

Vishay Semiconductors

Small Signal Schottky Diode



DESIGN SUPPORT TOOLS click logo to get started



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





 This diode features low turn-on voltage. The devices are protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges

RoHS

- Metal-on-silicon Schottky barrier device which is protected by a PN junction guard ring
- The low forward voltage drop and fast switching make it ideal for protection of MOS devices, steering, biasing and coupling diodes for fast switching and low logic level applications
- This diode is also available in a DO-35 case with type designation BAT86
- AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

APPLICATIONS

· Applications where a very low forward voltage is required

PARTS TABLE				
PART	ORDERING CODE	CIRCUIT CONFIGURATION	REMARKS	
BAS86	BAS86-GS18 or BAS86-GS08	Single	Tape and reel	

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Continuous reserve voltage		V_R	50	V
Forward continuous current (1)		I _F	200	mA
Repetitive peak forward current (1)	$t_p < 1 \text{ s, } \delta \leq 0.5$	I _{FRM}	500	mA
Power dissipation (1)		P _{tot}	200	mW

Note

⁽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 (1)		R _{thJA}	300	K/W	
Junction temperature		T _j	125	°C	
Ambient operating temperature range		T _{amb}	-65 to +125	°C	
Storage temperature range		T _{stq}	-65 to +150	°C	

Note

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



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ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reserve breakdown voltage	$I_R = 10 \mu A \text{ (pulsed)}$	V _(BR)	50			V
Leakage current	V _R = 40 V	I _R			5	μA
	Pulse test t_p < 300 μ s, I_F = 0.1 mÅ, δ < 2 %	V _F		200	300	mV
	Pulse test t_p < 300 μ s, I_F = 1 mA, δ < 2 %	V _F		275	380	mV
Forward voltage	Pulse test t_p < 300 μ s, I_F = 10 mA, δ < 2 %	V _F		365	450	mV
	Pulse test t_p < 300 μ s, I_F = 30 mA, δ < 2 %	V _F		460	600	mV
	Pulse test t_p < 300 μ s, I_F = 100 mA, δ < 2 %	V _F		700	900	mV
Diode capacitance	V _R = 1 V, f = 1 MHz	C _D			8	pF
Reserve recovery time	$I_F = 10 \text{ mA}, I_R = 10 \text{ mA},$ $I_R = 1 \text{ mA}$	t _{rr}			5	ns

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

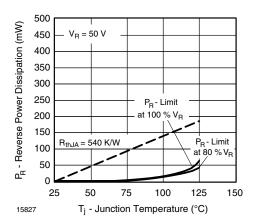


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

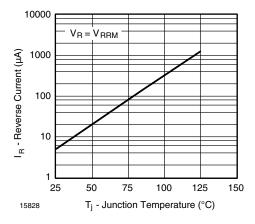


Fig. 2 - Reverse Current vs. Junction Temperature

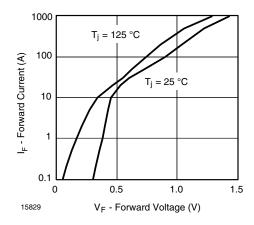


Fig. 3 - Forward Current vs. Forward Voltage

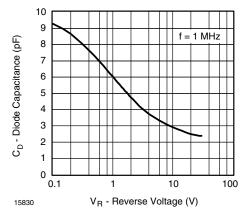
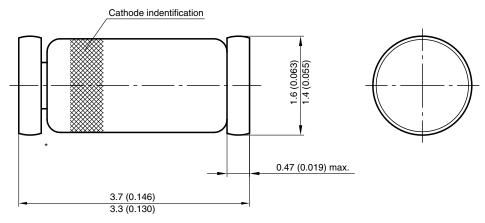


Fig. 4 - Diode Capacitance vs. Reverse Voltage

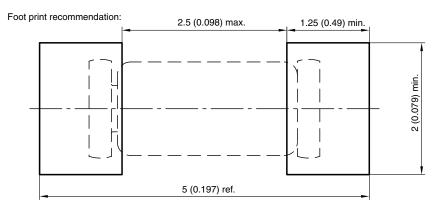


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PACKAGE DIMENSIONS in millimeters (inches): MiniMELF SOD-80



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



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