

## RF PIN Diode - Single in MiniMELF SOD-80



### FEATURES

- Wide frequency range 10 MHz to 1 GHz
- AEC-Q101 qualified
- Material categorization:  
For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### APPLICATIONS

- Current controlled HF resistance in adjustable attenuators

### MECHANICAL DATA

**Case:** MiniMELF SOD-80

**Weight:** approx. 31 mg

**Cathode band color:** black

**Packaging codes/options:**

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

### PARTS TABLE

PART	TYPE DIFFERENTIATION	ORDERING CODE	INTERNAL CONSTRUCTION	REMARKS
S391D	$V_R = 30\text{ V}$	S391D-GS08	Single diode	Tape and reel

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

PART	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		$V_R$	30	V
Forward continuous current		$I_F$	50	mA

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air	on PC board 50 mm x 50 mm x 1.6 mm	$R_{thJA}$	500	K/W
Junction temperature		$T_j$	125	$^{\circ}\text{C}$
Storage temperature range		$T_{stg}$	- 55 to + 150	$^{\circ}\text{C}$

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

PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 20\text{ mA}$		$V_F$			1	V
Reverse current	$V_R = 30\text{ V}$		$I_R$			0.05	$\mu\text{A}$
Diode capacitance	$f = 100\text{ MHz}$ , $V_R = 0\text{ V}$		$C_D$			0.5	pF
Differential forward resistance	$f = 100\text{ MHz}$ , $I_F = 1.5\text{ mA}$		$r_f$	40		60	$\Omega$
Reverse impedance	$f = 100\text{ MHz}$ , $V_R = 0\text{ V}$	S391D	$z_r$	5			k $\Omega$
Minority carrier lifetime	$I_F = 10\text{ mA}$ , $I_R = 10\text{ mA}$		$\tau$		4		$\mu\text{s}$

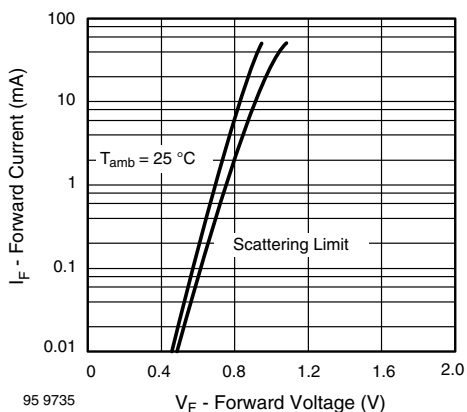
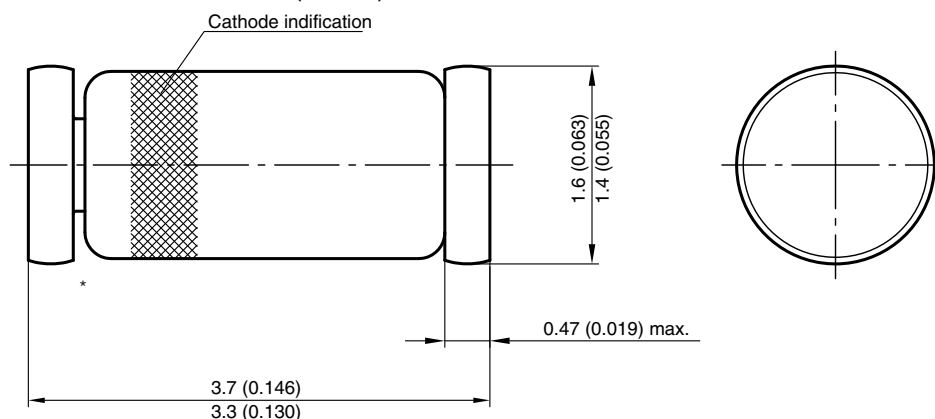
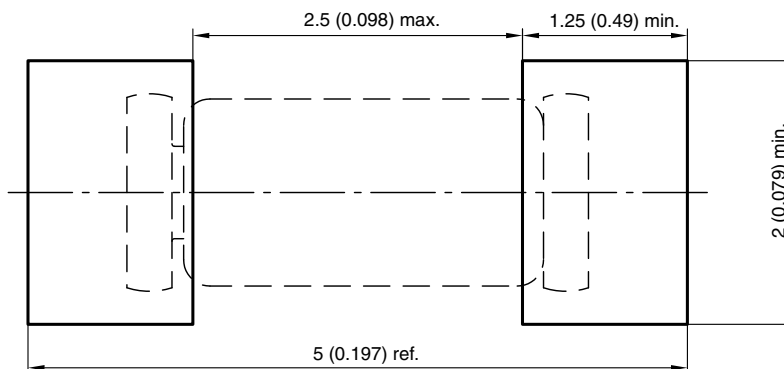
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


Fig. 1 - Forward Current vs. Forward 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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