

Surface-mount Small-signal Diode

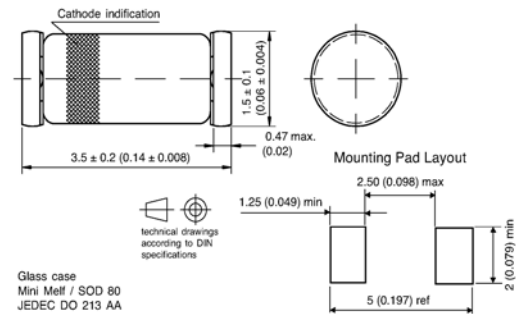
PRODUCT SUMMARY

Voltage range 75 Volts
 Popular small Mini-MELF package
 Dissipation 500mW at $T_A = 25^\circ\text{C}$

FEATURES

Silicon Epitaxial Planar Diode
 Fast switching diode in MiniMELF case especially suited for automatic insertion.
 This diode is also available in the DO-35 case as a 1N4148.

SOD-80 (Mini-MELF)



MECHANICAL DATA

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

Dimensions in inches and (millimeters)

 **Pb-free, RoHS compliant.**

MAXIMUM RATINGS

Rating at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Limit	Unit
Reverse voltage	V_R	75	Volts
Peak reverse voltage	V_{RM}	100	Volts
Forward DC current at $T_{amb}=25^\circ\text{C}$ ⁽¹⁾	I_F	200	mA
Average rectified current half wave rectification with resistive load at $T_{amb}=25^\circ\text{C}$ $f \geq 50$ Hz ⁽¹⁾	$I_{F(AV)}$	150	mA
Surge forward current at $t < 1$ s and $T_J=25^\circ\text{C}$	I_{FSM}	500	mA
Power dissipation at $T_{amb}=25^\circ\text{C}$ ⁽¹⁾	P_{tot}	500	mW
Thermal resistance junction to ambient air ⁽²⁾	$R_{\theta JA}$	350	$^\circ\text{C/W}$
Thermal resistance junction to tie-point	$R_{\theta tp}$	300	$^\circ\text{C/W}$
Junction temperature	T_J	175	$^\circ\text{C}$
Storage temperature range	T_S	-65 to +175	$^\circ\text{C}$

Notes: 1. Valid as long as the electrodes are maintained at 25°C .

ELECTRICAL CHARACTERISTICS

T_j=25°C unless otherwise noted.

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Forward voltage	V _F	I _F =10mA	-	-	1.0	Volt
Leakage current	I _R	V _R =20V	-	-	25	nA
		V _R =75V	-	-	5.0	uA
		V _R =20V, T _j =150°C	-	-	50	uA
Capacitance	C _{tot}	V _F =V _R =0V	-	-	4.0	pF
Voltage rise when switching ON (tested with 50mA forward pulses)	V _{rr}	tp=0.1us, Rise time<30ns fp=5 to 100kHz	-	-	2.5	Volts
Reverse recovery time	t _{rr}	I _F =10mA, I _R =1mA V _R =6V, R _L =100Ω	-	-	4.0	ns
Rectification efficiency (See third page)	η _v	f=100MHz, V _{RF} =2V	0.45	-	-	-

- Notes:**
1. Valid provided that electrodes are kept at ambient temperature
 2. Device mounted on FR4 printed-circuit board

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