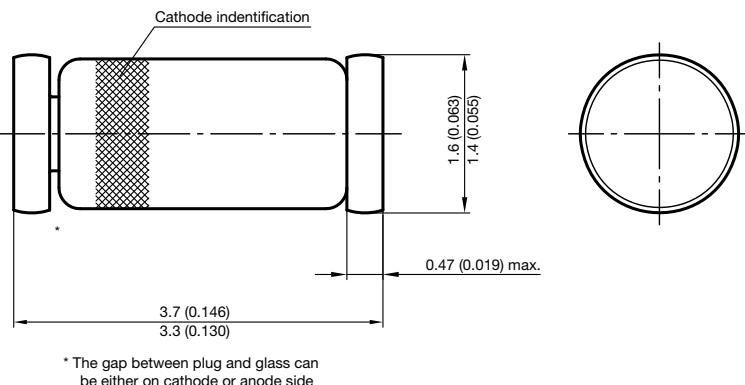
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Fig. 2 - Typical Forward Characteristics



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Fig. 4 - Typical Capacitance vs. Reverse Voltage

PACKAGE DIMENSIONS in millimeters (inches): **MiniMELF (SOD-80)**


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