

# SD101A-SD101C

Small Signal Switching Diodes



**VOLTAGE RANGE: 60 - 40 V**

**POWER DISSIPATION: 400 mW**

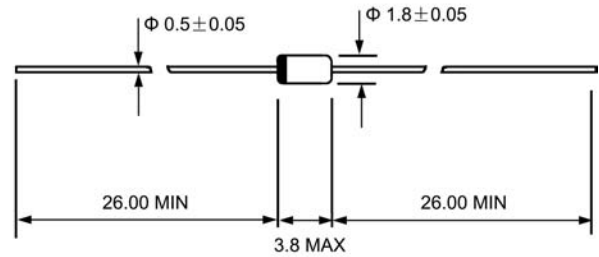
## Features

- For general purpose applications
- The low forward voltage drop and fast switching making it ideal for protection of MOS devices, steering, biasing and coupling diodes for fast switching and low logic level applications.
- Integrated protection ring against static discharge
- Low leakage current

## Mechanical Data

- Case: DO-35, glass case
- Polarity: Color band denotes cathode
- Weight: Approx 0.13 grams

### DO-35(GLASS)



Dimensions in millimeters

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.

## ABSOLUTE MAXIMUM RATINGS AND THERMAL RESISTANCE

		SD101A	SD101B	SD101C	Unit
Reverse voltage	$V_R$	60	50	40	V
Repetitive peak reverse voltage	$V_{RRM}$	60	50	40	V
Forward current	$I_{(AV)}$	30			m A
Maximum single cycle surge 10 $\mu$ s square wave	$I_{FSM}$	2.0			A
Power dissipation	$P_{tot}$	400			mW
Thermal resistance junction to ambient	$R_{\theta JA}$	320 <sup>1)</sup>			K/W
Junction temperature	$T_j$	125			
Storage temperature range	$T_{STG}$	- 55 --- + 150			

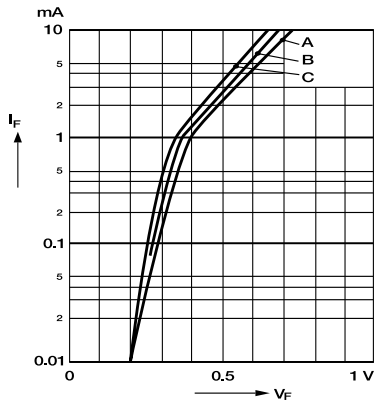
<sup>1)</sup> Device mounted on PC board 50mm×50mm×1.6mm .

## ELECTRICAL CHARACTERISTICS

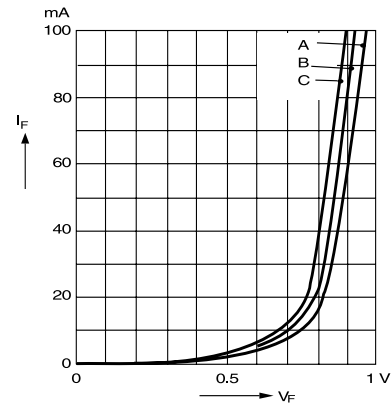
Parameter	Test Conditions		Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F=1\text{mA}$	SD101A	$V_F$	-	-	0.41	V
	$I_F=1\text{mA}$	SD101B		-	-	0.40	
	$I_F=1\text{mA}$	SD101C		-	-	0.39	
	$I_F=15\text{mA}$	SD101A		-	-	1.00	
	$I_F=15\text{mA}$	SD101B		-	-	0.95	
	$I_F=15\text{mA}$	SD101C		-	-	0.90	
Reverse current	$V_R=50\text{V}$	SD101A	$I_R$	-	-	200	n A
	$V_R=40\text{V}$	SD101B		-	-	200	
	$V_R=30\text{V}$	SD101C		-	-	200	
Breakdown voltage	$I_R=10\mu\text{A}$	SD101A	$V_{(BR)}$	60	-	-	V
		SD101B		50	-	-	
		SD101C		40	-	-	
Diode capacitance	$V_R=0, f=1\text{MHz}$	SD101A	$C_D$	-	-	2.0	pF
		SD101B		-	-	2.1	
		SD101C		-	-	2.2	
Reverse recovery time	$I_F=I_R=5\text{mA}, \text{recover to } 0.1i_R$		$t_{rr}$	-	-	1.0	ns

## Ratings AND Characteristic Curves

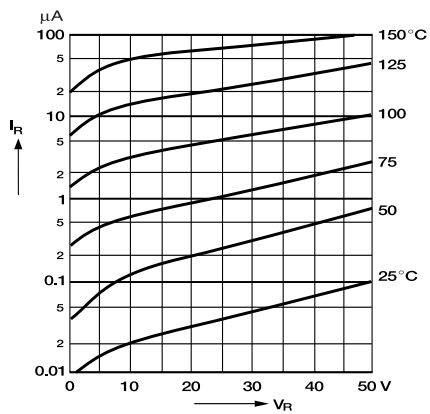
**FIG.1 – TYP.  $I_F$  VS  $V_F$  FOR PRIMARY CONDUCTION THROUGH THE SCHOTTKY BARRIERS**



**FIG.2 – TYP.  $I_F$  OF COMBINATION SCHOTTKY BARRIER AND PN JUNCTION GUARD RING**



**FIG.3 – TYPICAL VARIATION OF REVERSE CURRENT AT VARIOUS TEMPERATURES**



**FIG.4 – TYPICAL CAPACITANCE CURVE AS A FUNCTION OF REVERSE VOLTAGE**

