

**SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER**

**Product Summary** (@T<sub>A</sub> = +25°C)

V <sub>RRM</sub> (V)	I <sub>O</sub> (A)	V <sub>F(MAX)</sub> (V)	I <sub>R(MAX)</sub> (µA)
30	1	0.55	50

**Applications**

- DC-DC Converters
- Mobile Telecomms
- Blocking Diodes
- Reverse Polarity Protection

**Features and Benefits**

- Very Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- High Conductance
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**
- **PPAP Capable (Note 4)**

**Mechanical Data**

- Case: SOD323
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: Cathode Band
- Terminals: Finish - Matte Tin Annealed over Alloy 42 Leadframe. Solderable per MIL-STD-202, Method 208
- Weight: 0.004 grams (Approximate)



Top View

**Ordering Information** (Note 5)

Part Number	Case	Packaging
BAT760Q-7	SOD323	3000/Tape & Reel

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
  2. See [http://www.diodes.com/quality/lead\\_free.html](http://www.diodes.com/quality/lead_free.html) for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  4. Automotive products are AEC-Q101 qualified and are PPAP capable. Refer to [http://www.diodes.com/product\\_compliance\\_definitions.html](http://www.diodes.com/product_compliance_definitions.html).
  5. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

**Marking Information**



LZ = Product Type Marking Code

**Maximum Ratings** (@ $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	30	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_R$		
RMS Reverse Voltage	$V_{R(RMS)}$	21	V
Average Rectified Output Current	$I_O$	1	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	5.5	A

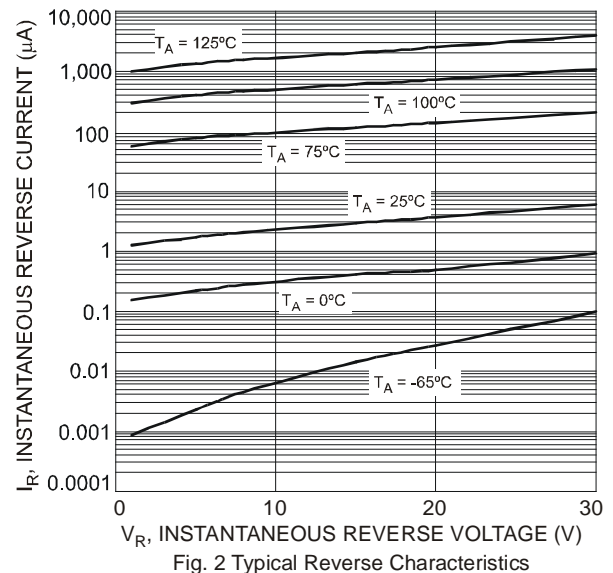
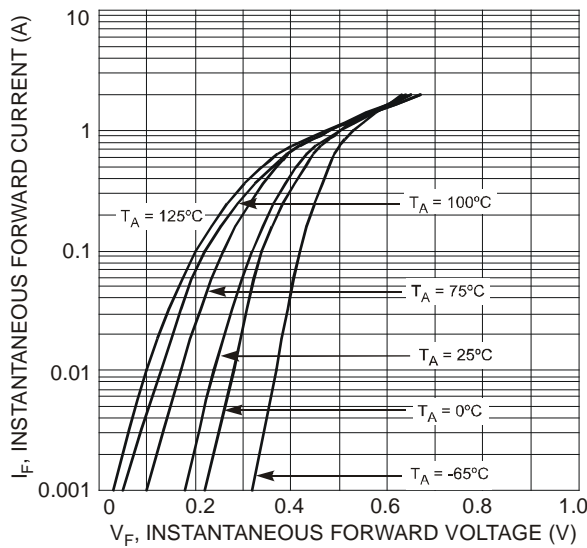
**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation	$P_D$	235	mW
Typical Thermal Resistance Junction to Ambient (Note 6)	$R_{\theta JA}$	426	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150	$^\circ\text{C}$

**Electrical Characteristics** (@ $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Reverse Breakdown Voltage (Note 7)	$V_{(BR)R}$	30	—	—	V	$I_R = 500\mu\text{A}$
Forward Voltage Drop	$V_F$	—	245	270	mV	$I_F = 10\text{mA}$
		—	320	350		$I_F = 100\text{mA}$
		—	495	550		$I_F = 1\text{A}$
Leakage Current (Note 7)	$I_R$	—	3.0	10	$\mu\text{A}$	$V_R = 5\text{V}$
		—	3.5	20		$V_R = 8\text{V}$
		—	5.0	50		$V_R = 15\text{V}$
Total Capacitance	$C_T$	—	25	—	pF	$f = 1\text{MHz}, V_R = 5\text{V}_{DC}$

Notes: 6. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at [http://www.diodes.com/product\\_compliance\\_definitions.html](http://www.diodes.com/product_compliance_definitions.html).  
7. Short duration pulse test used to minimize self-heating effect.



