

## Small Signal Schottky Diodes



### FEATURES

- Integrated protection ring against static discharge
- Low capacitance
- Low leakage current
- Low forward voltage drop
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**

### LINKS TO ADDITIONAL RESOURCES



### MECHANICAL DATA

**Case:** DO-35 (DO-204AH)

**Weight:** approx. 125 mg

**Cathode band color:** black

**Packaging codes/options:**

TR/10K per 13" reel (52 mm tape), 50K/box

TAP/10K per ammpack (52 mm tape), 50K/box

### APPLICATIONS

- HF-detector
- Protection circuit
- Diode for low currents with a low supply voltage
- Small battery charger
- Power supplies
- DC/DC converter for notebooks

### PARTS TABLE

PART	TYPE DIFFERENTIATION	ORDERING CODE	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
SD101A	$V_R = 60\text{ V}$ , $V_F$ max. 410 mV at $I_F = 1\text{ mA}$	SD101A-TR or SD101A-TAP	Single	SD101A	Tape and reel/ ammpack
SD101B	$V_R = 50\text{ V}$ , $V_F$ max. 400 mV at $I_F = 1\text{ mA}$	SD101B-TR or SD101B-TAP	Single	SD101B	Tape and reel/ ammpack
SD101C	$V_R = 40\text{ V}$ , $V_F$ max. 390 mV at $I_F = 1\text{ mA}$	SD101C-TR or SD101C-TAP	Single	SD101C	Tape and reel/ ammpack

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

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Reverse voltage		SD101A	$V_R$	60	V
		SD101B	$V_R$	50	V
		SD101C	$V_R$	40	V
Forward continuous current			$I_F$	30	mA
Peak forward surge current	$t_p = 10\text{ }\mu\text{s}$		$I_{FSM}$	2	A
Repetitive peak forward current			$I_{FRM}$	150	mA
Power dissipation <sup>(1)</sup>			$P_{tot}$	310	mW

#### Note

<sup>(1)</sup> Valid provided that electrodes are kept at ambient temperature

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Junction temperature		$T_j$	125	$^{\circ}\text{C}$
Storage temperature range		$T_{stg}$	-65 to +150	$^{\circ}\text{C}$
Thermal resistance junction to ambient air <sup>(1)</sup>		$R_{thJA}$	320	K/W

#### Note

<sup>(1)</sup> Valid provided that electrodes are kept at ambient temperature

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	$I_R = 10\text{ }\mu\text{A}$	SD101A	$V_{(BR)}$	60			V
		SD101B	$V_{(BR)}$	50			V
		SD101C	$V_{(BR)}$	40			V
Leakage current	$V_R = 50\text{ V}$	SD101A	$I_R$			200	nA
	$V_R = 40\text{ V}$	SD101B	$I_R$			200	nA
	$V_R = 30\text{ V}$	SD101C	$I_R$			200	nA
Forward voltage drop	$I_F = 1\text{ mA}$	SD101A	$V_F$			410	mV
		SD101B	$V_F$			400	mV
		SD101C	$V_F$			390	mV
	$I_F = 15\text{ mA}$	SD101A	$V_F$			1000	mV
		SD101B	$V_F$			950	mV
		SD101C	$V_F$			900	mV
Diode capacitance	$V_R = 0\text{ V}, f = 1\text{ MHz}$	SD101A	$C_D$			2.0	pF
		SD101B	$C_D$			2.1	pF
		SD101C	$C_D$			2.2	pF

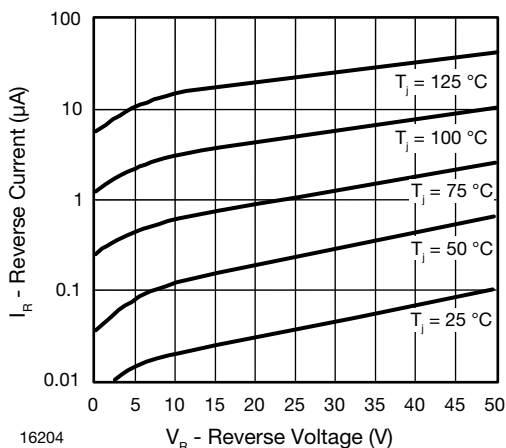
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


Fig. 1 - Reverse Current vs. Reverse Voltage

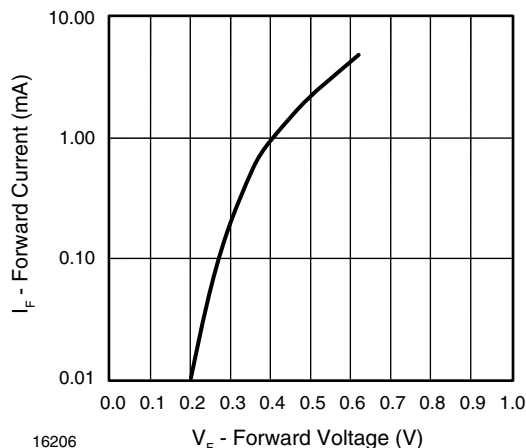


Fig. 3 - Forward Current vs. Forward Voltage

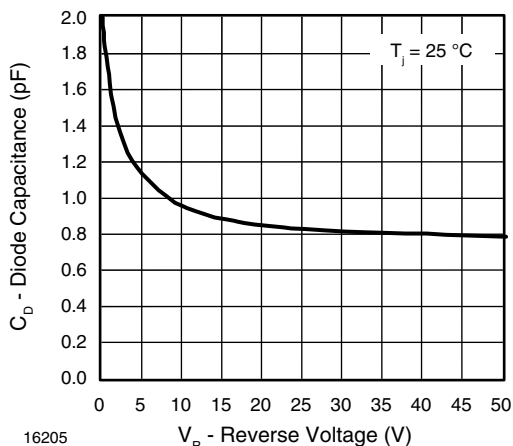
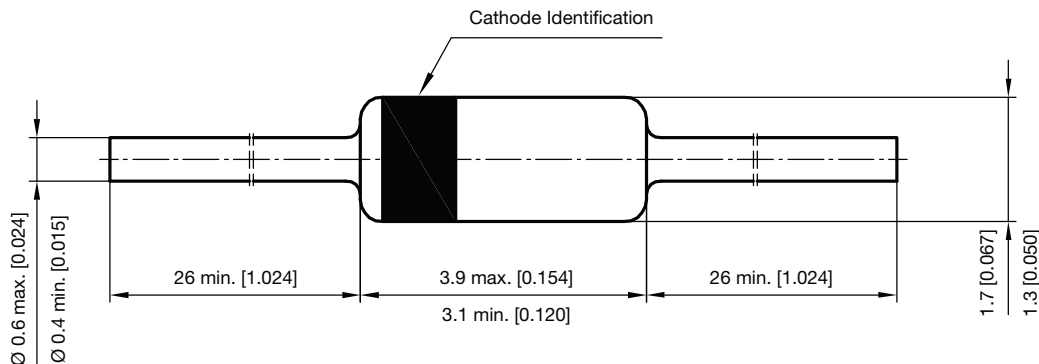


Fig. 2 - Diode Capacitance vs. Reverse Voltage



**PACKAGE DIMENSIONS** in millimeters (inches): **DO-35 (DO-204AH)**



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