

Small Signal Schottky Diodes

Features

- Integrated protection ring against static discharge
- Low capacitance
- Low leakage current
- Low forward voltage drop
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



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Applications

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

Mechanical Data

Case: DO35 Glass case

Weight: approx. 125 mg

Cathode Band Color: black

Packaging Codes/Options:

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

TAP/10 k per Ammopack (52 mm tape), 50 k/box

Parts Table

Part	Type differentiation	Ordering code	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	SD101A	Tape and Reel/Ammopack
SD101B	$V_R = 50\text{ V}$, V_F max. 400 mV at $I_F = 1\text{ mA}$	SD101B-TR or SD101B-TAP	SD101B	Tape and Reel/Ammopack
SD101C	$V_R = 40\text{ V}$, V_F max. 390 mV at $I_F = 1\text{ mA}$	SD101C-TR or SD101C-TAP	SD101C	Tape and Reel/Ammopack

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			P_{tot}	$310^{1)}$	mW

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		R_{thJA}	$320^{1)}$	K/W

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
	$V_R = 0\text{ V}, f = 1\text{ MHz}$	SD101C	C_D			2.2	pF

Typical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

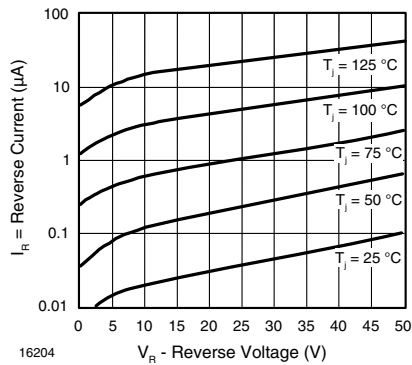


Figure 1. Reverse Current vs. Reverse Voltage

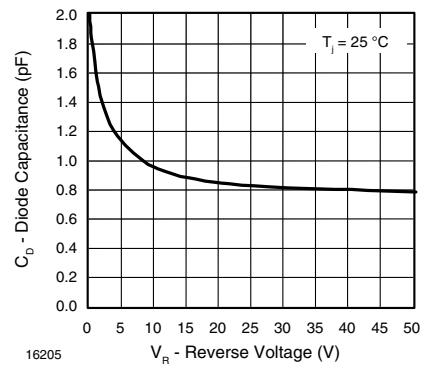


Figure 2. Diode Capacitance vs. Reverse Voltage

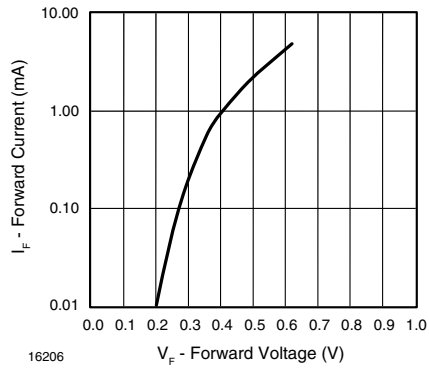


Figure 3. Forward Current vs. Forward Voltage

Package Dimensions in millimeters (inches): DO35