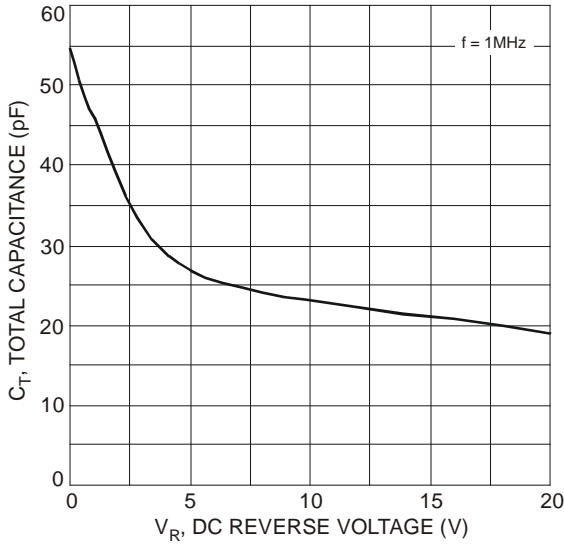


Fig. 3 Total Capacitance vs. Reverse Voltage

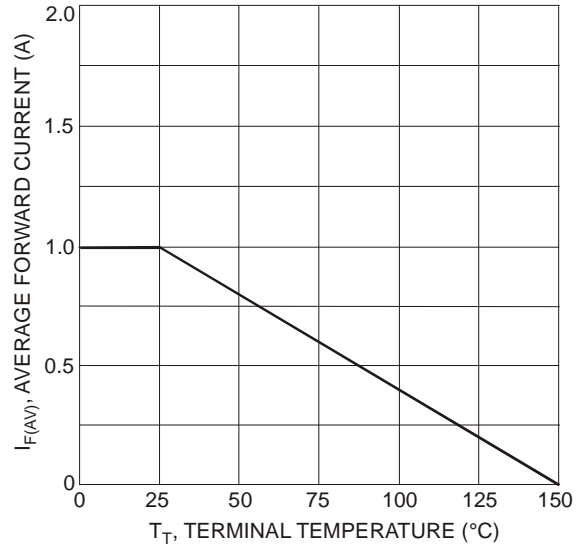
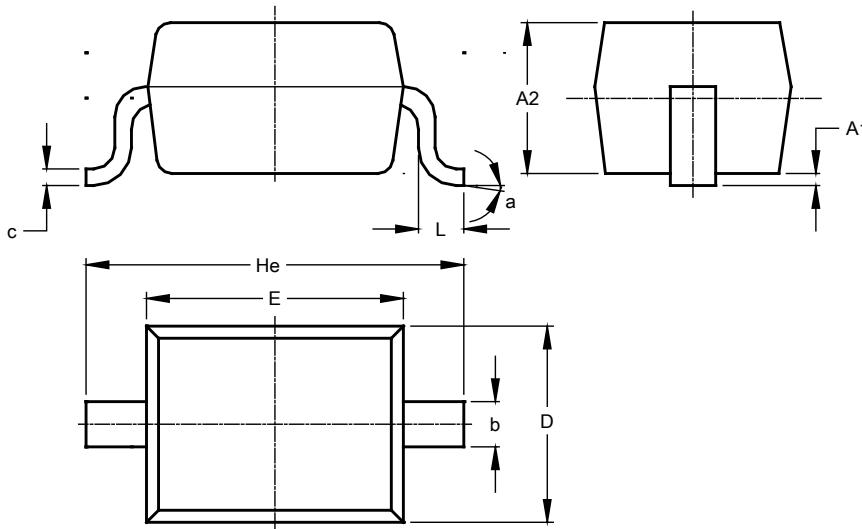


Fig. 4 Forward Current Derating Curve

## Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

### SOD323

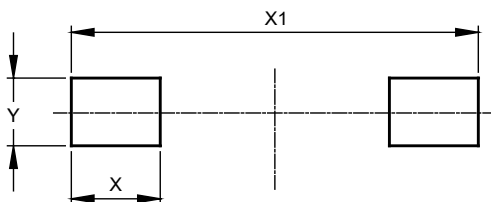


SOD323			
Dim	Min	Max	Typ
A1	--	0.10	0.05
A2	1.00	1.10	1.05
b	0.25	0.35	0.30
c	0.10	0.15	0.11
D	1.20	1.40	1.30
E	1.60	1.80	1.70
He	2.30	2.70	2.50
L	0.20	0.40	0.30
a	0°	8°	--
All Dimensions in mm			

## Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

### SOD323



Dimensions	Value (in mm)
X	0.590
X1	2.700
Y	0.450

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