Small Signal Schottky Diode

FEATURES

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

RoHS COMPLIANT

HALOGEN FREE

LINKS TO ADDITIONAL RESOURCES

3D Models

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

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

PARTS TABLE

PART	TYPE DIFFERENTIATION	ORDERING CODE	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
BAT81S	V_R = 40 V	BAT81S-TR or BAT81S-TAP	Single	BAT81S	Tape and reel/ammopack
BAT82S	V_R = 50 V	BAT82S-TR or BAT82S-TAP	Single	BAT82S	Tape and reel/ammopack
BAT83S	V_R = 60 V	BAT83S-TR or BAT83S-TAP	Single	BAT83S	Tape and reel/ammopack

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Reverse voltage		BAT81S	V_R	40	V
		BAT82S	V_R	50	V
		BAT83S	V_R	60	V
Forward continuous current			I_F	30	mA
Peak forward surge current	$t_p \leq 10$ ms		I_{FSM}	500	mA
Repetitive peak forward current	$t_p \leq 1$ s		I_{FRM}	150	mA

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air	l = 4 mm, T_L = constant	R_{thJA}	320	K/W
Junction temperature		T_j	125	°C
Storage temperature range		T_{stg}	-65 to +150	°C

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

PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I_F = 0.1 mA	V_F			330	mV
	I_F = 1 mA	V_F			410	mV
	I_F = 15 mA	V_F			1000	mV
Reverse current	$V_R = V_{Rmax.}$	I_R			200	nA
Diode capacitance	V_R = 1 V, f = 1 MHz	C_D			1.6	pF

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

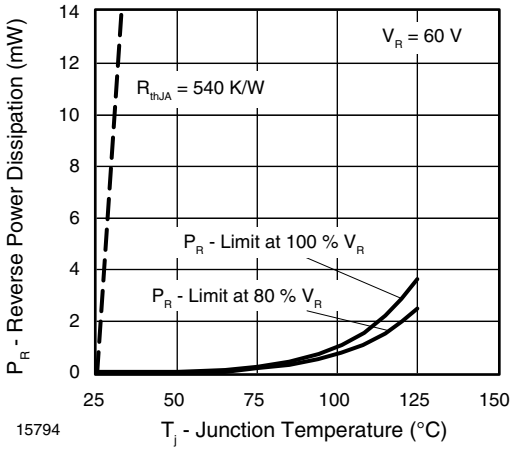


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

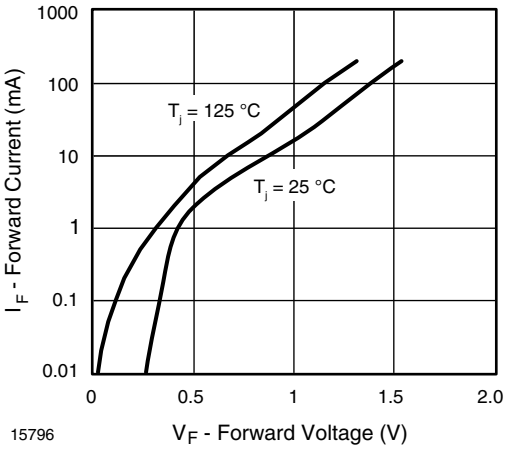


Fig. 3 - Forward Current vs. Forward Voltage

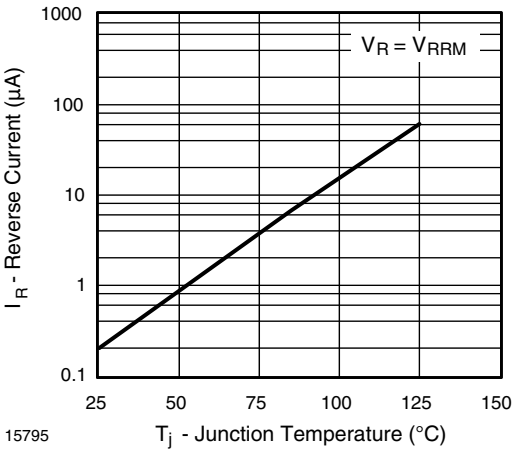


Fig. 2 - Reverse Current vs. Junction Temperature

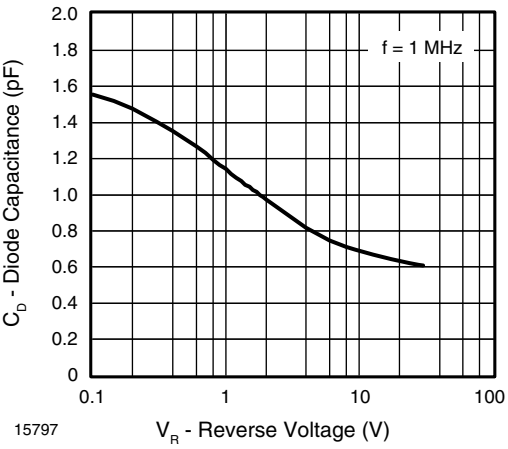
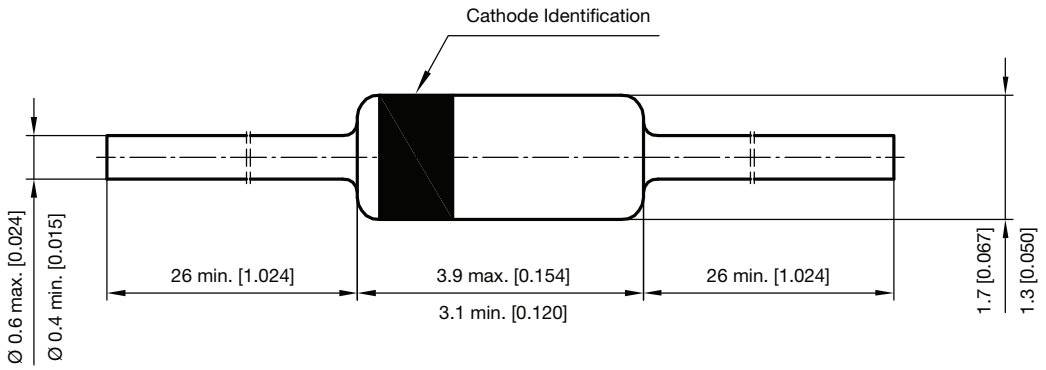


Fig. 4 - Diode Capacitance vs. Reverse Voltage

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



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