

Vishay Semiconductors

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

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 ammopack (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 DIFFERENTATION	ORDERING CODE	INTERNAL CONSTRUCTION	TYPE MARKING	REMARKS		
SD101A	$V_R = 60 \text{ V}, V_F \text{ max. } 410 \text{ mV}$ at $I_F = 1 \text{ mA}$	SD101A-TR or SD101A-TAP	Single diode	SD101A	Tape and reel/ ammopack		
SD101B	$V_R = 50 \text{ V}, V_F \text{ max. } 400 \text{ mV}$ at $I_F = 1 \text{ mA}$	SD101B-TR or SD101B-TAP	Single diode	SD101B	Tape and reel/ ammopack		
SD101C	$V_R = 40 \text{ V}, V_F \text{ max. } 390 \text{ mV}$ at $I_F = 1 \text{ mA}$	SD101C-TR or SD101C-TAP	Single diode	SD101C	Tape and reel/ ammopack		

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT		
		SD101A	V _R	60	V		
Reverse voltage		SD101B	V_{R}	50	V		
		SD101C	V _R	40	V		
Forward continuous current			I _F	30	mA		
Peak forward surge current	t _p = 10 μs		I _{FSM}	2	Α		
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 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT			
Junction temperature		Tj	125	°C			
Storage temperature range		T _{stg}	- 65 to + 150	°C			
Thermal resistance junction to ambient air (1)		R _{thJA}	320	K/W			

Note

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

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ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)								
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT	
	I _R = 10 μA	SD101A	V _(BR)	60			V	
Reverse breakdown voltage		SD101B	V _(BR)	50			V	
		SD101C	V _(BR)	40			V	
	V _R = 50 V	SD101A	I _R			200	nA	
Leakage current	V _R = 40 V	SD101B	I _R			200	nA	
	V _R = 30 V	SD101C	I _R			200	nA	
	I _F = 1 mA	SD101A	V _F			410	mV	
		SD101B	V_{F}			400	mV	
Forward voltage drop		SD101C	V _F			390	mV	
Forward voltage drop		SD101A	V _F			1000	mV	
	I _F = 15 mA	SD101B	V_{F}			950	mV	
		SD101C	V _F			900	mV	
	ve V _R = 0 V, f = 1 MHz	SD101A	C _D			2.0	pF	
Diode capacitance		SD101B	C _D			2.1	pF	
		SD101C	C _D			2.2	pF	

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

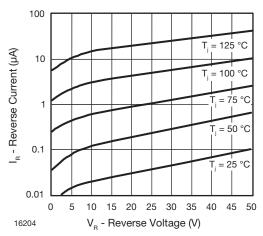


Fig. 1 - Reverse Current vs. Reverse Voltage

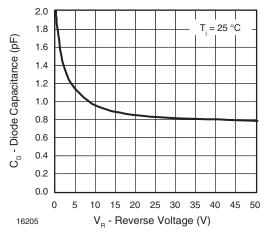


Fig. 2 - Diode Capacitance vs. Reverse Voltage

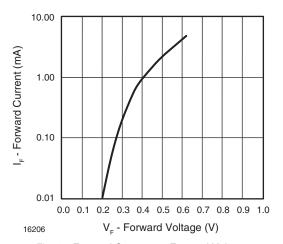
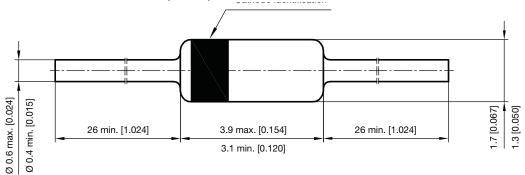


Fig. 3 - Forward Current vs. Forward Voltage

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PACKAGE DIMENSIONS in millimeters (inches): DO-35



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