

Vishay Semiconductors

Small Signal Schottky Diodes



LINKS TO ADDITIONAL RESOURCES







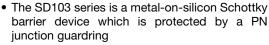


MECHANICAL DATA

Case: DO-35 (DO-204AH)
Weight: approx. 125 mg
Cathode band color: black
Packaging codes/options:

TR/10K per 14" reel (52 mm tape), 50K/box TAP/10K per ammopack (52 mm tape), 50K/box

FEATURES





 The low forward voltage drop and fast switching make it ideal for protection of MOS devices, steering, biasing and coupling diodes for fast switching and low logic level applications

ROHS COMPLIANT HALOGEN FREE

- Other applications are click suppression, efficient full wave bridges in telephone subsets, and blocking diodes in rechargeable low voltage battery systems
- These diodes are also available in the SOD-123 and SOD-323 case with type designations SD103AW(S) to SD103CW(S), and in the MiniMELF case with type designations LL103A thru LL103C
- For general purpose application
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

APPLICATIONS

- HF-detector
- Protection circuit
- Small battery charger
- AC/DC, DC/DC converters

PARTS TABLE							
PART	TYPE DIFFERENTIATION	ORDERING CODE	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS		
SD103A	V _R = 40 V	SD103A-TR or SD103A-TAP	Single	SD103A	Tape and reel/ammopack		
SD103B	$V_{R} = 30 \text{ V}$	SD103B-TR or SD103B-TAP	Single	SD103B	Tape and reel/ammopack		
SD103C	$V_R = 20 \text{ V}$	SD103C-TR or SD103C-TAP	Single	SD103C	Tape and reel/ammopack		

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT		
		SD103A	V _R	40	V		
Peak inverse voltage		SD103B	V _R	30	V		
		SD103C	V_{R}	20	V		
Power dissipation (infinite heat sink) (1)			P _{tot}	400	mW		
Forward continuous current			I _{FAV}	200	mA		
Peak forward surge current	t _p = 300 μs square pulse		I _{FSM}	15	Α		

Note

⁽¹⁾ Valid provided that leads at a distance of 4 mm from case are kept at ambient temperature

THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT			
Thermal resistance junction to ambient air (1)		R _{thJA}	310	K/W			
Junction temperature		Tj	125	°C			
Storage temperature range		T _{stg}	-55 to +150	°C			

Note

⁽¹⁾ Valid provided that leads at a distance of 4 mm from case 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
	Ι _R = 50 μΑ	SD103A	V _(BR)	40			V
Reverse breakdown voltage		SD103B	V _(BR)	30			V
		SD103C	V _(BR)	20			V
	V _R = 30 V	SD103A	I _R			5	μA
Leakage current	V _R = 20 V	SD103B	I _R			5	μA
	V _R = 10 V	SD103C	I _R			5	μA
Forward voltage drop	I _F = 20 mA		V _F			370	mV
Forward voltage drop	I _F = 200 mA		V _F			600	mV
Diode capacitance	V _R = 0 V, f = 1 MHz		C _D		50		pF
Reverse recovery time	$I_F = I_R = 50$ mA to 200 mA, recover to 0.1 I_R		t _{rr}		10		ns

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

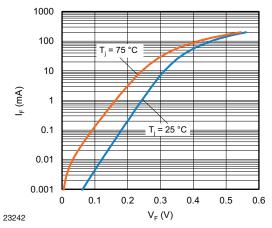


Fig. 1 - Typical Forward Current vs. Forward Voltage

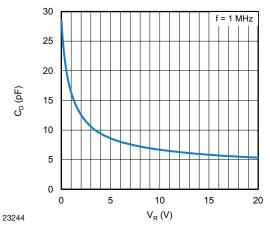


Fig. 3 - Typical Capacitance vs. Reverse Voltage

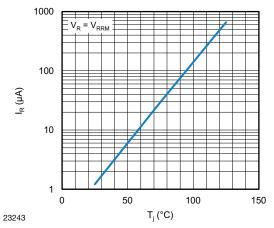
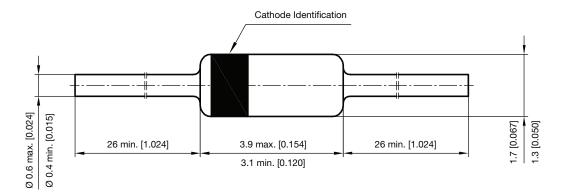


Fig. 2 - Typical Reverse Current vs. Junction Temperature

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



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