

Vishay Semiconductors

Small Signal Schottky Diodes



LINKS TO ADDITIONAL RESOURCES

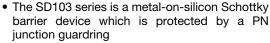


MECHANICAL DATA

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

TR/10K per 13" 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.vishav.com/doc?99912</u>

APPLICATIONS

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

PARTS TABLE							
PART	TYPE DIFFERENTIATION	ORDERING CODE	TYPE MARKING	CIRCUIT CONFIGURATION	REMARKS		
SD103A	V _R = 40 V	SD103A-TR or SD103A-TAP	SD103A	Single	Tape and reel/ammopack		
SD103B	$V_{R} = 30 \text{ V}$	SD103B-TR or SD103B-TAP	SD103B	Single	Tape and reel/ammopack		
SD103C	$V_{R} = 20 \text{ V}$	SD103C-TR or SD103C-TAP	SD103C	Single	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	
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
Farmer duality and duality	I _F = 20 mA		V _F			370	mV
Forward voltage drop	$I_F = 200 \text{ mA}$		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)

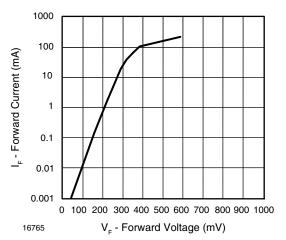


Fig. 1 - Forward Current vs. Forward Voltage

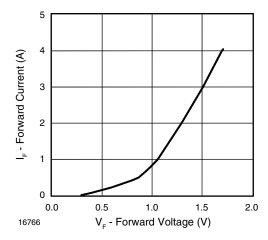


Fig. 2 - Forward Current vs. Forward Voltage

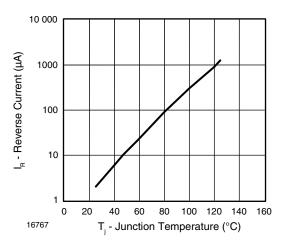


Fig. 3 - Reverse Current vs. Junction Temperature

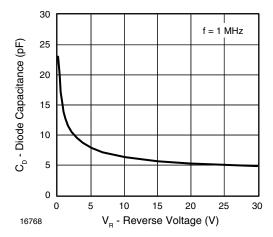


Fig. 4 - Diode Capacitance vs. Reverse Voltage

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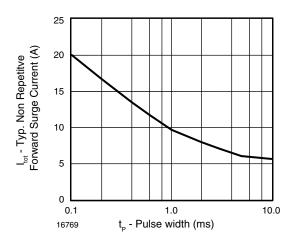
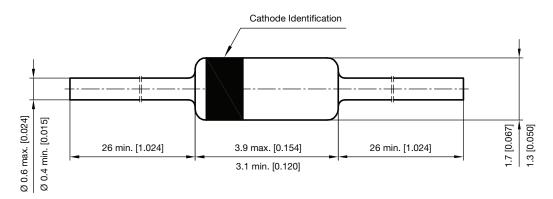


Fig. 5 - Typical Non-Repetitive Forward Surge Current vs. Pulse Width

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



Rev. 6 - Date: 19. December 2011 Document no.: SB-V-3906.04-031(4)

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