Preferred Device

# Dual Series Schottky Barrier Diodes

These Schottky barrier diodes are designed for high speed switching applications, circuit protection, and voltage clamping. Extremely low forward voltage reduces conduction loss. Miniature surface mount package is excellent for hand held and portable applications where space is limited.

## Features

- Extremely Fast Switching Speed
- Low Forward Voltage -0.35 Volts (Typ) @ I<sub>F</sub> = 10 mAdc

**MAXIMUM RATINGS** (T<sub>1</sub> = 125°C unless otherwise noted)

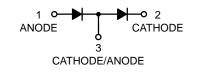
• Pb–Free Package is Available



## **ON Semiconductor®**

http://onsemi.com

## 30 VOLT DUAL SERIES SCHOTTKY BARRIER DIODES

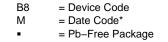


(TJ = 125 O unless otherwise hoted)					
Rating	Symbol	Value	Unit		
Reverse Voltage	V <sub>R</sub>	30	V		
Forward Power Dissipation @ T <sub>A</sub> = 25°C Derate above 25°C	P <sub>F</sub>	200 1.6	mW mW/°C		
Forward Current (DC)	١ <sub>F</sub>	200 Max	mA		
Junction Temperature	TJ	-55 to 125	°C		
Storage Temperature Range	T <sub>stg</sub>	-55 to +150	°C		

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.







(Note: Microdot may be in either location)

\*Date Code orientation may vary depending upon manufacturing location.

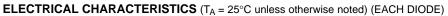
### ORDERING INFORMATION

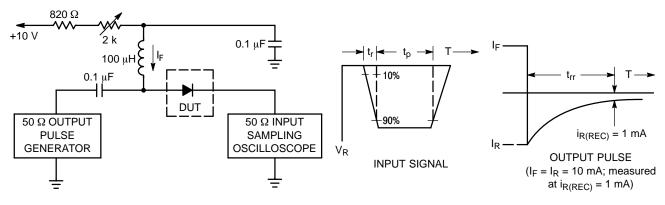
Device	Package	Shipping <sup>†</sup>
BAT54SWT1	SOT-323	3000 / Tape & Reel
BAT54SWT1G	SOT-323 (Pb-Free)	3000 / Tape & Reel

+For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

**Preferred** devices are recommended choices for future use and best overall value.

Characteristic	Symbol	Min	Тур	Max	Unit
Reverse Breakdown Voltage $(I_R = 10 \ \mu A)$	V <sub>(BR)R</sub>	30	-	-	V
Total Capacitance ( $V_R = 1.0 V, f = 1.0 MHz$ )	CT	-	7.6	10	pF
Reverse Leakage $(V_R = 25 V)$	I <sub>R</sub>	-	0.5	2.0	μAdc
Forward Voltage (I <sub>F</sub> = 0.1 mAdc)	V <sub>F</sub>	-	0.22	0.24	Vdc
Forward Voltage (I <sub>F</sub> = 30 mAdc)	V <sub>F</sub>	-	0.41	0.5	Vdc
Forward Voltage (I <sub>F</sub> = 100 mAdc)	V <sub>F</sub>	-	0.52	0.8	Vdc
Reverse Recovery Time $(I_F = I_R = 10 \text{ mAdc}, I_{R(REC)} = 1.0 \text{ mAdc}, Figure 1)$	t <sub>rr</sub>	-	-	5.0	ns
Forward Voltage (I <sub>F</sub> = 1.0 mAdc)	V <sub>F</sub>	-	0.29	0.32	Vdc
Forward Voltage (I <sub>F</sub> = 10 mAdc)	V <sub>F</sub>	-	0.35	0.40	Vdc
Forward Current (DC)	١ <sub>F</sub>	-	-	200	mAdc
Repetitive Peak Forward Current	I <sub>FRM</sub>	-	-	300	mAdc
Non–Repetitive Peak Forward Current (t < 1.0 s)	I <sub>FSM</sub>	-	-	600	mAdc





Notes: 1. A 2.0 k $\Omega$  variable resistor adjusted for a Forward Current (I<sub>F</sub>) of 10 mA. 2. Input pulse is adjusted so I<sub>R(peak)</sub> is equal to 10 mA. 3. t<sub>p</sub> » t<sub>rr</sub>



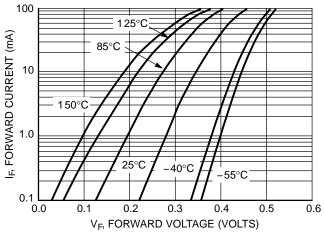


Figure 2. Forward Voltage

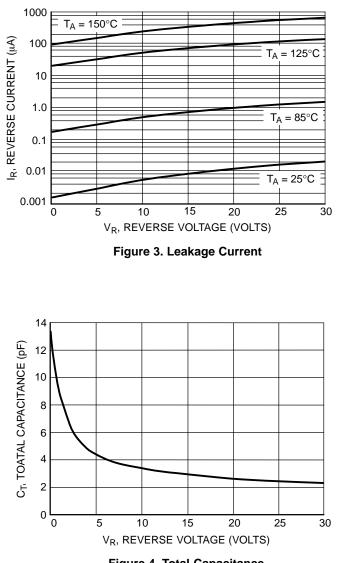
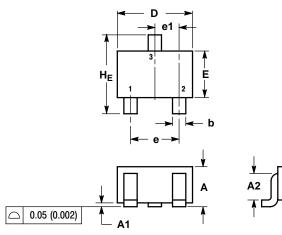
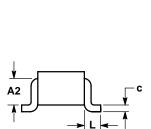


Figure 4. Total Capacitance

#### PACKAGE DIMENSIONS

SOT-323 (SC-70) CASE 419-04 ISSUE M





NOTES: 1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M. 1982.

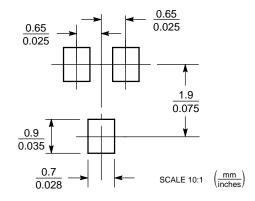
CONTROLLING DIMENSION: INCH.

CATHODE CATHODE-ANODE

STYLE 9: PIN 1. ANODE

	MILLIMETERS			INCHES			
DIM	MIN	NOM	MAX	MIN	NOM	MAX	
Α	0.80	0.90	1.00	0.032	0.035	0.040	
A1	0.00	0.05	0.10	0.000	0.002	0.004	
A2	0.7 REF			0.028 REF			
b	0.30	0.35	0.40	0.012	0.014	0.016	
С	0.10	0.18	0.25	0.004	0.007	0.010	
D	1.80	2.10	2.20	0.071	0.083	0.087	
Е	1.15	1.24	1.35	0.045	0.049	0.053	
e	1.20	1.30	1.40	0.047	0.051	0.055	
e1	0.65 BSC			0.026 BSC			
Γ	0.425 REF			0.017 REF			
HE	2.00	2.10	2.40	0.079	0.083	0.095	

#### **SOLDERING FOOTPRINT\***



\*For additional information on our Pb–Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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