



## Small Signal Schottky Diode



### FEATURES

- Integrated protection ring against static discharge
- Low capacitance
- Low leakage current
- Low forward voltage drop
- Very low switching time
- AEC-Q101 qualified
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



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### 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 ammpack (52 mm tape), 50K/box

### APPLICATIONS

- General purpose and switching Schottky barrier diode
- 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 DIFFERENTIATION	ORDERING CODE	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
BAT81S	V <sub>R</sub> = 40 V	BAT81S-TR or BAT81S-TAP	Single	BAT81S	Tape and reel/ammopack
BAT82S	V <sub>R</sub> = 50 V	BAT82S-TR or BAT82S-TAP	Single	BAT82S	Tape and reel/ammopack
BAT83S	V <sub>R</sub> = 60 V	BAT83S-TR or BAT83S-TAP	Single	BAT83S	Tape and reel/ammopack

ABSOLUTE MAXIMUM RATINGS (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Reverse voltage		BAT81S	V <sub>R</sub>	40	V
		BAT82S	V <sub>R</sub>	50	V
		BAT83S	V <sub>R</sub>	60	V
Forward continuous current			I <sub>F</sub>	30	mA
Peak forward surge current	t <sub>p</sub> ≤ 10 ms		I <sub>FSM</sub>	500	mA
Repetitive peak forward current	t <sub>p</sub> ≤ 1 s		I <sub>FRM</sub>	150	mA

THERMAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air	l = 4 mm, T <sub>L</sub> = constant	R <sub>thJA</sub>	320	K/W
Junction temperature		T <sub>j</sub>	125	°C
Storage temperature range		T <sub>stg</sub>	-65 to +150	°C

ELECTRICAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I <sub>F</sub> = 0.1 mA	V <sub>F</sub>			330	mV
	I <sub>F</sub> = 1 mA	V <sub>F</sub>			410	mV
	I <sub>F</sub> = 15 mA	V <sub>F</sub>			1000	mV
Reverse current	V <sub>R</sub> = V <sub>Rmax.</sub>	I <sub>R</sub>			200	nA
Diode capacitance	V <sub>R</sub> = 1 V, f = 1 MHz	C <sub>D</sub>			1.6	pF

**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

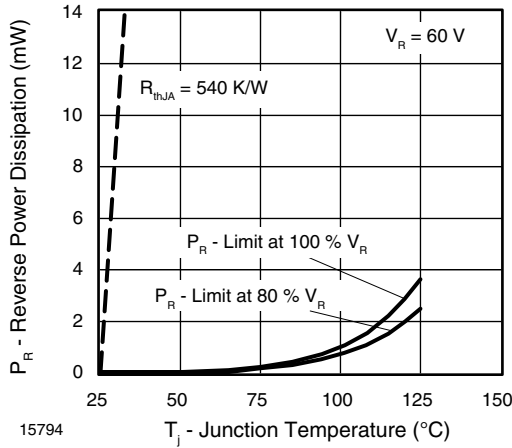


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

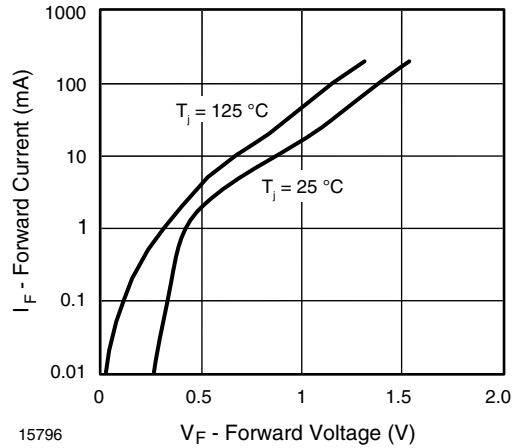


Fig. 3 - Forward Current vs. Forward Voltage

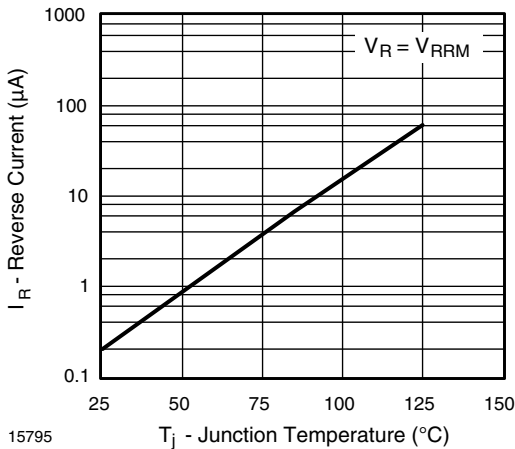


Fig. 2 - Reverse Current vs. Junction Temperature

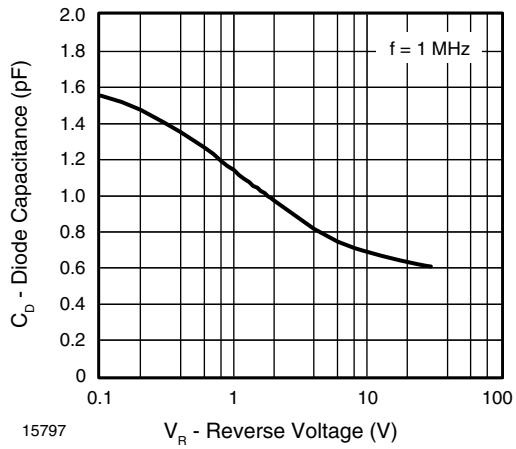
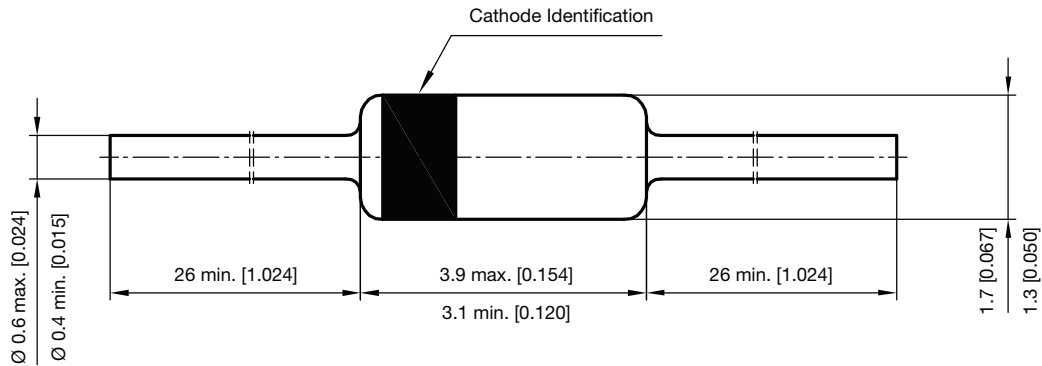


Fig. 4 - Diode Capacitance vs. Reverse Voltage

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



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