

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 SD103 series is a metal-on-silicon Schottky barrier device which is protected by a PN junction guardring
- 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
- 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 www.vishay.com/doc?99912

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	$V_R = 30$ V	SD103B-TR or SD103B-TAP	Single	SD103B	Tape and reel/ammopack
SD103C	$V_R = 20$ 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
Peak inverse voltage		SD103A	V_R	40	V
		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	$t_p = 300$ μ s square pulse		I_{FSM}	15	A

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		T_j	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



RoHS
COMPLIANT
HALOGEN
FREE

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25$ °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	$I_R = 50$ µA	SD103A	$V_{(BR)}$	40			V
		SD103B	$V_{(BR)}$	30			V
		SD103C	$V_{(BR)}$	20			V
Leakage current	$V_R = 30$ V	SD103A	I_R			5	µA
	$V_R = 20$ 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
	$I_F = 200$ 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

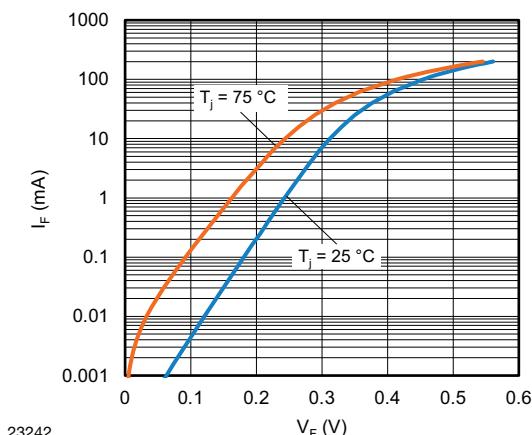
TYPICAL CHARACTERISTICS ($T_{amb} = 25$ °C, unless otherwise specified)


Fig. 1 - Typical Forward Current vs. Forward Voltage

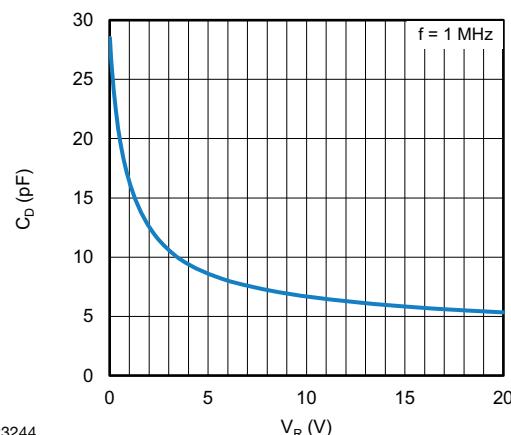


Fig. 3 - Typical Capacitance vs. Reverse Voltage

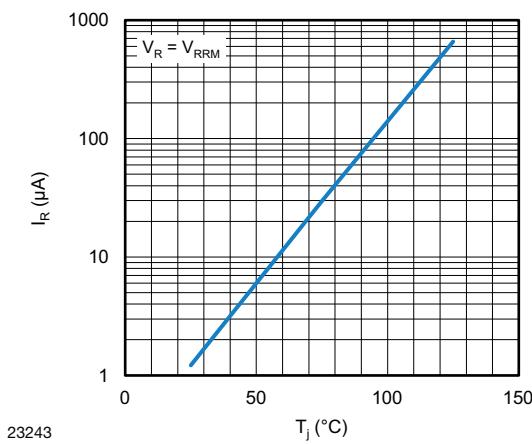
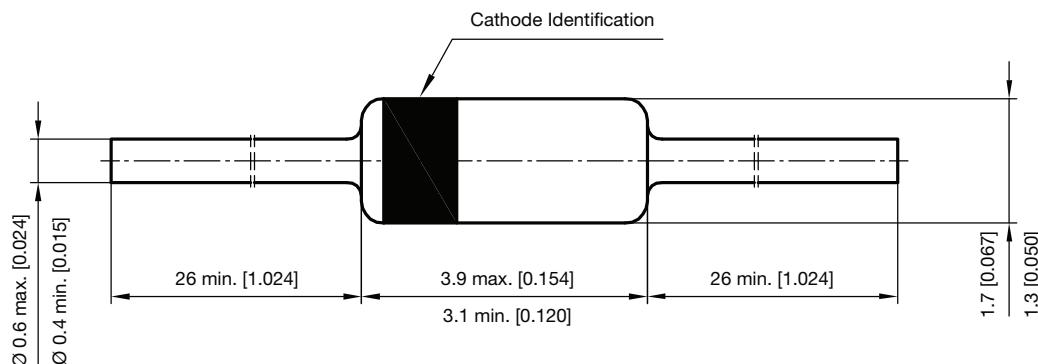


Fig. 2 - Typical Reverse Current vs. Junction Temperature

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

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