



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



MECHANICAL DATA

Case: DO-35
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	INTERNAL CONSTRUCTION	TYPE MARKING	REMARKS
BAT81S	V _R = 40 V	BAT81S-TR or BAT81S-TAP	Single diode	BAT81S	Tape and reel/ammpack
BAT82S	V _R = 50 V	BAT82S-TR or BAT82S-TAP	Single diode	BAT82S	Tape and reel/ammpack
BAT83S	V _R = 60 V	BAT83S-TR or BAT83S-TAP	Single diode	BAT83S	Tape and reel/ammpack

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 ≤ 10 ms		I _{FSM}	500	mA
Repetitive peak forward current	t _p ≤ 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 ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

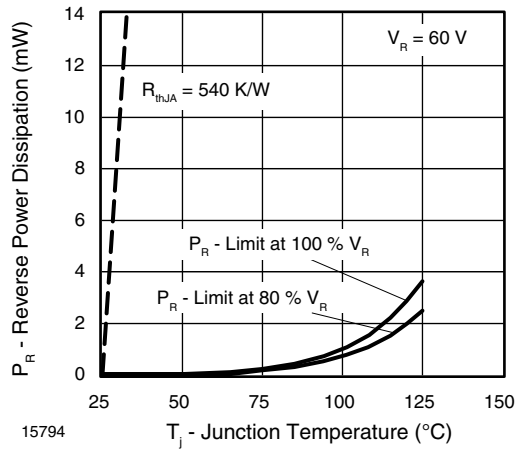


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

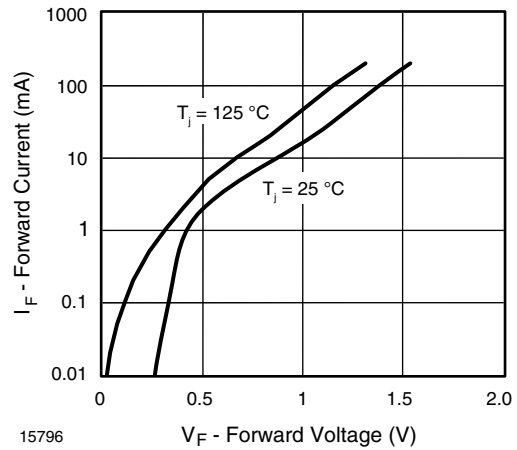


Fig. 3 - Forward Current vs. Forward Voltage

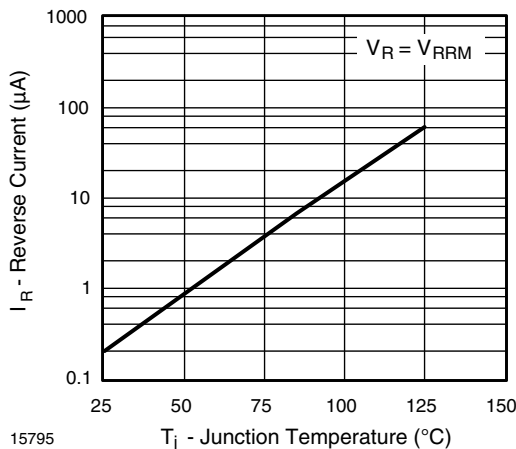


Fig. 2 - Reverse Current vs. Junction Temperature

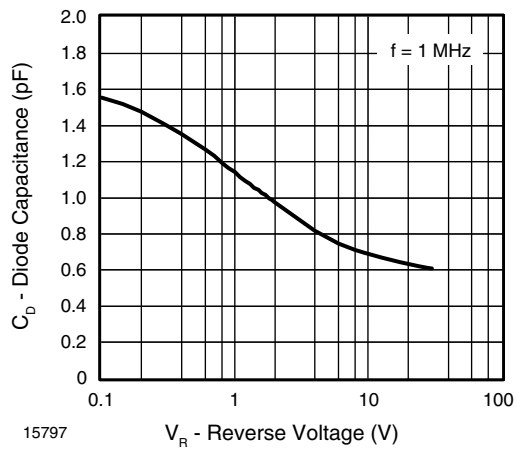
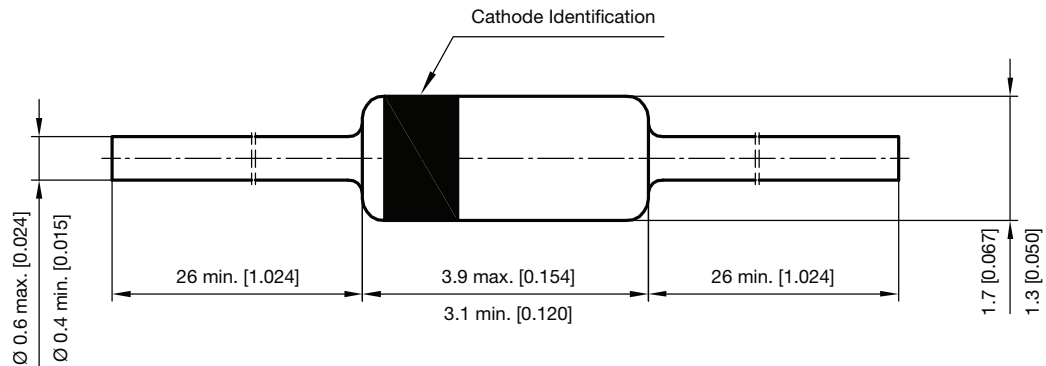


Fig. 4 - Diode Capacitance vs. Reverse Voltage

PACKAGE DIMENSIONS in millimeters (inches): DO-35



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