

## Small Signal Schottky Diode

### Features

- Integrated protection ring against static discharge
- Very low forward voltage
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



94 9367

### Applications

- Applications where a very low forward voltage is required

### Mechanical Data

**Case:** DO35 Glass case

**Weight:** approx. 125 mg

**Cathode Band Color:** Black

**Packaging Codes/Options:**

TR/10 k per 13" reel (52 mm tape), 50 k/box

TAP/10 k per Ammpack (52 mm tape), 50 k/box

### Parts Table

Part	Ordering code	Type Marking	Remarks
BAT86S	BAT86S-TR or BAT86S-TAP	BAT86S	Tape and Reel/Ammpack

### Absolute Maximum Ratings

$T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Reverse voltage		$V_R$	50	V
Peak forward surge current	$t_p \leq 10\text{ ms}$	$I_{FSM}$	5	A
Repetitive peak forward current	$t_p \leq 1\text{ s}$	$I_{FRM}$	500	mA
Forward continuous current		$I_F$	200	mA
Average forward current	PCB mounting, $l = 4\text{ mm}$ ; $V_{RWM} = 25\text{ V}$ , $T_{amb} = 50\text{ }^{\circ}\text{C}$	$I_{FAV}$	200	mA

### Thermal Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air	$l = 4\text{ mm}$ , $T_L = \text{constant}$	$R_{thJA}$	320	K/W
Junction temperature		$T_j$	125	$^{\circ}\text{C}$
Storage temperature range		$T_{stg}$	- 65 to + 150	$^{\circ}\text{C}$

## Electrical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Forward voltage	$I_F = 0.1\text{ mA}$	$V_F$			300	mV
	$I_F = 1\text{ mA}$	$V_F$			380	mV
	$I_F = 10\text{ mA}$	$V_F$			450	mV
	$I_F = 30\text{ mA}$	$V_F$			600	mV
	$I_F = 100\text{ mA}$	$V_F$			900	mV
Reverse current	$V_R = 40\text{ V}$	$I_R$			5	$\mu\text{A}$
Diode capacitance	$V_R = 1\text{ V}, f = 1\text{ MHz}$	$C_D$			8	pF

## Typical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified

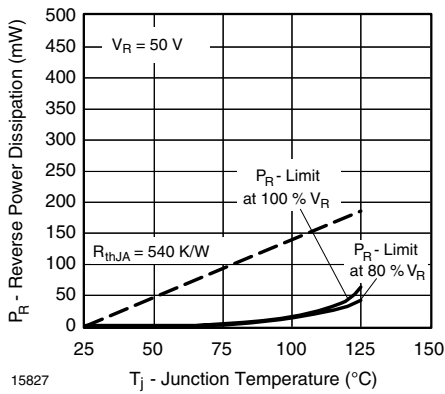


Figure 1. Max. Reverse Power Dissipation vs. Junction Temperature

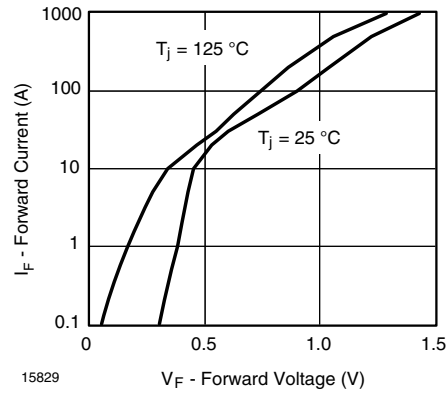


Figure 3. Forward Current vs. Forward Voltage

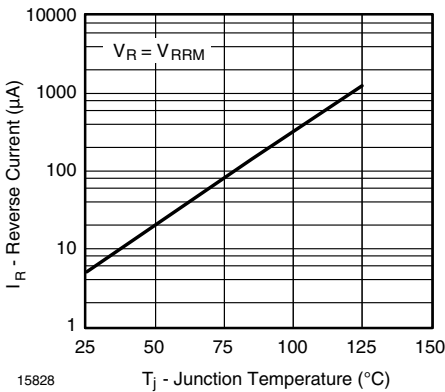


Figure 2. Reverse Current vs. Junction Temperature

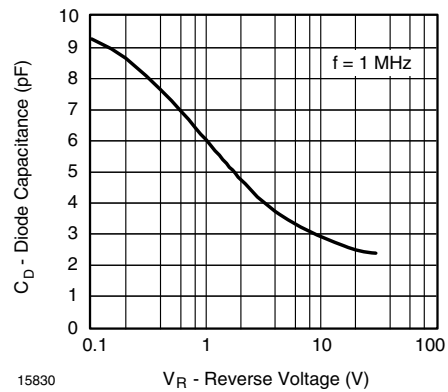


Figure 4. Diode Capacitance vs. Reverse Voltage

**Package Dimensions** in millimeters (inches): **DO35**

