

Small Signal Schottky Diodes



FEATURES

- Integrated protection ring against static discharge
- Low capacitance
- Low leakage current
- Low forward voltage drop
- AEC-Q101 qualified
- Material categorization:
For definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE

MECHANICAL DATA

Case: DO-35

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	INTERNAL CONSTRUCTION	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 diode	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 diode	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 diode	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 ⁽¹⁾			P_{tot}	310	mW

Note

⁽¹⁾ 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 ⁽¹⁾		R_{thJA}	320	K/W

Note

⁽¹⁾ Valid provided that electrodes are kept at ambient temperature.



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

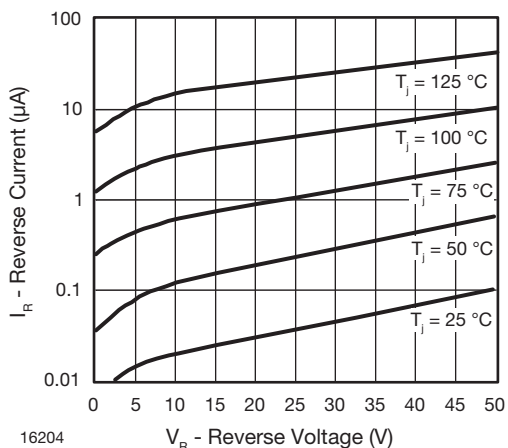


Fig. 1 - Reverse Current vs. Reverse Voltage

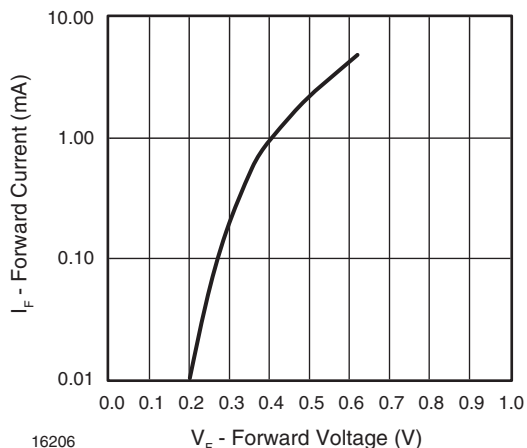


Fig. 3 - Forward Current vs. Forward Voltage

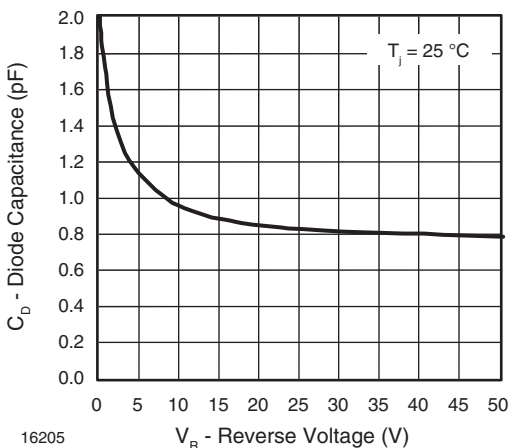
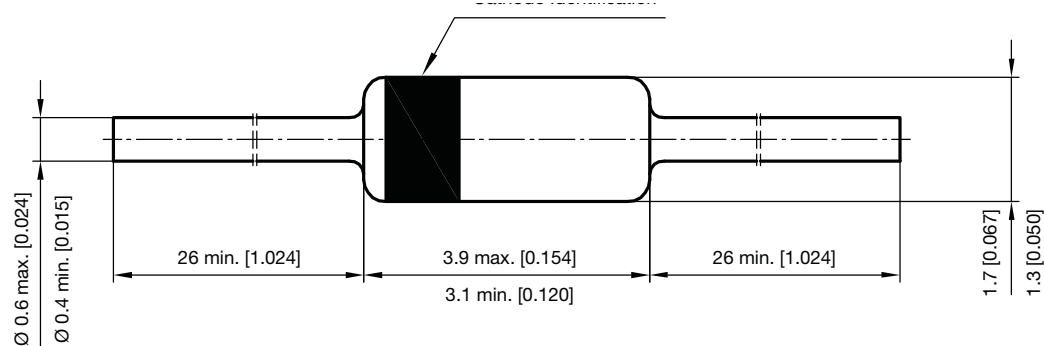


Fig. 2 - Diode Capacitance vs. Reverse Voltage



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



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