

# 0.2A Surface-mount Small-signal Schottky Diode

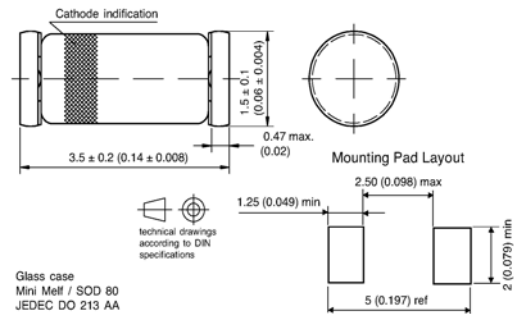
## PRODUCT SUMMARY

Voltage range 50 Volts  
 Popular small Mini-MELF package  
 Dissipation 200mW at  $T_A = 25^\circ\text{C}$

### SOD-80 (Mini-MELF)

## FEATURES

For general-purpose applications.  
 This diode features low turn-on voltage.  
 This Schottky barrier device is protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges  
 The low forward voltage drop and fast switching make it ideal for protecting MOS devices, or as steering, biasing and coupling diodes for fast switching and low logic level applications.  
 This diode is also available in the DO-35 case as a BAT86.



## MECHANICAL DATA

Case: MiniMELF glass case (SOD-80)  
 Weight: approx. 0.05g  
 Cathode band color: Green

Dimensions in inches and (millimeters)

 **Pb-free, RoHS compliant.**

## MAXIMUM RATINGS

Rating at  $25^\circ\text{C}$  ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Continuous reverse voltage	$V_R$	50	Volts
Forward continuous current at $T_{amb}=25^\circ\text{C}$	$I_F$	200 (Note 1)	mA
Repetitive peak forward current at $t_p < 1\text{s}$ , $d \leq 0.5$ , $T_{amb}=25^\circ\text{C}$	$I_{FRM}$	500 (Note 1)	mA
Power dissipation at $T_{amb}=25^\circ\text{C}$	$P_{tot}$	200 (Note 1)	mW
Thermal resistance junction to ambient air	$R_{\theta JA}$	300 (Note 1)	$^\circ\text{C/W}$
Junction temperature	$T_j$	125	$^\circ\text{C}$
Ambient operating temperature range	$T_{amb}$	-65 to +125	$^\circ\text{C}$
Storage temperature range	$T_s$	-65 to +150	$^\circ\text{C}$

Notes: 1. Valid as long as the electrodes are maintained at  $25^\circ\text{C}$ .

## ELECTRICAL CHARACTERISTICS

$T_j=25^{\circ}\text{C}$  unless otherwise noted.

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse breakdown voltage	$V_{(BR)R}$	$I_R=10\mu\text{A}$ (pulsed)	50	-	-	Volts
Leakage current	$I_R$	$V_R=25\text{V}$		0.2	0.5	$\mu\text{A}$
Forward voltage	$V_F$	Pulse Test $t_p<300\mu\text{s}$ , $d<2\%$				
		$I_F=0.1\text{mA}$	-	0.200	0.300	Volt
		$I_F=1\text{mA}$	-	0.275	0.380	
		$I_F=10\text{mA}$	-	0.365	0.450	
		$I_F=30\text{mA}$	-	0.460	0.600	
$I_F=100\text{mA}$	-	0.700	0.900			
Capacitance	$C_{tot}$	$V_R=1\text{V}$ , $f=1\text{MHz}$	-	-	8	pF
Reverse recovery time	$t_{rr}$	$I_F=10\text{mA}$ , $I_R=10\text{mA}$ , $I_R=1\text{mA}$	-	-	5	ns

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